



ARBORICULTURAL REPORT

Great Croft Resource Centre
Cromer Street
London

2nd March 2017

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Scope

The purpose of this report is to provide Arboricultural advice in relation to identifying the constraints of trees which are present on the site during development works to construct an extension to the existing building and an access ramp from the street to the building, and advice on how the trees in the garden of the site could be impacted on by this proposal, and protection measures to be implemented using the guidelines and principles of BS5837:2012 for those to be retained.

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1 INTRODUCTION

1.1 Brief:

This report has been prepared at the request of OAC Architects the project architects on behalf of the site owner, to provide advice on how the trees present on site could be detrimentally impacted by construction activities to implement the construction of the proposed extension and ramp. Identifying the constraints of the trees and providing advice on suitable tree protection measures to address this.

1.2 Qualifications and experience:

I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture and list the details in **Appendix 1**.

1.3 Documents and information provided:

A plan of the proposed layout of the extension and ramp.

1.4 Relevant background information:

The extension construction is on a lower level to the main garden space where the trees are located, so this part of the proposal will not have any direct impact on the trees. This report will focus on the ramp construction in relation to the trees closest to it.

1.5 Scope of this report:

This report is only concerned with trees that could be impacted by construction works to implement the proposed layout, and the measures required to provide protection for them as best prescribed in the guidance of BS5837: 2012 'trees in relation to design, demolition and construction'. Any issues regarding construction methods etc. is outside the remit of an Arborist and remedy should be sought with suitably qualified persons, for example builder, engineer etc. For the purposes of this report an Arborist / Arboriculturalist is someone who through training and experience has the knowledge to assess trees and their condition in a competent manner. Trees with a dbh of less than 75mm have not been included as per the guidance in BS5837:2012 or species considered to be shrub specimens.

2 APPRAISAL

2.1 Brief site description:

The site is part of a residential block of flats on Cromer Street. On the ground floor is the resource centre for the elderly residents. The garden space to the rear is on two levels, a terrace area extending directly from the building then on a higher level a garden laid to lawn with raised vegetable patches, flower beds and trees. The site is surrounded by residential properties and secured by metal fencing and another building.

2.2 Condition of trees:

The trees appear to be in a healthy condition with no signs of pests or diseases normally associated with the species.

A more detailed analysis of the trees can be found in **Appendix 3**.

2.3 Suitability of tree for location and management requirements at present:

In my opinion the trees are fairly well suited to the site, T1 has a growth potential to get very large and so is likely to require selective crown reduction to contain its dimensions. Other trees within the garden space of the same species have been pollarded. I suggest selective crown management is undertaken on this tree to retained its natural shape but still prevent it from becoming an over dominant feature in the garden setting. T2 & T3 are being to develop deformed crown habits due to mutual suppression, this could result in biomechanical weakness in the structure of the tree and result in harsh pruning or removal being required in the future to address risk of total or partial failure.

Consideration into removing these trees and replanting with new trees of the same species, in a location with sufficient space for their future development could be given.

No management works are required at present.

2.4 Potential effects of development on the trees:

As previously mentioned, the foot print of the extension sits outside of the constraints presented by the trees on a ground level significantly lower to where they are located. Therefore the extension construction is not a direct issue that needs taking account of.

To implement the planning permission being sought, the low quality trees T2 & T3 will need to be removed. These trees are already being to be mutually suppressed and it is unlikely that they will develop into notable trees. As explained above, it's likely they will require management works to address the crown development that will then diminish their limited amenity further. Removal of these trees can easily be replicated with replacement trees of a size that will provide instant amenity, with them being located in more strategic locations to allow them the space to develop for the benefit of the garden setting. I suggest using Hawthorn 'Paul Scarlet' again and planted with stem girths of 16cm 18cm. This is a size that will provide a certain degree of instant impact.

The only other risks this development proposal presents to the trees will be via indirect actions from construction activities such as, inconsiderate material storage etc. However, this can be addressed by careful planning of work procedures and installing protection fencing and other measures prior to works commencing on site. There is limited space on site for accommodating construction works, therefore it will be imperative that the RPA (Root Protection Area) is fenced off first to indicate where this protection zone is and ensure it is not breached. The existing terrace area could be utilised for this purpose to a certain degree, the site manager will need to confirm the locations of material storage and access to the construction zone, and demonstrate how the protective area will be avoided and suitably protected during works on site. The RPA of the trees, in particular T1 will be avoided, but if access across it is required, details of ground and other protection measures are provided in the method tree protection method statement in **Appendix 3**.

In this case the potential impact of the proposal in relation to the trees to be retained is considered to be moderate to low, with specific measures being able to be implemented to ensure that construction pressures do not adversely affect their health or longevity. The removal of the two Hawthorn 'Paul Scarlet' trees (T2 & T3) can be easily replicated with new planting for the future benefit and amenity of the site.

The trees can be sufficiently protected by following the principles and measures contained within this report and those within the method statement in **Appendix 3**.

2.5 Potential effects of the trees to be retained on the development:

Leaf litter could become a problem if it causes drains or gutters to become blocked, that could impact in other ways on the building, or if left on access surfaces where they could become a slip hazard. To address this gutter guards could be installed to prevent build-up of leaf litter that could become a problem, or regular cleaning of the gutters employed. Regular clearing of falling leaves on the access route, especially in times of wet weather will address any potential slip hazards caused by this seasonal occurrence.

Shadow cast caused by the trees in the garden will not to be of any more concern than they already are.

The conflicts normally encountered with having buildings near to trees can be addressed with scheduled maintenance.

2.6 Proposed solutions to safe guard the trees to remain during construction works:

2.6.1 Protective fencing

Protective fencing will be of a plastic mesh style fencing to denote the limits of the RPA in the garden space. This type of fencing will be used to still allow the residents access in the garden beyond the fence line as they normally would. Construction activities will be strictly limited to areas outside of the RPA. If this type of fencing is not acceptable to the local authority, then the protective fencing will be as shown in **diagram 1** in **Appendix 3**. Protective fencing will be placed in the locations shown on the tree protection plan in **Appendix 5** prior to works commencing on site. The fencing will be retained at times. Access beyond the fence line for construction works will only be allowed with good reason and with the tree officer's permission. It is important to ensure that construction activities **do not occur beyond the extents of the protective fence line**.

2.6.2 Services

No details relating to service runs have been provided to me, but I expect that the existing services will be used to a certain extent and will be able to be located outside of the RPA. This will be confirmed by the project architect. Any new service trenches will be located outside of the RPA of the trees where possible. If this is not possible hand digging / air spade works will be used within the RPA with an arborist on site to supervise proceedings. Alternatively trenchless techniques to install the services will be used and approved by the local authority.

2.6.3 Site facilities and material storage

Care will have to be taken to identify the type of materials required and the access of any machinery, vehicles or plant needed to move them, as these can cause collision damage to aerial parts of the trees as well as soil contamination or compaction. At no point will materials be stored within the RPA of trees. The site manager will provide details on this aspect of the project if felt necessary by the local authority, but as long as the RPA is not breached then this should not present a problem.

2.6.4 Works within RPA

No works are proposed within this protected area of the trees to be retained. However, it is likely access across the RPA on soft ground may be required. This will be confirmed by the site manager and if so, ground protection will be installed prior to access on site to address potential soil compaction issues. Details can be found in **Appendix 3**.

2.6.5 Site supervision

The site manager will provide a timetable of works on the site, listing all of the key stages of development, starting with the placing of protection fencing / hoarding around the trees, establishing site facilities, through to completion of the site. Arboricultural supervision will take place prior to works commencing on site to ensure protection measures are understood and implemented with a pre-commencement meeting with the site manager and other relevant personnel. Site supervision will be undertaken by a suitably qualified arborist once at the start of the project, one mid-way through and once towards the end. If this is not to the tree officer's satisfaction then supervision visits will be on a monthly basis until the completion of the project.

Prior to work, all key personnel connected with the site will be briefed by an arborist with regard to the importance of the tree protection and methods of ensuring that the trees are protected during the construction period. A record of all arboricultural related site meetings will be made, signed off and available for inspection by the local authority if required. Any personnel inducted on site will be made aware of the tree protection measures and will be responsible for their own actions in maintaining them and not breaching them in any way.

2.6.6 Site completion

Once work has been completed, an arborist will inspect the trees and comment on their condition and prescribe any mitigation works required. The tree protection measures are expanded upon in **Appendix 3**. Any proposed landscaping scheme or works will be discussed with the supervising arborist to ensure that this will not conflict with the trees or the protective areas in any way.

3 CONCLUSIONS

- The construction of the extension will not directly impact on the trees.
- To implement this development two low quality trees (T2 & T3) will need to be removed to install the ramp. This will not have a detrimental impact on the amenity of the site or surrounds and can be easily replicated with new planting.
- Protective fencing can be installed to prevent access into the protected areas and the areas of the garden space where other trees are located beyond the construction zone. The fencing will prevent construction activities impacting on the trees, but still allow a degree of access to the residents. If access on soft ground across part of the RPA is required, suitable ground protection can be installed to address any soil compaction risks.
- The trees can be adequately protected from construction pressures by implementing and adhering to the protection measures provided in the method statement in **Appendix 3**.

4 OTHER CONSIDERATIONS

4.1 Trees subject to statutory controls:

I am not aware of any tree preservations or other legislation protecting the trees in relation to this site. I suggest that the local authority is contacted to confirm this and kept updated with any proposed tree works so as to form a good working relationship and to prevent misunderstandings or contravention of protection measures or legislation.

*Andrew Day HND Arb
For Andrew Day Arboricultural Consultancy Ltd.*

Brief qualifications and experience of Andrew Day

I hold a Higher National Diploma in Arboriculture. I have been working in the field of arboriculture for approximately 10 years, spending time as a contracting arborist undertaking all aspects of practical arboriculture both in the UK and Europe. I have also worked within local government as a tree officer working for a variety of local authorities. I have a broad experience of both the practical and theoretical aspects of arboriculture having worked within the public and private sector.

1. Qualifications:

Higher National Diploma in Arboriculture (1996)

NPTC (National Proficiency Training Council) units 20, 21 and 22

Lantra professional tree inspection certificate

2. Practical experience:

Prior to establishing my company I worked for a private Arboriculture company for three years undertaking many practical aspects of Arboriculture. I moved on from this to become a local authority tree officer for five years, my duties included consultation on planning matters with regard to trees, advice to the general public, managing the council's tree stock and liaising with other professionals on Arboricultural related issues. I was approached by an established tree contracting and consulting company in Essex to develop and run the consultancy department as their principle consultant which I did for three years.

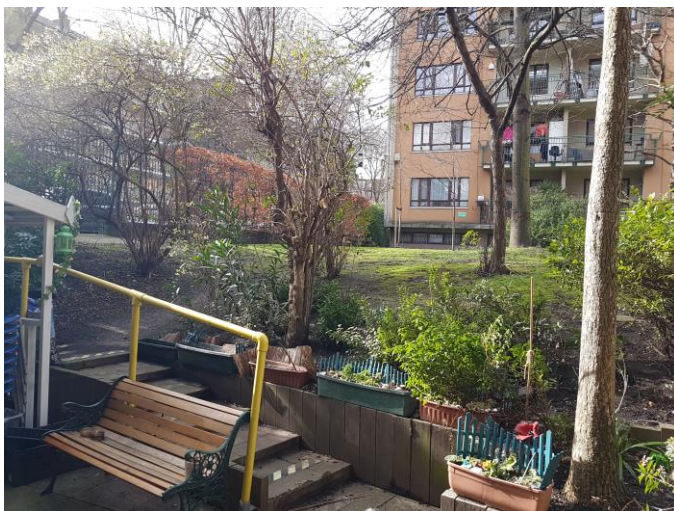
SITE PHOTOGRAPHS



Showing T1



Showing T2 & T3



Showing ground level change between terrace and garden space



A view of T1 & T2 from outside the site

SITE SPECIFIC INFORMATION

Explanatory Notes

Tree Survey

Tree Protection Method Statement and Protection Criteria

Informatives for protection fencing

Arboricultural Considerations notice for site hut and inducted personnel

Explanatory Notes

Measurements/estimates: All dimensions are estimates unless otherwise indicated. Measurements taken with a tape or clinometer are indicated with a '*'. Less reliable estimated dimensions are indicated with a '?'.

Species: The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated with a '?' after the name in order to avoid delay in the production of the report. The botanical name is followed by the abbreviation sp if only the genus is known. The species listed for groups and hedges represent the main component and there may be other minor species not listed.

Height: Height is estimate height to the nearest metre.

Spread: The maximum crown spread is visually estimated to the nearest metre of the total crown spread diameter. It should be noted that the crown of some trees can be one side, however this usually indicated within the report.

Diameter: These figures relate to 1.5m above ground level and are recorded in centimetres. Estimate measurements are banded 0-10cm, 11-20, 21-30 etc. If appropriate, diameter is measure with a diameter tape. 'M' indicates trees or shrubs with multiple stems. 'AV' indicates average and is the average of two stems when dealing with twin stem trees.

Estimated Age: Age is assessed as **M** mature (last one third of life expectancy), **EM** early-mature (one third to two thirds life expectancy) and **Y** young (less than one third life expectancy).

FSB: First significant branch from ground level (direction shown on tree protection / constraints plan)

SULE: This is the estimated Safe Useful Life Expectancy of the tree. Trees can live longer than this value, but can pose a risk to persons or property.

RPR: Radius of root protection area around the tree /group

RPA: Root protection area for tree or group

BS 5837 2012 - On the basis of this assessment, trees can be divided into one of the following categories:

- A** - Trees whose retention is most desirable; High category
- B** - Trees where is desirable; Moderate category
- C** - Trees which could be retained; Low category
- U** - Trees that cannot realistically be retained; Fell category

Tag	Name	Age	Diameter (mm)	Height (m)	Crown Hgt (m)	FSB Hgt (m)	Crown Spread (N S E W) (m)				Life Exp	Recommendations	Category	RPR (m)	RPA Area (m)
T1	Tilia X europaea (Common Lime)	EM	300	15	4	4	4	4	4	4	20+	No works required at present.	B3	3.6	40.72
T2	Crataegus monogyna 'Paul Scarlet' (Hawthorn)	SM	150	5	3	2	3	5	2	2	20+	No works required at present.	C3	1.8	10.18
T3	Crataegus monogyna 'Paul Scarlet' (Hawthorn)	SM	150	6	3	3	4	3	3	3	20+	No works required at present.	C3	1.8	10.18

Method Statement for Tree Protection Measures

PROJECT: Great Croft Resource Centre, Cromer Street, London

CLIENT: Age UK

1.1 Brief

Provide protective measures specification for trees to be retained using the guidelines and principles prescribed in BS5837: 2012 'trees in relation to design, demolition and construction'.

1.2 Protective Fencing and Site Supervision

An important factor in providing protection for the trees during the construction works is the chronological order in which development tasks are undertaken. Before work continues on site, the following issues will be addressed and submitted to the council for approval.

- A suitably qualified arborist will be retained to oversee tree protection measures where required and liaise with the tree officer as required. The contact information of this arborist will be made available to the council tree officer prior to works starting on site.
- The foundation design for the extension and ramp will be suitable to address any potential influence that the trees may have on them. Location of services and details of their installation will have been provided, with any arboricultural protection measures or methodologies of working programmed in the works schedule and approved by the council.
- A pre- commencement meeting with a suitably qualified arborist will take place with the site manager and other relevant site personnel, to debrief them on the importance of the protection measures and to assist in setting up of the protection fencing etc. before work commences on site.
- A schedule of arboricultural site supervision will be formulated at the pre-commencement meeting and be provided to the council by the site manager once this plan of visits has been set. It is then the responsibility of the site manager to ensure the arboricultural supervision visits are booked in and undertaken at the relevant times.

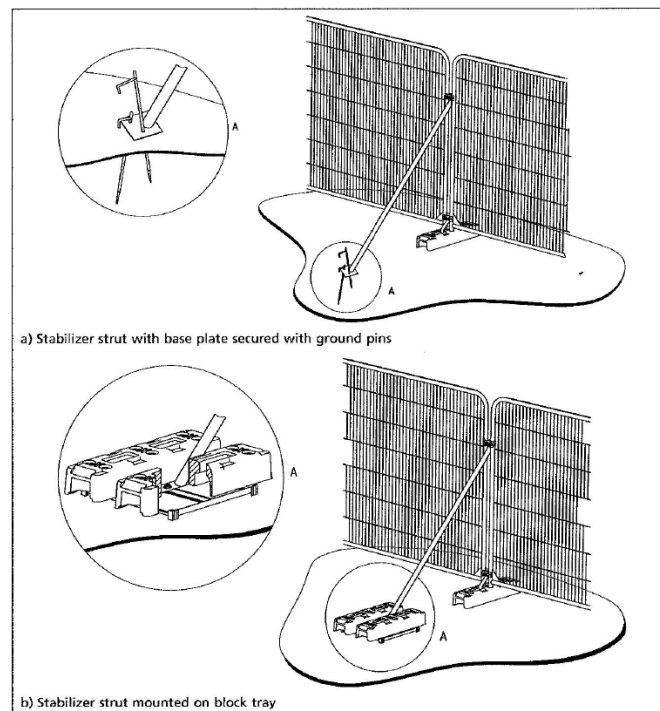
1.2.1

Protective fencing will be denoted using plastic mesh style fencing. This will clearly show the construction team the extent of the RPA and still allow the family access to utilise the garden space as normal. If this type of fencing is not acceptable to the tree officer, then the type of fencing to be used will be as shown in **diagram 1** or similar that demonstrates that it is fit for purpose. This will be placed in the locations as shown on the tree protection plan in **Appendix 5**, prior to works commencing on site. The informatives provided will be attached to the fencing to highlight its importance at a height of 1.5m and at 5m intervals along the line of fencing, or in locations that can demonstrate they are clearly visible to identify the purpose of the fencing in relation to the project.

1.2.2

If access is required across the RPA on the soft ground, suitable ground protection will be installed as set out in 1.7 before access into the protected area is allowed.

Diagram 1



1.2.3

A pre commencement inspection by the supervising arborist will take place to ensure the protective measures are understood and a schedule of arboricultural site monitoring is formulated at the start of the project, this will consist of a visit by a suitably qualified arborist once at the start of the project, once mid-way through and once at the end. If this is not to the council's satisfaction, then visits arboricultural visits will take place once a month for the duration of the project. A log of these visits and any actions required will be available to the council on request and kept on site.

1.2.4

The placing of tree protection measures works within the construction timescale will not be altered and it is re-emphasised that this is to take place prior to any other activities.

1.2.5

All personnel inducted on site will be made aware of the tree protection measures and will be responsible for their own actions in maintain these and ensuring that they do not cause any damage to the trees.

1.3 Forbidden activities within RPA

1.3.1 Within the root protection area the following activities will be prohibited, unless the local authority in writing grants specific permission:

No storage of chemicals or other substances likely to leach and cause harm to the trees to be stored.

No storage of heavy plant or materials likely to cause further soil compaction.

No ground disturbance works, apart from what has been approved by any planning permissions or specifically form the council.

No activities that could indirectly affect the trees such as bonfires etc.

1.3.2 No ground disturbance work apart from those granted in the planning permission is to be undertaken within the confines of the RPA without the written permission of the local authority.

The protected area is not to be breached at any time, unless the local authority has granted permission and a qualified arborist has been consulted and supervises any work activities that need to take place.

1.4 Storage of chemicals / mixing of materials

1.4.1 Storage of chemicals will be placed in a sealed bund / area, with no discharge allowed onto the ground or watercourses. The area containing these materials will have an impervious surface and stored **if possible** 10m away from the RPA. If accidental spillage of chemicals or other damage to the trees takes place the local authority is to be notified as soon as possible and a suitably qualified arborist is consulted as to the best actions to take to mitigate any damage that may have occurred as a result of the accident and these works to be undertaken to mitigate the situation as soon as possible.

1.5 Works in the RPA

1.5.1 **No excavation / ground disturbance works will take place within the RPA unless permission is granted by the local authority to do so. If excavation works are required and permission is given, then an arboricultural method statement for these works and procedures will be provided.**

1.5.2 The foundation design for the extension and ramp will demonstrate how it is fit for purpose to ensure that the trees will not indirectly impact on the structure, resulting in pressures to remove the trees in the future.

1.6 Material storage / site parking

1.6.1 Particular attention will be made to the type of materials to be stored and the type of machinery needed to move them, ensuring that sufficient protection measures in accordance with this method statement and space are provided to prevent damage to the trees to remain. The details outlined in 1.4 above will be adhered to.

1.6.2 **At no point will plant or materials be allowed to be parked or stored within the RPA. This will be strictly policed by the site manager.**

1.7 Ground Protection

- 1.7.1 If access across the RPA is required, the permission of the tree officer will be first gained and the following ground protection measures will be implemented as required.

For pedestrian traffic:

A single thickness of scaffold boards placed on top of a scaffold frame so as to form a suspended walkway (similar to diagram 2), or boards laid on to a geotextile membrane with a layer of wood chips 100mm in thickness.

For pedestrian operated plant up to 2 tonnes:

Interlinked ground protection boards of plywood or similar at least 2.5cm thick, laid onto a geotextile membrane on a bed of wood chip 150mm in depth.

For wheeled or tracked traffic exceeding 2 tonnes gross weight:

Metal tracking designed and fit for purpose, pre-cast concrete slabs or similar, laid to an engineering specification on a compression resistant layer e.g. wood chips that will likely spread the weight of the load and prevent compression of the soil underneath.

- 1.7.2 **AT NO POINT WILL THE GROUND WITHIN THE RPA BE LEFT UNPROTECTED IF ACCESS IS REQUIRED IN THIS AREA.**

1.8 Completion

- 1.8.1 Once all of the construction activities on the site have been completed and a suitably qualified arborist will assess the condition of the trees and liaise with the local authority accordingly if any works are considered necessary. Any proposed landscaping works will be discussed with the supervising arborist to ensure there could be no detrimental impact on the trees.

ANDREW DAY
ARBORICULTURAL CONSULTANCY LTD

REDUCING COSTS BY DELIVERING PRACTICAL SOLUTIONS

TREE PROTECTION ZONE

**DO NOT CROSS WITHOUT
PERMISSION**

**BREACHING THIS BARRIER CAN
RESULT IN THE FOLLOWING:**

- **SHUT DOWN OF THE JOB**
- **FINANCIAL IMPLICATIONS**
- **CRIMINAL PROCEEDINGS**

ARBORICULTURAL SITE CONSIDERATIONS

THIS NOTICE IS TO BE DISPLAYED IN THE SITE OFFICE OR A SUITABLE LOCATION WHERE IT IS CLEARLY VISIBLE AND ISSUED TO ALL PERSONNEL INDUCTED ONTO SITE

The following site considerations must be observed at all times during the development process, from site preparations through to completion.

- ❖ The protected area of the RPA must be regarded as sacrosanct and not breached except where to implement the planning permission granted, without prior consultation with either the local planning authority or the supervising arborist.
- ❖ Ground protection must not be lifted or removed without prior consultation with either the local planning authority or the supervising arborist.
- ❖ Damage caused to ground protection must be reported to the site manager to ensure suitable repair or actions are taken.
- ❖ No materials, chemicals, machinery or vehicles to be stored within the RPA (root protection area) as defined on the tree protection plan and on site by fencing and ground protection.
- ❖ No materials etc. must be rested against or machinery chained to trees.
- ❖ No pruning of trees may be undertaken by anyone other than a qualified arborist and approved by the supervising arborist and local authority tree officer.
- ❖ Any physical damage caused to a tree to be retained must be reported to the site manager immediately so that suitable remedial works can be commissioned without delay.
- ❖ Builder's sand (which contains high levels of salt) must not be used to back fill excavations within or in close proximity to tree roots, as it has a toxic effect and can cause root desiccation. Sharp sand must be used under such circumstances.
- ❖ Soil contaminants such as concrete mixings, diesel oil and vehicle washings must be kept suitably contained, preferably within bunded areas. Any spillages within 2m of a fenced area must be reported to the site manager and supervising arborist immediately so that suitable mitigation works can be commissioned.
- ❖ Fires must not be lit in positions where their flames can extend to within 5m of foliage, branches or trunks. Wind direction and size of fires will impact on this.
- ❖ Notice boards, telephone cables or other services etc. must not be attached to any part of a tree.

Remember the tree officer can turn up at any time or neighbours may report any poor practice or threats to the trees.

Site Personnel Contact Information

As far as I am aware the only personnel associated with this site at the time of writing this report is the project architect. Table 2 shows the contact details of the project architect who is to be contacted if any enquires relating to this project need answering.

Table 2

Name	Relation to Site	Contact Details
OAC Architects	Project Architect	(0)20 37355086

**LIMITATIONS
AND
QUALIFICATIONS**

LIMITATIONS AND QUALIFICATIONS

Unless specifically mentioned the report will only be concerned with ground inspections. No below ground inspections will be carried out without prior confirmation from the client that such works should be undertaken.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available during the inspection process. No checking of independent data will be undertaken, Andrew Day Arboricultural Consultancy will not be responsible for the recommendations within this report where essential data are not made available, or are inaccurate.

This report will remain valid for one year from the date of inspection, but will become invalid if any tree works not recommended within the report are undertaken, soil levels around the trees are altered in any way and if any building works which were not disclosed during the inspection are undertaken.

If any of the above occurs then it is strongly recommended that a new tree inspection is carried out.

It will be appreciated, and deemed to be accepted by the client that the formulation of the recommendations for the management of the trees will be guided by the following:

1. The need to avoid reasonable foreseeable damage
2. The arboricultural considerations – Tree safety, good Arboricultural practice and aesthetics.

The client is deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where time constraints or the client limits sources, this may lead to an incomplete quantification of the risk.

TREE PROTECTION PLAN

(This plan is for reference only; please refer to the separate A3 plan for scaling if required)

