



ARBORICULTURAL REPORT

**The Boat House
Ranelagh Drive
Twickenham**

REV 1

26th June 2023

Prepared by: **Andrew Day HND Arb. M.Arbor.A, CEnv**

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, or stored in any retrieval system of any nature, without our written permission. Its content and format are for the exclusive use of the addressee in dealing with this site. It may not be sold, loaned, hired out or divulged to any third party not directly involved in this site without our written consent.

© (Andrew Day Arboricultural Consultancy Ltd)

Scope

The purpose of this report is to provide Arboricultural advice in relation to identifying the constraints of trees on site, in relation to the proposal to redevelop the existing building into residential properties. Providing advice on how the trees could be impacted and protection measures to be implemented using the guidelines and principles of BS5837:2012 to safeguard them from construction pressures.

Table of Contents

	Page
1 Introduction	4
2 Appraisal	5
3 Conclusions	9
4 Other Considerations	9

Appendices

1 Qualifications and Experience	10
2 Photographs	11
3 Site Specific Information	12
4 Limitations and Qualifications	23
5 Tree Protection Plan	25

1 INTRODUCTION

1.1 Brief:

This report has been prepared at the request of Silver Jetty Architects on behalf of the site owner, to provide advice on the arboricultural constraints regarding the trees on site which could potentially be impacted during works to implement the refurbishment of the existing buildings. Advising on what protection measures will need to safeguard the trees from construction pressures.

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 revised, proposed layout.

1.4 Relevant background information:

None.

1.5 Scope of this report:

This report is only concerned with trees located on site that could be impacted by construction works during refurbishment of the building to convert to residential properties 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 currently is in use as three flatted residential units. The building fronts onto the river Thames with a public walkway between it and the river. The grounds are contained behind a brick wall and railings. An area is available for off street parking to the rear of the building with a raised garden area to the eastern side. Residential properties are located in close proximity.

2.2 Condition of the trees:

The tree appears to have a healthy vigour with no signs of pests or diseases commonly associated with the species.

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

2.3 Suitability of the trees for location and management requirements at present:

In my opinion the trees could be considered suitable for the location, I am not aware with any conflict with the usage of the site or public thoroughfare.

No management works are considered necessary at present.

2.4 Potential effects of development on the trees:

To implement the planning permission being sought, T1 will need to be removed to facilitate the new alignment of the boundary wall. The removal of this tree will not impact on the wider public amenity because T2 which is behind will be more visible, this tree has a more balanced crown habit. To compensate for the removal of T1, a new tree can be planted further up in the garden space. I have suggested a Silver Birch because this would offer seasonal amenity, species diversity and be suitable for long term retention. The size and species are something that can be condition as part of a planning consent. The remaining trees will be retained and protected.

The construction zone is located outside of the RPA (Root Protection Area) of T1 & T2 that are shown to be retained and protected; therefore, the construction works will not directly impact on these trees. Even though there is space between the extents of the RPA and the proposed construction zone, there is still a risk of construction activities indirectly impacting on it if suitable protection measures are not in place to prevent this. Protection measures are outlined in the Tree Protection Method Statement in **Appendix 3** and will need to be implemented and adhered to.

Protective fencing will be erected in the locations shown on the Tree Protection Plan in **Appendix 5** to prevent direct and indirect damage occurring to the tree and to stop construction activities extending further down the garden space where it could then impact on the tree, via means such as inconsiderate material storage, manoeuvring of materials. There is space outside of this protected area to accommodate such actions, so that the trees will not be impacted in any way.

Any proposed landscaping works in the garden area will need to take account of the RPA of the trees, and avoid excavation works or placing of seating where it could result in roots or the canopies having to have work done, which could impact on their amenity and longevity.

As long as the protection measures highlighted within this report are adhered to, then it is possible that the trees will not be detrimentally impacted by the development proposal. However, this will need to be strictly policed by the site manager as it could result in conflict with the council. The extent of the RPA can be suitably fenced off to prevent construction activities either directly or indirectly affecting the trees.

In this case the potential impact of the proposal in relation to the trees is considered low, with specific measures being able to be implemented to ensure that construction pressures do not adversely affect their health or longevity. 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 will not be an issue given the orientation of the site in relation to the buildings, with shadow cast mainly falling away over the footpath and not reaching the building. The conflicts normally encountered with having buildings near to trees can be addressed with scheduled maintenance as has been done so far.

2.6 Proposed solutions to safeguard the trees to remain during construction works:

2.6.1 Protective fencing

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 and construction activities will not be permitted further into the garden space. The fencing will be erected using heras panels as shown in **Diagram 1**.

2.6.2 Services

No details relating to service runs have been provided to me, I would assume the existing services will be used and connected to, and new service runs can be located outside of the RPA. The project architect will confirm the location of the service runs. 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. The trees are a notable distance from the proposed construction zone and the RPA, so I do not envisage this being an issue.

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 if on soft ground. The site manager will provide details on this aspect of the project and will demonstrate how care and attention will be applied to protect the trees from direct and indirect construction activities. Given that the trees are at the far end of the site, I do not see this being an issue.

2.6.4 Works within RPA (Root Protection Area)

No excavation works or access are proposed to take place within the RPA, because the construction zone is sited outside of the constraints offered by the trees.

2.6.5 Site supervision

The site manager will provide a timetable of works on the site, listing all 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. In this case I do not think that regular visits will be required, therefore I suggest a supervision visit is undertaken at the beginning of the project to ensure the protective fencing is in the correct place and the site manager understands the protection methods to be implemented, then one midway through and one towards the end to ensure they have been maintain the protection measures outlined within this report. If this is not to the tree officer's satisfaction, then **site supervision will be undertaken by a suitably qualified arborist on a monthly basis until the completion of the project, and at key stages in the development such as erection of the protective fencing. 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 tree is 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. Failure to do so could result in legal action taken against the person responsible and the site owner, including any financial remuneration involved.

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**.

3 CONCLUSIONS

- To implement this development T1 will be removed. This will not impact on wider public amenity because it will make T2 more visible. T1 can be replaced with another tree elsewhere on site to compensate.
- The constraints of the T2 & T3 do not extend into the proposed construction zone for the development; therefore, they will not be directly impacted. The trees can be suitably protected to prevent it being indirectly impacted by construction pressures.
- Protective fencing will be installed to prevent unnecessary access into the protected areas and to stop construction activities accessing this protected space. The locations of this fencing are shown on the tree protection plan in **Appendix 5**.
- 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**. The proposal is unlikely to have any detrimental impact on the trees.

4 OTHER CONSIDERATIONS

4.1 Trees subject to statutory controls:

I do not know if the trees are the subject of a TPO (tree preservation order) or other restrictions, the local authority will need to be consulted to confirm this. I suggest that the local authority is kept updated with any proposed tree works so as to form a good working relationship and to prevent misunderstandings or contravention of protection measures. This is an advisory for readers of this report and not meant as a confirmation as to the protection status of the trees commented on.

*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 20 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. I am currently a consulting arborist for Andrew Day Arboricultural Consultancy.

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 principal consultant which I did for three years.

SITE PHOTOGRAPHS



Showing T1 – T3 contained within a raised garden space.



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 identify a particular tree quickly and accurately without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated it 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 estimated 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	Height	Crown Hgt	FSB Hgt	Crown Spread (N S E W) (m)				Life Exp	Recommendations	Category	RPR	RPA
T1	Betulus Spp (Weeping Birch)	M	250	5	1	1	3	4	4	6	10+	No works required at present.	C1	3	28.28
T2	Prunus (Prunus species)	M	350	5	1	1	3	3	3	3	10+	No works required at present.	C1	4.2	55.42
T3	Prunus (Prunus species)	M	300	5	1	1	3	3	3	6	10+	No works required at present.	C1	3.6	40.72

Method Statement for Tree Protection Measures

PROJECT: The Boat House, Ranelagh Drive, Twickenham

CLIENT: Silver Jetty Architects

1.1 Brief

Provide protective measures specification for trees located on site 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 tree 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 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.
- The arboricultural site supervision schedule will be compiled at the pre-commencement meeting and will be the responsibility of the site manager to ensure that it is carried out and maintained for the duration of the works.
- The removal of T1 will be done in accordance with BS3998:2010 and take into account any relevant wildlife legislation.

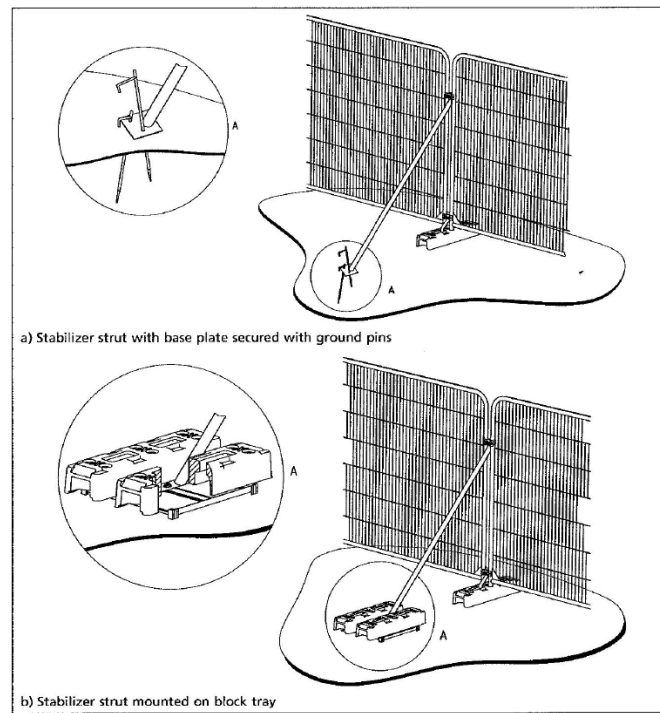
1.2.1

Protective fencing will be as shown in **diagram 1** or similar that is fit for purpose and will be placed in the locations as shown on the tree protection plan in **Appendix 5**, prior to works commencing on site. Once erected the fencing will not be removed unless works on site have been completed. 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 within the RPA, then ground protection will be installed as set out in 1.8 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 towards the end of the project, as well as times of excavation works to address the anything within the RPA if permitted. If this is not to the tree officer's satisfaction, supervision visits will be on a monthly basis, or at times when works where the trees are more likely to be at risk of damage. A log of these visits and any actions required will be kept and made available to the council on request. **It will be the responsibility of the site manager or other named person to ensure this is maintained for the duration of the project.**

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 maintaining 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 from the council.

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

- 1.3.2 No ground disturbance works 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 are proposed to take place will take place within the RPA. If this changes then the local authority will grant the relevant permission to do so. Any arboricultural method statements to address this work will be provided.
- 1.5.2 Where work adjacent to the RPA is required for the new wall alignment, works will take place from outside the RPA and if any roots are encountered, they will be pruned clear and suitably covered. The supervising arborist will over see this.

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 materials be allowed to be stored in the RPA. The site manager will strictly police this.**

1.7 Ground Protection

1.7.1 If access across the RPA is required 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 tree 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 this does not 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 1 shows the contact details of the project architect who is to be contacted if any enquires relating to this project need answering.

Table 1

Name	Relation to Site	Contact Details
Silver Jetty Architects	Project Architect	07841 023 805

**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. This report is for the purposes of identifying the constraints of trees in relation to development and not a health and safety assessment of the trees. A cursory assessment of the trees health and condition will be recorded, but this is not to be taken as a detailed assessment of its structural condition, health, and management recommendations in relation to this. A separate tree inspection regime focusing on these aspects will need to be undertaken if this is required.

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 extreme weather changes occur such as heavy winds, snow etc., the trees will need to be re-inspected to ensure their condition has not been affected or has altered from the initial inspection details obtained.

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 reasonably foreseeable damage.
2. The arboricultural considerations – Tree safety, good Arboricultural practise, 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)

