Arboricultural Impact Assessment & Method Statement in accordance with BS5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*'

Project name:	**Addison Est. Field End Rd, Ruislip HA4 0QP**		
Project Ref:	2516	Date of report:	24 February 2023
Written by:	Owen Allpress *Bsc (Hons) Arb* Working in the Arboricultural sector for almost two decades, I have achieved both an FdSc and a BSc (Hons) in arboriculture, am a LANTRA certified Professional Tree Inspector and a professional member of the Arboricultural Association. Starting out working as an arborist, I progressed into a management role running a large and successful tree surgery. I later moved into a consultant position with one of the largest tree consultancies in the south east before becoming an independent consultant.		
Record of amendments:	- Initial version issued 24/02/2023		

Local Authority Validation Summary

This arboricultural report contains supporting information regarding potential impact to retained trees as part of the proposed development.

To assist local authority (LA) verification this survey contains the following information:

- A complete Initial Tree Survey in compliance with *BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations,* carried out by a qualified arboricultural consultant.
- Scale plans with north indicated, detailing tree positions and tree categorisation.
- Implications for trees from the proposed development have been explored including trees retained and/or removed to facilitate the proposal.
- Preliminary Arboricultural Method Statement for use on site. Outlining means of executing the proposal including methods where available, to be implemented to reduce the impact to retained trees.

Contents:

Appendices:

1.0 Introduction

1.1 Instruction: I have been instructed by Kingsoak Capital to provide an Arboricultural Impact Assessment and Method Statement as part of the proposed development at the site. The proposal is to redevelop the site for residential property.

1.2 Scope: The purpose of this report is as an Arboricultural Survey, Impact Assessment and Method Statement describing existing trees, their value and any constraint they pose to the presented development proposals. This report is compiled in accordance with guidance set out within BS5837: 2012 *'Trees in relation to design, demolition and construction – Recommendations'*

1.3 This survey is not a tree safety survey. Individual trees were assessed according to BS5837:2012 and not to ascertain detailed information relating to their condition or the risk they may pose to users of the site. This report may not be presented for that purpose in any way. If tree condition is a concern or insurers require this information a separate assessment should be undertaken.

1.4 Report contents: The following contents are included to provide a comprehensive assessment of the trees, their value and the constraint they may present to the proposed development.

- **A Tree Constraints Plan** – A location plan detailing the trees recorded at the site as it is at the time of survey.
- **A Tree Retention & Protection Plan** – A plan detailing retained trees and any protection measures required to allow the proposal to be completed with reduced risk of impact to trees at the site.
- **An Initial Tree Survey** – a written summary of the initial survey, site description and methodologies employed.
- **An Arboricultural Impact Assessment** – an assessment of the impact presented by the proposed development activities on trees.
- **Arboricultural Method Statement**: A method statement outlining working methodologies to achieve the proposed construction whilst minimising impact to trees at or adjacent to the site.
- A series of appendices including supporting documents.

1.5 Supporting documentation: The following documents were supplied prior to and in support of this assessment.

- Existing site layout
- Proposed site layout

2.0 Initial Tree Survey

2.1 Site survey: A site survey was conducted on 24th February 2023. The weather conditions at the time of the survey were dry and bright. Visibility was not impeded by weather conditions and an appropriately scaled assessment of trees, recording the required information, was carried out.

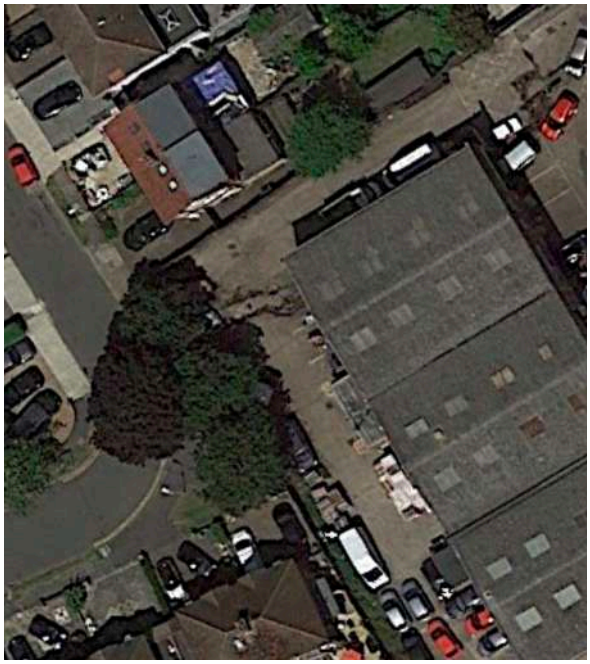

Image 1: Existing site layout satellite image., (Imagery ©2021 Google).

2.2 Site description and layout: The site as it exists at the time of assessment consisted of a number of industrial units bordering residential streets. A small number of trees are located in a closed off section of land to the rear of the site. Further information regarding trees recorded at the site can be found in the survey sheets located in appendix 2.

2.3 Statutory protection: The London Borough or Ruislip's online mapping service was accessed on the 22nd Feb 2023 to ascertain the presence of any tree related designations relevant to this report. At the time of this check no Tree Preservation Orders, (TPO), were present and the site is not located within a conservation area. This check is not clearance to carry out tree work without subsequent checking as the status of the site may be subject to change. Permission for tree works should be sought were the trees in question ae protected by Tree Preservation Order, (TPO) or the

site is within a conservation area. Tree works identified in this report require no additional permission where this report forms part of full planning permission, (without condition). It remains the contractors responsibility to ascertain if permission for works is required prior to any tree works occurring.

2.4 Tree survey methodology: The initial survey recorded information about trees at and adjacent to the site that were deemed to be relevant to the scope of the report. Third party trees are recorded where they are in such proximity that their root structure or canopy above ground may be impacted by development proposals.

2.5 Limitations: The survey was restricted to a visual assessment carried out from ground level. No aerial inspection, ground disturbance or invasive methods were implemented. No independent checking of third-party data occurred as part of its use in this report and its inclusion is done so fully with client permission and at the liability of the data originator. All tree positions are approximate as no detailed topographical study was supplied prior to this report.

2.6 Data recorded: Trees at the site have been assessed and data recorded in accordance with the requirements set out within BS5837: 2012. The following data was collected from each tree while at the site.

- REF: This is a sequential tree reference number beginning with a letter to define individual trees (T), tree groups (G), hedges (H) and woodlands (W). It is used to locate and refer to trees throughout the remainder of this report including subsequent reports at the same site.
- SPECIES: Tree species are recorded in the following format, "Common name, *(Scientific name)".* Scientific names are italicised and placed within parenthesis.
- Est HEIGHT: Tree height estimate recorded to the nearest meter.
- DBH: Diameter at Breast Height, recorded at the appropriate location along the stem dependent on tree form, (usually 1.5m from ground level however this will vary depending on the form of the tree).
- CROWN SPREAD: Crown spread of the tree recorded to the nearest meter using four cardinal points as a reference.
- AGE CLASS: Age classification. This is a broad description used to detail approximate age. Age class is specific to tree species and their individual growth habit ranging from juvenile, semi-mature, mature and over-mature. The classifications 'veteran' and 'dead' are also used where relevant.
- CONDITION SUMMARY: Details of the trees overall condition in order to qualify its classification.
- PRELIMINARY MANAGEMENT ACTION: Management recommendations that are recommended to be carried out regardless of the development proposal. These are based on current site use and setting and may include trees with obvious defects that should be addressed regardless of the future of the site.
- CATEGORY GRADING: Category grading according BS5837: 2012 (see appendix 4).
- ROOT PROTECTION AREA (RPA): This measurement may be useful for designers to plot RPAs during early stages of the proposal's design or at a later stage to ascertain the dimensions of the root protection area for each tree prior to construction, (see appendix 5).

2.7 A root protection area in the context of this report is, as defined in BS5837:2012, the area calculated to be the optimum minimum rooting area required by the tree in order to remain viable. This area does not necessarily contain roots however should be thought of as an allotment of space to permit future growth to sustain the tree beyond any construction works. Each trees diameter is measured and applied to the formula found in appendix 4.

2.8 Root protection areas, (RPA) for each tree are recorded and illustrated, (colour coded for tree categorisation) within the Tree Protection Plan within appendix 1.

2.9 Following the Initial Tree Survey, an Arboricultural Impact Assessment has been carried out and is included in latter sections of this report. This is done in order to assess the physical impact of construction along with recommending the necessary protective measures to be applied to trees during construction.

3.0 Arboricultural Impact Assessment

3.1 The proposal: The site is proposed to be redeveloped to provide a number of residential properties along with new pedestrian access to Royal Crescent.

3.2 Trees to be removed: No trees are required to be removed to facilitate the proposed development. All trees assessed and included in this report are to be incorporated into the final design and protected throughout the construction process.

3.3 Access facilitation pruning: Based on the information available at the time of this report no access facilitation pruning is proposed to be required to achieve the development. To allow a more informed decision regarding the potential need for pruning to occur, discussion should be had at pre-commencement site meeting with contractors present to discuss matters relating to phasing and access during construction.

3.4 Works within root protection areas: No significant structural works are proposed to occur within root protection areas of retained trees. All root protection areas will be protected for the duration of the construction phase either by tree protection fencing or temporary ground protection.

3.5 Works within root protection area of T3: A new pedestrian access route will be created as part of the proposal. This will exit the eastern side of the site onto Royal Crescent. The pedestrian footpath will largely be replacing existing surfaces present across the RPA of the tree as such does not present a significant change in overall impact. No specialist construction methods are deemed to be required to achieve the footpath installation. Existing surfaces elsewhere within the RPA of T3 will be lifted to provide a garden area illustrated on plans in appendix 1. The tree is categorised as C1 and as such is not anticipated to present a significant longer-term contribution beyond perhaps 20-30years. Replanting conducted elsewhere within the proposal will provide an element of succession for trees at the site.

3.6 Ancient Woodland: Ancient semi-natural woodland, (ASNW) or other ancient woodland classifications where they may be present are habitat designations. Consideration of potential impact to habitats, such as ancient woodland, is the role of an ecologist. No checks or investigation relating to the presence of ASNW occurred as part of this report. If ancient woodland is present the client is advised to engage a suitably qualified and experienced ecologist for advice.

3.7 Tree protection measures: Tree protection fencing will be deployed to delineate the construction exclusion zone. Specification for tree protection fencing is included in appendix 6 and consists of the light duty spec made up of HERAS panels with angled supports secured in place with driven stakes. Tree protection fencing must be installed such that its movement or adaption is purposely difficult, even impossible without the proper tools or access. **To be fit for purpose it must be immovable and remain in place for the duration of construction** unless otherwise discussed within the method statement in this or subsequent reports. Contravention of this amounts to a breach of planning permission where this report forms part of said permission.

3.8 The arboricultural method statement included in the final section of this report provides working methodologies as a follow on from the assessments made in the impact assessment. It is based on information available at the time of report and may be required to be updated as new, more detailed information becomes available regarding construction methods and final foundation designs.

3.9 The arboricultural impact assessment is based on the current layout at the time of this report. If the layout changes the associated impact on trees may also be affected and may need to be re-considered. It remains the clients' duty to inform the project arboriculturist of significant changes to the scheme which may affect the usefulness of this report.

4.0 Arboricultural Method Statement

This section of the report is the Arboricultural Method Statement for the specified construction activities and tree protection measures at the site. This document describes how trees will be protected and managed during the demolition & construction phase. This method statement is based on information available at the time of this report and may need to be updated as necessary as new information or changes in the site arise. It is the client's responsibility to communicate these changes to ensure the effectiveness of this document as it is intended to be used as briefing material and referred to throughout the development of the site.

A copy of this method statement must remain on site for the duration of the construction phase. This document may need to be circulated at key stages prior to commencement such as:

- At tendering of works to allow the effective identification and quantification of protective measures required to be carried out by the contractor.
- Plan the timing of key operations to minimise the impact of trees
- Referred to on site by contractors for practical guidance on how to protect trees at the site.

Activity	Timing	Notes
Install tree protection fencing	Prior to construction phase	Tree protection fencing to be installed at locations illustrated within tree protection plan appendix 1.

Table 1: Schedule of tree protection measures and tree related actions.

4.1 Requirements: A copy of this Arboricultural Method Statement must remain on site throughout the duration of construction and be available for use both as a reference and as briefing material for any operation that may affect retained trees at the site. No specialist arboricultural input is proposed at this stage other than arboricultural representation at the pre-commencement stie meeting. The below preliminary AMS represents the minimum level of consideration expected by contractors to be observed throughout construction phase.

4.2 Protection of Construction Exclusion Zone (CEZ): Fencing of the CEZ highlighted on the Tree Protection Plan within appendix 1 is to be carried out prior to any construction traffic or deliveries of material occurring at the site. Refer to paragraph 4.3 for CEZ prohibited activities. Tree protection fencing is to be installed at the location shown within the Tree Protection Plan and must remain in place for the duration of the construction works. Adjustments in position or physical breach of the CEZ is not permitted unless listed specifically within this method statement.

4.3 The areas protected by fencing or ground protection shall be referred to as the construction exclusion zones. The following actions shall be prohibited within the construction exclusion zones:

- Vehicular access (unless on suitable ground protection specified within this report).
- Regular pedestrian access unless on suitable ground protection.
- Storage of construction materials.
- Storage or handling of harmful chemicals.
- Any change in ground level unless otherwise stated in this report or under supervision of an arboriculturist.
- Construction activities including hard surfacing.

4.4 Services: No information relating to existing or proposed underground services was provided for assessment as part of this report. Any new service routes or adjustments to existing services should not occur without first consulting the project arboriculturist.

4.5 Arboricultural supervision: No significant works are set to occur and no direct supervision of construction activities is recommended however in order to accurately highlight tree protection measures and allow contractors to discuss works phasing relevant to tree protection, It is advisable to carry out a pre-commencement site meeting. A summary of the activities that require arboricultural supervision is included below:

- Site meeting, pre-commencement with appointed contractors to discuss tree protection measure and phasing of works. The local authority arboricultural officer shall be given reasonable notice of such a meeting in order that they make attendance.
- Confirmation of correct tree protection fencing installation and delineation of the CEZ.

4.6 If significant root growth is disturbed during construction activity outside of that explored within this report, work shall cease until the project arboriculturist has been consulted. Significant roots are defined as roots over 25mm in diameter or dense fibrous matter areas of root growth.

4.7 Root protection area calculation and interpretation is part of industry guidelines however, it should be noted that below ground root morphology is affected by a number of factors. The potential remains for discovering roots outside of root protection areas including roads as tree root growth conforms to no constant ideal.

4.8 If damage is inadvertently caused to trees at the site during construction, work shall cease until the project arboriculturist has been consulted to assess the likely implications along with recommending any necessary remedial measures. This includes environmental accidents such as fuel spillage, fire or chemical damage.

4.9 The supervising arboriculturist shall be appointed by the contractor, in this capacity, reporting to the local authority arboricultural officer may be required regarding changes and any unforeseen tree related matters.

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Project Ref:	2516	Date:	24 February 2023

Appendix 1 - Tree Constraints Plan & Tree Retention & Protection Plan

This drawing should be viewed in colour.

See appendix 2, Tree Survey Schedule for further information regarding trees included in this plan. All tree positions estimated.Not for construction use.

Owen Allpress BSc (Hons) Arb
Independent Arboricultural Consultant

Key:
- Tree Canopy
- Category A RPA
- Category B RPA
- Category C RPA

N

CLIENT: Kings Oak Capital

DRAWING TITLE: Tree Constraints Plan

Site address: Addison Est. Field End Road HA4 0QP

DATE DRAWN: 22/02/2023

DRAWING NUMBER: 2516-01

SCALE: 1:200 @ A3

DRAWN BY: OA

Minor encroachment RPA T3 for pedestrian access.

RESIDENTIAL FLATS BLOCK

timber fence and planting

EXISTING WAREHOUSE OUTLINE

ELEVATION 3

ELEVATION 2

ELEVATION 4

T1

T2

T3

T4

Bin Storage

garden / landscaping

(private terrace with timber fence)

Gated access for residents

3 bed 113m²

10 Bikes

2no. Disabled Parking Spaces

2no. larger spaces

(bin store)

1025

1250

This drawing should be viewed in colour.

See appendix 2. Tree Survey Schedule for further information regarding trees included in this plan.

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Independent Arboricultural Consultant

Key:
- Tree Canopy
- RPA of Retained Tree
- Protection fencing

N

CLIENT: Kings Oak Capital

DRAWING TITLE: Retention & Protection Plan

Site address: Addison Est. Field End Road HA4 0QP

DATE DRAWN: 22/02/2023

DRAWING NUMBER: 2516-02

SCALE: 1:200 @ A3

DRAWN BY: OA

Appendix 2 - Tree Survey Schedule

Client:	Kings Oak Capital			Tree Survey Schedule			Owen Allpress BSc (Hons) Arb Independent Arboricultural Consultant		
Site address	Addison Est. Field End Road								
Survey Date:	24th Jan 2023								
Surveyor:	O.Allpress								
Ref	Species	Est Height (m)	DBH (mm)	Est Crown spread (m)	Age class	Condition summary	Preliminary management action	Category grading	Root Protection Radius (m)
T1	Willow spp, *(Salix spp)*	<10	350 ms est	N E S W 4 Avg	Mature	Third party no access to assess. All dimensions est.	None at time of survey	C1	4.2
T2	Norway maple, *(Acer platanoides)*	<15	460	N E S W 4 3 7 8	Mature	Street tree canopy dimensions est. DBH recorded.	None at time of survey	A1	5.5
T3	Horse Chestnut, *(Aesculus hippocastanum)*	<15	300 est	N E S W 5 Avg	Mature	Limited access to survey. All dimensions est. Tree in poor physical condition canopy appears to be in decline.	None at time of survey	C1	3.6
T4	Horse Chestnut, *(Aesculus hippocastanum)*	<15	400 est	N E S W 4 Avg	Mature	Tree located in closed compound limited access to assess. All dimensions est. Ivy growth prevents visual inspection of tree.	None at time of survey	B1	4.8

Appendix 3 – Photographs

	**Photo 1:** Image looking east into site from Royal Crescent.
	**Photo 2:** Image looking west along northern boundary.

Appendix 4 – Cascade chart for tree categorisation

BS5837:2012 Table 1 – Cascade chart for tree quality assessment

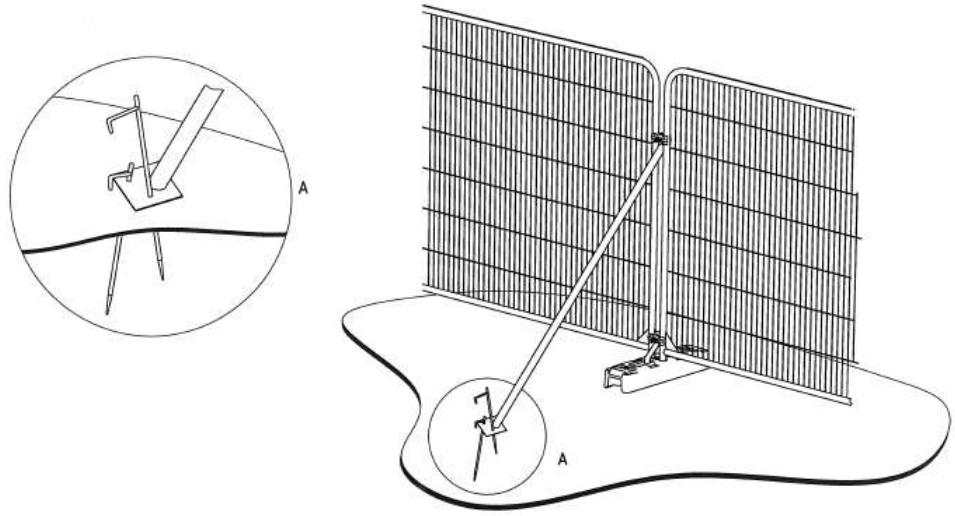
Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see Note)			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012]* ***4.5.7****.*		
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**
Trees to be considered for retention			
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

The above is an extract form BS5837:2012. The key in plans provided in appendix 1 illustrates categorisations described above.

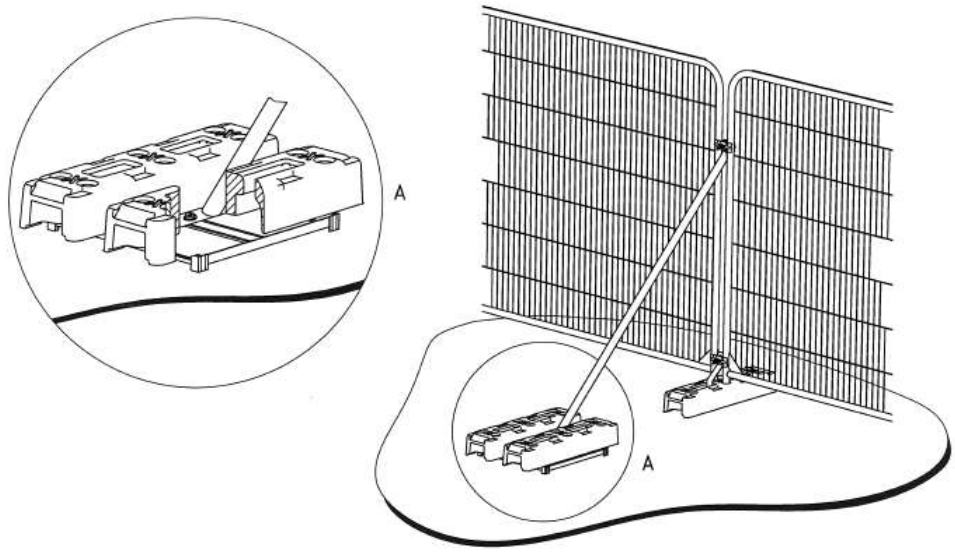
Appendix 5 – Root Protection Area Formulas

Tree type	Formula used. (Taken form BS5837: 2012)
Single Stem	$RPA(m^2) = \frac{(\text{stem diameter (mm) @ 1.5 m x 12})^2 \times 3.142}{1000}$
Up to five stems	$\sqrt{(\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 \ldots + (\text{stem diameter 5})^2}$
Trees with more than five stems	$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$

Appendix 6– Tree Protection Fencing Specification



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix 7– Tree Protection Fencing Signage

TREE PROTECTION AREA

Trees enclosed in this area are subject to planning conditions and/or tree preservation orders (TPO). Contravention of TPOs can result in criminal prosecution

No access beyond this point is permitted unless part of planned operations described within arboricultural method statement.

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