



Arboricultural Method Statement, Impact Assessment and Tree Protection Plan in Accordance with BS 5837:2012

50 CHAZEY ROAD, CAVERSHAM, READING, RG4 7DU

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1. Executive Summary

1.1

The proposal is for a new dwelling and driveway following demolition of existing house at 50 Chazey Road, Caversham, Reading, RG4 7DU.

Arboricultural Survey

1.2

The site was inspected by Elliott Foulkes (Dip Arb L4 ABC, TechArborA) on Friday 1st March 2019. 6 individual trees were surveyed. At the time of visit a 7.5 x 7.5 metre section at the front has had 100mm of the top surface scraped. Heras fencing is positioned around the perimeter of the boundary to the front and along the rear at the back garden. There are specific trees with a Tree Preservation Order (TPO 10/11) by Reading Borough Council.

1.3

3 individual trees were classified within the 'B' category due to their combination of conservational or amenity value, maturity or screening proficiency. 3 individual trees have been classified within the 'C' category.

Arboricultural Impact Assessment

1.4

If necessary any small trees with a diameter of below 150mm diameter may be felled to improve site access. There are no recommendations to fell trees within this report.

1.5

Construction works, specifically HGV's, have the potential to come into close proximity to trees and will also encroach onto the tree root protection area of T1. Therefore a method statement for HGV's within close proximity of trees will be included within the method statement as well as suitable ground protection will be outlined in this report to mitigate from soil compaction and root damage. It has also been noted that a pile of topsoil was present within the RPA of T1, creating poor conditions for nutrients and gaseous exchange to occur. This mound of topsoil must be removed from all RPA's, this has been prepared for removal by the demolition contractor, and has been included within the schedule of works as the first priority within this report.

Tree Protection Plan

1.6

The access is used by a range of vehicles and the existing surface appears to be sound. At this stage (prior to any further detailed assessment) it is therefore assumed that the driveway will be adequate to support the weight of proposed vehicles. Temporary inter-linked ground protection boards must be placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane to prevent rutting. A banksman must be present at all times to ensure that all HGV's moving around the site do not hit retained trees. To further guard the trees protection fencing must be installed around the perimeter of the RPA's.

Conclusion

1.7

The arboricultural impact of the construction is low due to the measures taken outlined in the report. Damage to the roots of the protected trees can be mitigated through ground protection, tree protection fencing, site monitoring and an arboricultural methodology set out in this report.

2. Introduction

2.1 Instruction

2.1.1

SouthOaks are instructed to visit and survey the trees in accordance with BS5837:2012. This includes trees that are within influencing distance of the tree Root Protection Area (RPA), and trees to be retained that may be affected by potential loss or damage within influencing distance of 50 Chazey Road, Caversham, Reading, RG4 7DU.

2.2 Background Information

2.2.1

We have been provided with a block plan for this site with tree locations.

2.2.2

The principle reason for this investigation is to provide professional arboricultural advice to assist in tree retention with nearby construction works. This report includes an arboricultural Impact Assessment, Tree Protection and Arboricultural Method Statement in accordance with BS5837:2012 in order to produce a BS5837 report. This report is to inform of feasibility studies and design options in regard to tree constraints.

2.2.3

Care has been taken to obtain all information from reliable sources, and all data has been verified where possible. However no guarantee can be given of the accuracy of information provided by others.

2.3 Plans and documents

2.3.1

A survey and map included in this report will include all tree numbers, specifically where it has not been possible to tag trees due to access. This document will notify of any additional trees not included in the topographical survey.

2.3.2

We have no connections with any of the parties involved in this site that could influence the opinions expressed in this report.

2.3.3

Planning permission overrides a Tree Preservation Order and Conservation Area.

3. The Site

3.1. Site Visit

3.1.1

The site was inspected by Elliott Foulkes (Dip Arb L4 ABC, TechArborA) on Friday 1st March 2019, weather conditions provided good visibility of the trees. Access was granted for the neighbouring property 52 Chazey Road.

3.1.2

The information contained in this report covers the trees inspected and reflects the tree condition and site conditions at the time of inspection. Measurements were taken using a diameter tape and digital clinometer.

3.1.3

The trees were inspected from ground level only, no climbing inspections were undertaken.

3.2. Site Description

3.2.1

Tree T1 and T2 are located to the front of the property, the remaining trees are situated to the rear. At the time of visit a 7.5 x 7.5 metre section at the front has had 100mm of the top surface scraped. Heras fencing is positioned around the perimeter of the boundary to the front and along the rear at the back garden. There are specific trees with a Tree Preservation Order (TPO 10/11) by Reading Borough Council.

3.3. The soil

3.3.1

Although believed to be freely draining lime-rich loamy soil (www.landis.org.uk), we are unable to provide exact details of soil structure. If the soil is shrinkable the trees and other vegetation have the potential to cause indirect damage to structures. If there is a requirement to assess subsidence damage further research from a soil engineer would be advised.

4. Tree Survey Parameters

4.1 Parameters

4.1.1

Trees growing as groups have been identified and assessed as such where we have determined it appropriate.

4.1.2

Trees have been categorized using the criteria shown in table 1 in accordance with BS5837:2012. This is used to identify the quality and value of the existing tree stock allowing informed decisions to be made concerning which trees should be removed or retained in the event of development. BS5837 requires retention of better quality trees where possible (category A and B).

4.1.3

Trees that require immediate attention, either due to serious hazard to life or property, or trees affected by pests or pathogens that may cause widespread or serious damage unless controlled or eradicated should be brought to the attention of the relevant person or organisation (including statutory authorities where applicable).

5. Tree Survey and analysis

5.1 Species

Common name	Scientific name
Birch	<i>Betula pendula</i>
Cherry	<i>Prunus avium</i>
Cypress	<i>Cupressus</i> sp.
Larch	<i>Larix</i> sp.
Lime	<i>Tilia</i> sp.
Pine	<i>Pinus</i> sp.

5.2 Distribution of categories

BS5837 Category	Number of trees	Percent of trees
B1	3	50%
C1	3	50%
Total	6	100%

5.3 Key to survey

5.3.1

Ref – Reference number allocated to the tree or group of trees:

T = Single tree

G= Group of trees

DBH – Diameter at Breast Height. The tree diameter measured at 4.5 feet above the ground. Where the level of the ground is uneven measurements are taken above the upper side of the slope.

RPA – Root Protection Area. RPA's for single stem trees should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter. For trees with more than one stem one of two calculations are formulated in accordance with BS5837:2012.

Branch spread – The longest branches measured to the North, East, South and West

Height of first branch – First significant branch from ground level measured from the main stem

Height of canopy - First significant branch from ground level measured from the branch tip

ERC – Estimated Remaining Contribution.

0-10 = Unsuitable for retaining

20+ = Short term retention potential

30+ = Mid to long term retention potential

40+ = Long term retention potential

Age – Categorised into the following:

y = Young

sm = Semi-mature

em = Early-mature

m = Mature

om = Over-mature

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

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i>			
	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	

Ref	Height (metres)	Common name	Stem Diameter (mm)	Branch Spread (metres)				Height of first branch (metres)	Height of canopy (metres)	Age	Remaining life span	General observations	Category	RPA (metres)
				North	East	South	West							
T1	18	Lime	720	4.5	5	4	4	2	2	M	40+	Western canopy recently reduced	B1	8.6
T2	18.5	Pine	700	3	4	5.5	4	3.5	2.5	M	40+	Dead wood within canopy	B1	8.4
T3	17	Larch	860	5	5	5	3	6	4	M	40+	Previously reduced	B1	10.3
T4	10	Cypress	460	2	2	2	2	1.5	1	SM	40+	No notable observations	C1	5.5
T5	10	Cherry	400	3	2	3	2	4	4	M	40+	Ivy clad	C1	4.8
T6	5	Birch	280	3	2	2	2	4	2	SM	40+	No notable observations	C1	3.4

6. Arboricultural Impact Assessment

6.1 Introduction

6.1.1

It is our duty to evaluate and provide a methodology on the direct and indirect effects of the proposed design on trees above and below ground implementing constraints where necessary and recommend mitigation strategies on and adjacent to the site in accordance to BS5837:2012.

6.1.2

Site access for construction traffic is from the front of the property via Chazey Road.

6.2 Observations

Trees selected for removal

6.2.1

Ref	Description of tree work
N/A	N/A

Loss of trees

6.2.2

If necessary any small trees with a diameter of below 150mm diameter may be felled to improve site access. There are no recommendations to fell trees within this report.

Tree surgery**6.2.3**

Tree work may be required prior to the commencement to allow for the construction and to avoid damage during construction by machinery or vehicles. All work should be carried out by a competent and fully qualified arborist with liability insurance in accordance with British Standard 3998:2010 "Recommendations for Tree Work".

Ref	Description of tree work	Justification
N/A	N/A	N/A

Areas designated for structural landscaping**6.2.3**

We have not been made aware of any plans for structural landscaping.

Above ground constraints**6.2.4**

Delivery of building materials should be off-loaded on existing hard standing and away from the Root Protection Area (RPA) of the trees. Any movement of materials within the RPA are to be transported by foot on existing hard standing areas or where sufficient ground protection has been installed. Equipment using hydraulic arms need to stay out of striking distance of trees and their branches.

Root Protection Area (RPA)**6.2.5**

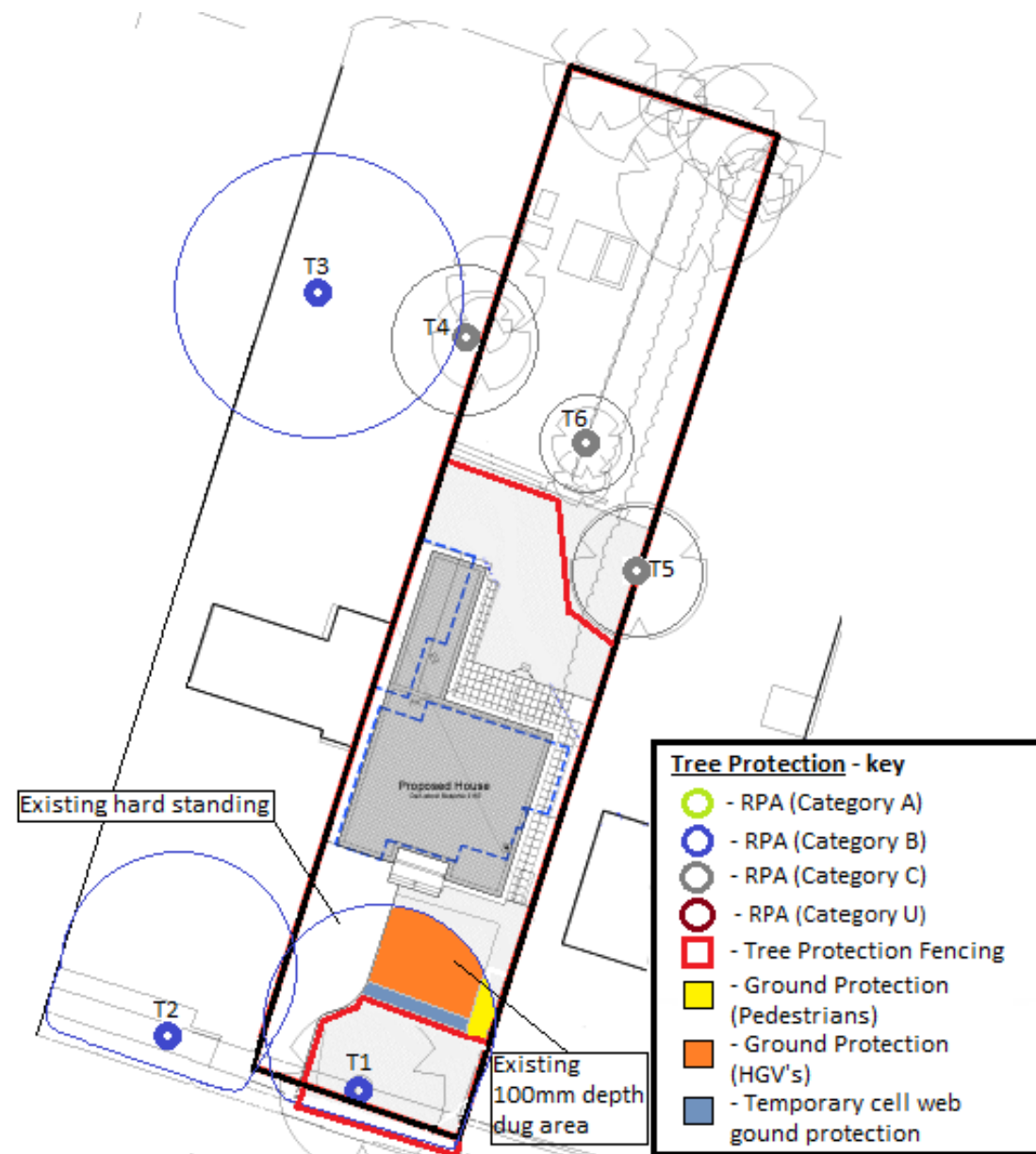
Access within the root protection area must be confined to existing hard standing. It is not permitted to dig within the RPA's unless it is outlined in this report and supervised by a competent arboricultural consultant. If digging is required within the RPA it must be completed by use of hand tools and gentle soil displacement methods (e.g. air spade) that avoid potential damage to tree roots, a professional arboriculturist must be present to supervise this type of work. If it is visualised that underground utility services are to be installed within any RPA an additional method statement must be requested from us.

Issues to be addressed by an arboricultural method statement**6.2.6**

Ref	Method
T1 – T6	Tree protection fencing
T1	Ground protection
T1, T2	HGV's near trees
T1	Driveway reinstatement

6.3 Conclusion**6.3.1**

Construction works, specifically a crane has the potential to come into close proximity to trees and also encroaches onto the tree root protection area of T1. Therefore it is recommended to incorporate a method statement for cranes working within close proximity of trees and suitable ground protection outlined in this report to mitigate from soil compaction, branch damage and root damage. To further guard the trees protection fencing must be installed around the perimeter of the RPA's as detailed in this report. It has been noted that a pile of topsoil was present within the RPA of T1, creating poor conditions for nutrients and gaseous exchange to occur. This mound of topsoil must be removed from all RPA's, this has been prepared for removal by the demolition contractor, and has been included within the schedule of works as the first priority within this report.



7. Tree Protection Plan

7.1 Introduction

Circulation

7.1.1

It is vital that all parties involved in the planning of the development are privy to the information of this report. Copies of the report should be circulated to all individuals as soon as it is made available.

Accountabilities

7.1.2

Tree protection measures should be implemented for the short and long term in co-ordination with the client and all personnel involved in the development

7.1.3

It is the responsibility of the client and agent to hand a copy of this report to the site manager and to ensure that the compliance of the tree protection scheme is followed. The client and agent must make sure the site manager is updated on any authorised changes to this document. They must also ensure all planning conditions in relation to trees, underground works, services and landscaping have been approved before work begins.

7.1.4

It is the responsibility of the client and site manager to make available this report to personnel prior to and during site construction. Personnel must be briefed on the tree protection plan and arboricultural method statement and its importance. The client and site manager must make sure that personnel are updated on any authorised changes to this document.

7.1.5

Compliance of this document and any variations of this document is compulsory.

Schedule of works**7.1.6**

Arboricultural work and tree protection installation should be carried out in the following order. Any deviation from this order should be approved by the Local Planning Authority:

1. Removal of topsoil mound within RPA of T1 by demolition contractor.
2. Tree protection fencing to be installed by a competent contractor and supervised by a competent arboricultural consultant.
3. Ground protection to be installed to mitigate potential compaction.
4. Ground protection to be dismantled after approval of a competent arboricultural consultant.
5. Tree protection fencing to be dismantled after approval of a competent arboricultural consultant.
6. Construction and arboricultural site monitoring by a competent arboricultural consultant at agreed intervals.

7.1.7

Site prohibitions

1. Contractor's car parking on site is confined to existing hard standing or outside of any RPA.
2. Root Protection Areas are no-dig zones unless supervised by a competent arboricultural consultant.
3. Fires are prohibited on site.
4. Storing of materials, spoil, fuel and mixing of cement and concrete must be confined to hard standing in a zone outside of the Root Protection Areas. The slope of the ground must be taken into account to avoid harmful liquid spills to protected areas.
5. Felling, cutting, or damaging any retained trees is not allowed. This includes attaching signs or using trees as structural support
6. Equipment using hydraulic arms stay out of striking distance of trees and their branches

Compliance

7.1.8

Non-compliance of the tree protection plan means work must be halted immediately and instantly reported to the site manager. This will then need to be reported to the Local Planning Authority tree officer and SouthOaks.

7.3 Arboricultural Method Statement

Ground protection

7.2.1

Where construction working has been allowed within the RPA existing hard surfacing should be retained to act as temporary ground protection, it is advised for heavy vehicles within RPA's alterna mats be used on existing hard standing. If no hard surfacing is present at the time of construction new temporary ground protection that is capable of supporting any traffic entering the site should be installed prior to the work starting.

The primary method of protecting the ground when erecting scaffolding within RPA's is by installing geotextile fabric and side butting scaffolding boards on a compressible layer such as bark chippings on a geotextile membrane.

7.2.2

Ground protection might comprise of the following:

Pedestrian movements only – A suspended walkway consisting of single thickness scaffold boards on top of either a driven scaffold frame, or on top of a compression resistant layer (e.g. woodchip).

7.2.3

Tree protection fencing is to be installed according to the schedule of works before any materials or machinery are brought onto the site. It should be confirmed by a competent arboricultural consultant that the fencing has been correctly set out on site prior to the commencement of any other operations. Fencing should be fit for purpose of excluding construction activity around trees, they should be maintained to remain structurally sound.

7.2.4

The default barrier specification should consist of vertical and horizontal scaffold framework, the verticals should be spaced at a maximum of 3 meters apart (see figure 1) with mesh panels welded onto the framework. The uprights driven into the ground should not make contact with structural roots or underground services.

Figure 1 – Default specification for protective barrier

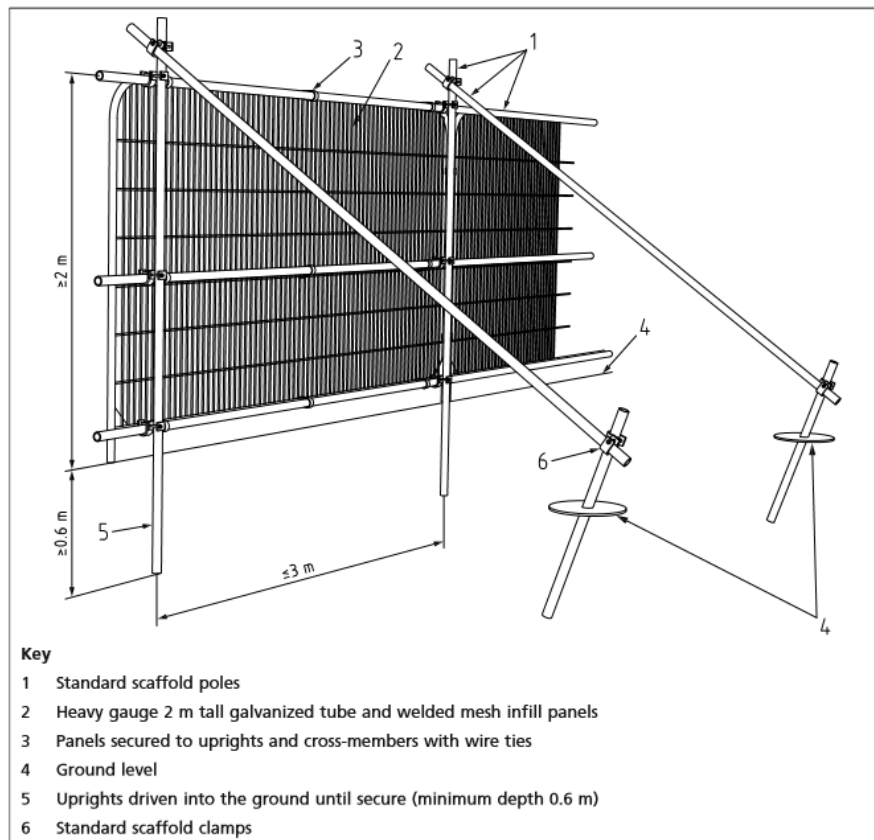
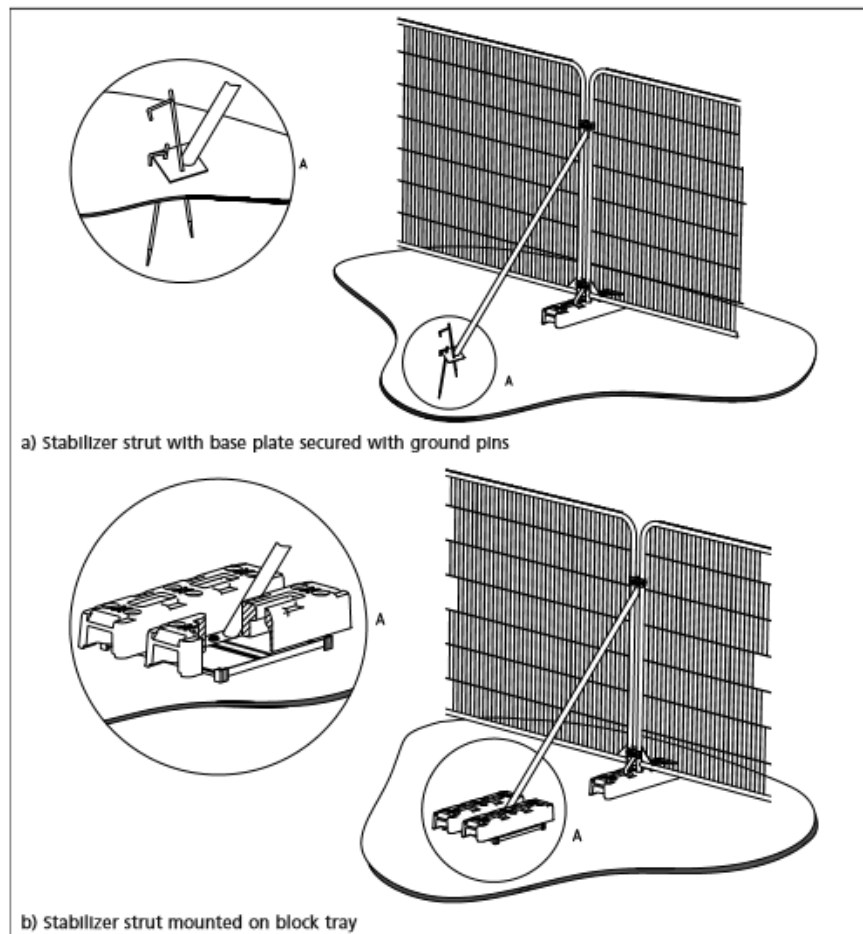


Figure 2



7.2.5

HGV's within close proximity to trees

There is potential for HGVs, for example cranes, to cause damage to branches, therefore it will be necessary to mitigate this risk. The following measures must be followed to ensure the protection of the trees:

1. The access is used by a range of vehicles and the existing surface appears to be sound. At this stage (prior to any further detailed assessment) it is therefore assumed that the driveway will be adequate to support the weight of proposed vehicles.
2. Temporary inter-linked ground protection boards must be placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane to prevent rutting.
3. A banksman must be present at all times to ensure that all HGV's moving around the site do not hit retained trees.

7.2.6

Driveway

During construction the existing driveway can act as ground protection during demolition at the earlier stages of construction. The reinstatement of the driveway should be completed after the end of the main build and following removal of all site machinery and materials. The following measures must be followed to ensure the protection of the trees:

1. The removal of the existing brick driveway must be undertaken manually using lightweight pedestrian operated equipment leaving any existing sub-base in-situ. It is suspected there is a concrete sub-base beneath the brick.
2. The removal of the existing driveway will need to be carried out so that the existing drive acts as ground protection by working from the farthest part of the drive to be removed back towards the main road.
3. An appropriate geotextile 'Terram' matting must be laid across the full width. This will prevent the future intrusion of roots into the sub-base whilst still allowing nutrients and gaseous exchange to occur.
4. The driveway shall be highly porous made up of no fines gravel to allow oxygen to diffuse into the soil.
5. The gravel will need to be contained to prevent outward creep under the weight of vehicles providing the construction of edging does not involve excavation. Long life timber pinned into the underlying soil can be used as a solution.

7.2.6

Removal of temporary cell web ground protection / temporary surface

Any temporary protective surfaces will remain in place until all construction activity is finished and there is no realistic risk of damage.

1. Once this material has been removed vehicular access to this part of the site will not be permitted.
2. The temporary ground protective measures (indicated on the Tree Protection Plan) will be removed working backwards from on top of the system. This will need to be done carefully to ensure that there is no excavation into the original surface level and there will be no damage to trees.
3. The soil below must be manually decompacted through use of a garden fork before laying new screened topsoil and turf

Site monitoring

7.2.8

An auditable system of arboricultural site monitoring is in place according to the schedule of works. A competent arboricultural consultant should monitor site activity at intervals throughout the project and should extend to arboricultural supervision whenever construction and development activity is to take place within or adjacent to an RPA.