

**Providing Expertise on Your Trees ® Arbor Cultural Ltd.** 

# **BS5837 Arboricultural**

# **Method Statement**

OUR REFERENCE	AC.2023.590			
CLIENT	K and S Construction			
SITE	Canterburys, Darby Green Road, Blackwater			
REPORT BY	I S Thompson (known as Tom) M. Arbor. A., BSc. (Hons) Arb,			
	MSc. eFor			
DATE	18 <sup>th</sup> November 2023			
DATE OF SITE VISIT	30 <sup>th</sup> October 2023			

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# Canterburys, Darby Green Road, Blackwater

**Application Ref No Unknown** 

Construction of four semi-detached properties and three terraced properties on land that was previously a pub and car park.

Report produced by

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Signed

Date......18<sup>th</sup> November 2023.....

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### **Arboricultural Method Statement (AMS)**

This AMS is in conjunction with AC.2023.590 Tree Report and AC.2023.590 TPP-01 Rev A

Tree Protection throughout the Duration of Demolition and Construction Works

All the details specified in this method statement will need to be supervised by an

Arboricultural Consultant with suitable qualifications and experience.

Arboricultural Method Statement includes a Tree Protection Plan to identify:

- Trees to be retained identified with a dashed line with RPA written within it and green, blue, or grey location marker circles and the corresponding A, B or C category label.
- Protective fence positions identifying the Construction Exclusion Zones (CEZ).
- Measurements to identify fence positioning in relation to centre of tree or other known features.
- Contractor huts and storage areas

#### 1 Construction Exclusion Zone

1.1 No works will be undertaken within any Construction Exclusion Zone (CEZ). The CEZs are to be afforded protection at all times and will be protected by fencing. A protective fence shall be erected prior to the commencement of any site works e.g., before any materials or machinery are brought on site, development or the stripping of soil commences.

- 1.2 The fence shall have signs attached to it stating that this is a Construction Exclusion Zone and that NO WORKS are Permitted within the fence, see Figure 4 in Appendix I. The tree protection fencing may only be removed following completion of all construction works.
- 1.3 The fence is required to be sited in accordance with the Tree Protection Plan AC.2023.590 TPP-01 Rev A enclosed with this method statement. All tree protection fencing shall be regarded as sacrosanct and will not be removed or altered without prior written consent of the Local Authority Tree Officer.
- 1.4 They must be constructed as per Figures 1 and 2 in BS 5837 2012 and be fit for excluding any construction activity, (See Appendix I). Any other fence or barrier used must be fit for the purpose.
- panels, around 3.5m long and 2 m tall. They shall be fixed into the ground on scaffold poles driven at least 0.6 m into the ground. They shall be supported by rear struts also secured to posts driven into the ground, see Figure 1 in Appendix I.
- All bolts shall be secured from inside the fencing to prevent easy removal from the outside during the construction phase.
- 1.7 Where there are **existing hard surfaces**, then rubber feet can be used to support the fencing, but these rubber feet shall be secured into the ground with road pins or other robust metal pins, to prevent the fencing being moved. This stall also be secured by rear struts which are also pinned into the ground, see Figure 2 in Appendix I.

**1.8** All tree protection fencing shall be regarded as sacrosanct and will not be removed or altered without prior written consent of the Local Authority Tree Officer.

#### **2** Ground Protection Measures

- 2.1 The ground protection measures will be for pedestrian work access only. This will consist of a single thickness of scaffold boards placed either on top of a driven scaffold frame to form a suspended walkway, or on top of a compression-resistant layer (e.g., 100mm minimum depth of woodchip), laid onto a geotextile membrane.
- 2.2 Alternatively, Ground Guards or a similarly assessed product, as detailed in Appendix III could be used. This is in accordance with BS 5837 (2012) and is to prevent compaction to the underlying soil.
- 2.3 If scaffolding is being installed then a false floor can be created just above ground level.

  This will act as ground protection preventing the soil underneath from being compacted by site activity, as shown in Figure 3 of Appendix I and on AC.2023.229 TPP-01 Rev A.

#### 3 Access Details

3.1 All access for construction vehicles will be from the southern end of the site, which is the existing site entrance and driveway, as shown on the plan AC.2023.590 TPP-01 Rev A.

## 4 Contractors car parking

**4.1** This will be off-site.

#### 5 Site Huts and Toilets

This will be ion the western side of the site, as shown on the tree protection plan AC.2023.590 TPP-01 Rev A.

# **6** Storage Space

6.1 This will be ion the western side of the site, as shown on the tree protection plan AC.2023.590 TPP-01 Rev A

#### 7 Additional Precautions

- 7.1 No storage of materials or lighting of fires will take place within any construction Exclusion Zone. No mixing or storage of materials will take place up a slope where they may leak into a Construction Exclusion Zone.
- 7.2 There shall generally be a presumption against burning on site. Where it does occur, no fires will be lit within 20 metres of any tree stem and will consider fire size and wind direction so that, no flames come within 5m of any foliage. Situations where fires are not permitted at all are:



- Where the ground is waterlogged as the heat will transfer through the water and damage tree roots significant distances away.
- During periods of drought, where there are peaty or highly organic soils, as there is a risk of underground fires occurring.
- **7.3** No notice boards, cables or other services will be attached to any tree.
- 7.4 Materials which may contaminate the soil will not be discharged within 10m of any tree stem. When undertaking the mixing of any material it is essential that, any slope of the ground does not allow contaminates to run towards a tree root area.
- 7.5 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within ten meters of the trunk of any retained trees. In the event of any accident of spillage in or adjacent to the protected trees the contractor/staff is to immediately stop work in the vicinity and inform the project arboriculturist.
- 7.6 In the event of spillage, the area is to be secured with sandbags on the line of the tree protection area and measures taken to drain/soak any spillage away from the protected area.

#### 8 Demolition

8.1 There will be no demolition within any of the RPAs of retained trees, so there will not need to be any special measures or precautions undertaken other than the tree protection measures as detailed in the report and in AC.2023.590 TPP-01 Rev A, which shall be installed prior to any site works commencing.

#### 9 Hard Surfaces within the RPA

- 9.1 The new where they extend into the RPA of G01, shall be constructed without soil compaction or soil stripping and laid in accordance with this Method Statement. A product such as Wrekin's Protector Web or Geosynthetics Cellweb, or an alternative with evidence of its effectiveness at protection roots, shall be used. It shall be installed in full accordance with the manufacturer's specification.
- 9.2 The construction of the driveway may be undertaken at the start of the project as an access road is built in or at the end of the project following completion of building construction. If it is built at the start, then ground protection measures shall be installed over the area that extends into the RPA of G01 for the duration of the construction works.
- **9.3** The no-dig construction shall be undertaken in accordance with the manufacturer's specification and method statements.

# 9.4 Ground Preparation:

- All ground vegetation will be killed using a suitable herbicide to the required level, under the supervision of the project arboriculturalist.
- All dead organic material will be removed.
- All major protrusions will be removed. Stumps will be ground out.
- Fill major hollows with no fines 4/20mm clean angular stone.
- Place Geotextile over the area to be protected ensuring overlaps with a minimum of 300mm.
- Mark out areas to be protected with edging detail e.g., timber boards.

#### 9.5 Installation Process:

- Lay Protector Web (or equivalent i.e., Cellweb) over entire area of proposed pedestrian path, to extend 100mm beyond path width (see manufacturers specification), and pin with four metal pins along the width of the panel.
- Expand the panel over the geotextile extending to the required length, then pin across the opposite panel side.
- Pin along the length of the panel on all sides.
- If full panels are not being used, then ensure the cells have been expanded to their full dimensions.
- Staple or cable tie any adjacent panels together.
- The geocell panels can be cut to shape if required with a heavy-duty Stanley knife.

# 9.6 Filling the Geocell.

- Use 4/20mm or 40/20mm angular stone depending on the cell depth being used.
- Fill the cells with clean angular stone.
- Allow 25mm overfill for any settlement of the stone in the cells.
- If the area is to be trafficked immediately, slightly increase the amount of surcharge overfill to a maximum 50mm.
- This will be tipped from one end so that machinery moves on already spread sub-base and not upon the geogrid or ground close to the geogrid.
- Compact the sub-base using handheld vibrating tamper.

# 9.7 Apply Surface Dressing

There are various surface dressings that can be applied, and the manufactures guidance on how to apply each should be followed from the specification. Surface dressing include.

- Block paving
- Porous and standard asphalt
- Resin Bonded Gravels
- Loose gravel

# 10 Construction within the RPA (No-dig)

10.1 There is no construction within the RPA of any retained trees other than the parking bays addressed in Section 09 above. Consequently, there is no requirement for any construction method statements to address this issue.

#### 11 Foundation Designs

11.1 As there is no construction of foundations within the RPA of any retained trees there will be no requirement for any alternative foundation designs.

#### 12 Remedial Tree Works

- 12.1 Tree works (see schedule at Appendix IV in the BS5837 Tree Report) will be undertaken in one phase, and this will be undertaken prior to any construction or demolition works and prior to the installation of any tree protection measures. All tree works are to be conducted in accordance with BS 3998 (British Standard Recommendations for Tree Work 2010) unless otherwise specified with clear justification for any deviation from the British Standard.
- 12.2 There will be one low small diameter branch pruned on T03 to provide ground clearance, but this tree has been crown lifted in the past. The lower branches of H04 will be crown lifted to 6m taking any recent regrowth back to the site boundary. The crowns of H06, G07, and H08 will also be taken back to the site boundaries.

- 12.3 If at any time additional pruning works are required permission must be sought from the Local Planning Authority first and then conducted in accordance with BS 3998 Recommendations for Tree Works 2010, unless otherwise specified with clear justification for any deviation from the British Standard.
- 12.4 Ideally tree surgery work and shrub and hedge removal should take place outside of the bird nesting season which is officially from February to August. As this is small-scale works with a relatively low cost this should be undertaken as soon as any planning permission is obtained so that it is completed before February and does not hold up any site works.
- 12.5 Tree work can be done in the bird nesting season but would require a watching brief of 20 minutes to check for bird activity and cannot proceed if bird nests are found to be present.

#### 13 Use of Herbicides

13.1 It is not planned to use any herbicide in the proposed development unless they are used in the preparation of any no-dig construction. However, if any is required it shall be systemic, spot applied, and mixed according to manufacturer's recommendations.

#### 14 Contingency Plan

**14.1** Water is readily available on site and will be used to flush spilt materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor will contact an arboriculturist for advice.

# 15 Responsibilities

- 15.1 It will be the responsibility of the main contractor to ensure that the planning conditions attached to planning consent are adhered to always and that a monitoring regime regarding tree protection is adopted on site.
- 15.2 The main contractor will be responsible for contacting the Local Planning Authority at any time issues are raised related to the trees on site.
- 15.3 The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective fences will remain in position until completion of ALL construction works on the site.
- 15.4 The fencing, signage and ground protection measures must be maintained in position at all times and shall be checked on a regular basis by an on-site person designated that responsibility.
- 15.5 The main contractor will be responsible for ensuring sub-contractors do not conduct any process or operation that is likely to adversely impact upon any tree on site or those immediately adjacent to it.

#### 16 Arboricultural Supervision

16.1 Since BS5837 was amended in 2012 site supervision has been identified as a key element of the process of protecting trees during construction. It requires that there be "an auditable system of arboricultural site monitoring.

This should extend to arboricultural supervision whenever construction and development activity is to take place within or adjacent to any RPA."

#### 16.2 Site Supervision

- **16.2.1** A site agent must be nominated to be responsible for all arboricultural matters on site. They must be nominated for each phase of work if demolition and construction contracts are to be awarded separately. The agent(s) must:
- Be present on site for most of the time.
- Be aware of the arboricultural responsibilities. This will require a site briefing/meeting between the agent and arboricultural consultant prior to the commencement of each phase of works.
- Have the authority to stop any work that is causing or has the potential to cause harm to any trees.
- Be responsible for ensuring that all site operatives are aware of their responsibilities towards trees on the site and the consequences of failure to observe these responsibilities.
- Make immediate contact with the local authority and/or a retained arboriculturist in the event of any tree related problems occurring, whether actual or potential
- Contact details for Arbor Cultural Ltd are provided within this report.
- Contact details for local authority tree officer are.

Tree officer

Address Hart District Council, Civic Offices, Harlington Way, Fleet, GU51 4AE.

Main Switchboard 01252 622122

Email <u>trees@hart.gov.uk</u>

#### 16.3 Arboricultural Consultant

- **16.3.1** A suitably qualified arboricultural consultant shall be appointed to oversee development works and liaise with the council and the developer and contractors during the construction phase to ensure compliance with these guidelines.
- **16.3.2** Note: Failure to fulfil planning conditions or breaches of statutory legislation can lead to delays due to "stop notices" and can lead to the prosecution of contractors and company directors.
- **16.3.3** Adequate site supervision can protect the developer from delays, wasted expense and criminal prosecution.
- 16.3.4 The arboriculturalist will arrive at the site, check in at the site office and be safely escorted around the site by the site agent, checking the maintenance of tree protection measures. Routine visits will generally be unannounced. However, the arboriculturist will also visit subject to advance notification and agreement to supervise any agreed works within the RPA.
- 16.3.5 Monitoring shall involve a schedule of routine visits. The frequency of these visits will vary depending on the size of the proposed development and the site-specific constraints. For private single residential developments, this will normally involve monthly supervision but for larger sites with multiple structures this could be weekly or fortnightly. This will need to be agreed with the local tree officer.

- 16.3.6 These visits shall include a pre-commencement meeting to ensure that all tree protection measures have been implemented and a sign-off sheet at the end of the development. Each visit will be accompanied by a small report detailing the findings identifying any actions and addressing any issues that have arisen. This is to provide ongoing liaison between the local planning authority (LPA), and all personnel involved in the site development. Any defects requiring rectifying must be notified to the site agent the client and the LPA by email as soon as possible.
- **16.3.7** Emergency situations will be notified by phone calls. Appropriate records will be kept and made available to the LPA if required to show evidence of the site monitoring. An example of this is shown in Appendix II.
- 16.3.8 Supervision will not require the arboriculturist to be present throughout all operations, to ensure that all tasks are conducted as per the approved methodology. They will be required at key times during any planned or unplanned incursions into the tree protection areas. This supervision will require the arboriculturist to attend site, if not for the whole task, then long enough to ensure that all the arboricultural objectives are fully addressed. Where tasks are ongoing, provided that the arboriculturalist is satisfied that the method statement is being followed and after an appropriate briefing the supervision may be reduced to telephone or email contact between the site supervisor and the arboriculturist.

# 16.4 The critical stages for site supervision are as follows:

- Prior to the start of construction, all tree protection measures as described must be checked as appropriate and signed off by an arboriculturalist. There will be a precommencement meeting with all party attendance, including LPA tree officer, to ensure that there are no unresolved issues.
- At predetermined activity related times as specified in Table 1. The tree protection measures as described must be checked as being retained and signed off by an arboriculturalist. All defects to be reported to the client and LPA.
- The potentially damaging activity to the trees must be observed by a suitably qualified arboriculturalist to ensure that the method statements are adhered to, and the damage is kept to an absolute minimum. All defects to be reported to the client and LPA.
- At periodic intervals during the construction process, the tree protection measures must be checked as being retained and signed off. All defects to be reported to the client and LPA.
- At the end of the construction phase, an arboricultural consultant must check that no damage has occurred to the trees and any remedial measures, e.g., de-compaction of soil must be recommended as required and remedial measures undertaken as soon as practicable. The outcome shall be reported to the client and local authority.

16.4.1 The site supervision visits will be documented and circulated to the site agent, developer, architect, and Local Planning Authority as appropriate. The reports will detail the date of the visit, the operations being supervised and any issues that require action to meet the aims and objectives of this method statement.

**Table 1 Site Supervision Programme** 

	Activity	Comments
1	Inspection of all tree protection measures to	Report any defects or
	ensure that it is secure and fit for purpose prior to	damage to the client and
	work commencing. This will need to be signed off	the LPA and ensure that
	by the arboriculturalist.	they are made good.
2	Pre-commencement meeting with all party	Report any defects or
	attendance, including LPA tree officer, to ensure	damage to the client and
	that there are no unresolved issues. This will need	the LPA and ensure that
	to be signed off by the arboriculturalist.	they are made good.
3	Supervision of the no-dig construction of the	Report any defects or
	parking bays to ensure that any tree damage or	damage to the client and
	soil compaction is kept to a minimum and work is	the LPA and ensure that
	undertaken in accordance with the method	they are made good.
	statement. This will need to be signed off by the	
	arboriculturalist.	
6	Monthly monitoring of site and tree protection	Report any defects or
	measures. This will need to be signed off by the	damage to the client and
	arboriculturalist.	the LPA and ensure that
		they are made good.
Final	Completion of work, removal of all tree protection	Report any defects or
	measures and inspection of trees and root zone for	damage to the client and
	any damage. Any compaction of the soil must be	the LPA and ensure that
	rectified with remedial measures and damaged	they are made good.
	branches taken back to suitable growth points with	
	a clean cut. This will need to be signed off by the	
	arboriculturalist.	



# 17 Landscaping and Replacement Planting

- 17.1 All of the mature and surveyed trees are being retained and are unaffected so the impact on the local amenity will be minimal. There remains a good canopy cover both in the property and the wider area.
- **17.2** The landscaping is being addressed in a separate plan and methodology.

#### References and Bibliography and Glossary of Terms

#### References and Bibliography

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- Mercer G., Reeves A., and O'Callaghan D. (2012) The Relationship between Trees, Distance to Buildings and Subsidence Events on Shrinkable Clay Soil, Arboricultural Journal: The International Journal of Urban Forestry, 33:4, 229-245
- National House Building Council, (1992) Building near trees. NHBC Standards, Chapter 4.2
- Town & Country Planning Act Part VIII (1990). Issued by the Secretary of State for the Environment, HMSO.

## **Glossary of Terms**

**Bacterial canker** Has lesions on the stems that can exude a gum like exudate that carries

the bacteria.

**Brash** Thin wood removed from trees.

Chlorosis/Chlorotic. An abnormal yellowing or blanching of the leaves due to lack of

chlorophyll.

**Canopy/Crown** Foliage bearing part of the tree.

**Crown lifting.** The removal of the lower branches of the tree.

**Crown thinning.** The complete removal of selected limbs/lateral branches to thin the

density of the crown.

**Dysfunctional wood** Woody tissues no longer function.

**Epicormic growth** Young, vigorous shoots arising from the external tissues of a stem.

Epicormic growth is usually induced if a limb is removed or is broken off

and the light factor changes (sprouts) or if a woody plant is coppiced or

pollarded.

**Flush cut** A pruning cut close to the parent stem which removes part of the branch

bark ridge.

**Heartwood** The heartwood is the dark area in the centre of the tree.

**Lateral branch** A side branch which arises from a main stem.

**Mulch** A layer of bulky organic material placed around the stem.

**Occlusion (Occluded)** The process of wound wood closing a wound.

Parasitic Organisms that live off other organisms, or hosts, to survive

**Pathogen** A micro-organism which causes disease in another organism.

**Reaction Wood** Additional wood that is put on by a tree to address increased loads.

**Reaction Zone** An area where reaction wood is formed.

## **Glossary of Terms Continued**

**Saprotrophic** Organisms that at obtain their nutrition from non-living organic materials.

Soft rot A kind of wood decay in which a fungus degrades cellulose within the cell

walls, without causing overall degradation of the wall.

**Stem** Principal above ground structural component(s) of a tree that supports

its branches.

White rot Various kinds of wood decay in which lignin, usually together with

cellulose and other wood constituents is degraded.

**Wound** Injury in a tree caused by a physical force.

Wound Wood Additional wood that it put on by a tree is reaction to damage or

wounding, with the aim of healing over the wound.

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## **Appendix I** Specifications for Tree Protection Measures

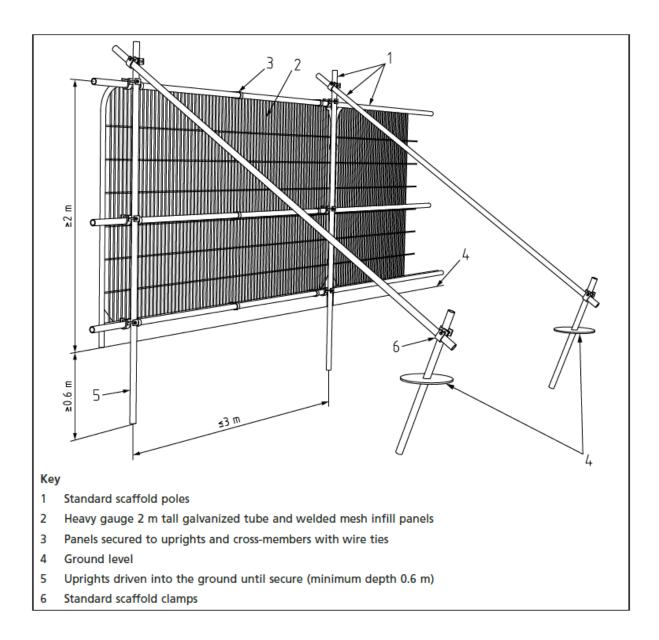


Figure 1 Default Tree Protection Fencing Design BS5837 (2012)

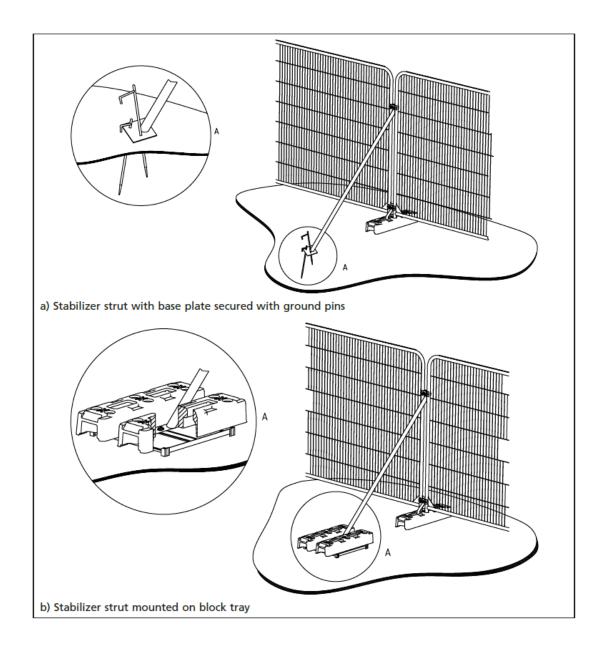


Figure 2 Tree Protection Fencing Design for Hard Surfaced Areas Only (BS5837 2012)

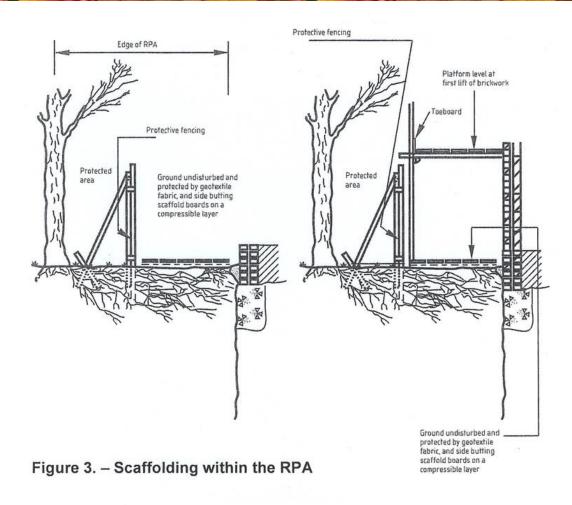


Figure 3 Scaffolding as Ground Protection.

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# **CONSTRUCTION EXCLUSION ZONE**



This area has been identified as a Tree Protection Zone.

No Access is to be Permitted.

Do Not Enter Without Specific Instruction from the Tree Officer or Project Arboricultural Consultant.







Figure 4 Construction Exclusion Zone Signage Example

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# Appendix II Arboricultural Supervision Recording Template

Client:		Planning Ref:					
Local Authority:		Date:					
Site Address							
Proposal:							
Visit Checklist	Y/N		Y/N				
Tree Protection Fencing in place		Tree protection as approved					
Ground Protection in place		Ground Protection as approved	d				
Tree or Ground protection breached		Trees damaged					
Site Agent briefed by AC	gent briefed by AC						
AC briefed by Site Agent							
LPA informed	LPA informed						
Remedial action required							
Comments							
Recommendations							
Outcome							
1							
2							
3							
4							
5							

### **Appendix III Ground Guard Specification**



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