

NICHOLSONS

Arboricultural Method Statement

Dalcour Maclaren

Land off Church Lane Shinfield

Version: 1

Date: October 2025

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REVISION HISTORY

Rev	Description of change	Date	Initials
1	Original report	17/10/2025	SC
	Quality review	20/10/2025	LT
	Finalised for issue	21/10/2025	SC

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DISCLAIMER

While all reasonable efforts have been made to identify Abnormalities in the subject trees, the statements made in this report do not take into account the effects of extreme weather events, vandalism or accidents, or changes to the site that may affect trees that have taken place since the date of the survey. Nicholsons does not accept any responsibility in connection with these factors. The comments and observations made within this report will cease to be valid either within two years of the date of the survey (unless specifically stated elsewhere within the report), or when site conditions change or any works to trees take place that have not been specified within this report, whichever is the sooner.

EXECUTIVE SUMMARY

Nicholsons have been instructed to provide an Arboricultural Method Statement and associated plans for the continued use of a storage compound at Church Lane, Shinfield

A tree survey was undertaken at the site in accordance with the guidelines provided in BS5837 (2012) Trees in relation to design, demolition and construction – Recommendations on 8th October 2025. This survey identified a total of 15 trees, and five groups. These have been categorised as follows:

- One of high arboricultural quality (Category A);
- Eight of moderate arboricultural quality (Category B); and
- 11 of low arboricultural quality (Category C).

There are no trees to be removed to facilitate the design.

There are no required tree pruning's work to facilitate the design

All retained trees within, or directly adjacent to the site, will be protected through a combination of tree protective measures. This will predominantly consist of tree protective fencing which already in place, but temporary ground protection will also be required. These measures will ensure that retained trees remain free from significant harm throughout the development phases.

TABLE OF CONTENTS

1. SCOPE OF WORKS	6
2. ARBORICULTURAL REQUIREMENTS & SEQUENCE	7
3. ARBORICULTURAL CLERK OF WORKS ATTENDANCE	8
4. BARRIERS AND GROUND PROTECTION	10
5. CONSTRUCTION OF SPECIAL SURFACES	11
6. SPECIFIC TREE PROTECTION MEASURES	12
7. DEMOLITION	13
8. DEVELOPMENT	14
9. POST DEVELOPMENT	15
10. RESPONSIBILITIES	16
11. CONTACTS	17
12. APPENDICES	18

ATTACHMENTS

Description	Reference	Version
Tree Schedule	Church Lane - 5837 Sch - V1 - NAC - 20251017	1
Tree Protection Plan	Dalcour Maclaren-NAC- 5229.103-TPP-V1-20251021	1

PURPOSE OF DOCUMENT

This report has been commissioned to provide details on how the retained trees will be protected and managed during use of the storage compound at Church Lane Shinfield. This includes a Tree Protection Plan (TPP) that provides illustrative guidance on the tree protection measures that are required for the development of the site.

The following explanations relate specifically to this site and they should be read in conjunction with the TPP.

A copy of this report must be kept on site and be permanently available for the duration of the development. It can be:

- Included in the tender documents to identify and quantify the tree protection and management requirements;
- Used to plan the timing of site operations to minimise the impact of trees; and
- Reference on site for practical guidance on how to protect trees.

1. SCOPE OF WORKS

1.1 Extended use of a storage compound for 5 years

1.2 The following arboricultural protection measures are required:

- Tree Protection Fencing (TPF); and
- Temporary ground protection in the form of vertical mulching and Cellweb;

1.3 There is no requirement for any of the following within Root Protection Areas (RPAs) of retained trees:

- Demolition of existing buildings;
- Landscaping;
- Fires; or
- Herbicide use.

2. ARBORICULTURAL REQUIREMENTS & SEQUENCE

Table 1: Arboricultural Requirements & Sequence

It is recommended that this sheet is removed from this report, laminated and displayed within the main site office at a visible location to all site staff.

Requirements	Timing & Importance	Details	Report Section	Appendix No.
ACoW Attendance	Level of ACoW attendance will be determined at the pre-commencement meeting.	1. Installation of temporary ground protection 2. Demolition phase 3. Removal of temporary ground protection 4. Completion meeting	3	N/A
Tree Protective Fencing	Fencing must be erected and inspected by ACoW before site works can start.	Heras 151 fencing. This has already been installed prior to the production of this AMS	3.13	N/A
Temporary Ground Protection	Ground protection must be installed and inspected by ACoW before area can be accessed.	TrakMat/DuraDeck/Cellweb and vertical mulching Raised Scaffold Board Scaffold board on woodchip	3.12	N/A

Key Responsibilities:

It is the responsibility of the main works contractor to ensure that tree protection measures are adhered to all at times, that all site personnel fully understand the protection measures of the site and that the project arboriculturist is contacted if there are any issues related to trees.

3. ARBORICULTURAL CLERK OF WORKS ATTENDANCE

3.1 An ACoW will be appointed by the main works contractor (MWC) to advise on the tree management for the site and to attend:

- The pre-commencement meeting before any works start;
- Regular inspection visits; and
- The completion meeting.

3.2 Additionally, the ACoW will have a supervisory input into the following operations:

- Installation of temporary ground protection; and
- As needed to oversee specific works that could affect trees.

Sequencing and Attendance

3.3 Effective tree protection relies upon following a local sequence of events and arboricultural inspection/supervision. **Table 2** provides an indication to the likely sequencing and attendance requirements of the retained ACoW.

Table 2: Sequencing and Attendance

Stage	Action	Arboricultural Attendance Required
1	Pre-commencement meeting	Attend
2	Tree works	Inspect
3	Installation of barriers	Inspect
4	Installation of temporary ground protection	Attend/ /Supervise
5	Removal of temporary ground protection	Attend/ Supervise
6	Removal of barriers	Attend/ Supervise
7	Completion meeting	Attend

3.4 The retained ACoW's initial role is to liaise with the MWC and Local Planning Authority (LPA) to ensure the tree protection measures are fit for purpose and in place before any works commence on site. Once the site is working that role will switch to monitoring compliance with arboricultural planning conditions and advising on any tree problems that arise or modifications that become necessary.

3.5 It is the MWC's responsibility to ensure that details of this Arboricultural Method Statement (AMS) and any agreed amendments are known and understood by all site personnel. An AMS Briefing Statement has been prepared and attached to this document, see **Appendix 1**. This document provides summarised details of the key protection measures contained within this document. A copy of this should be made available to all staff and used in any site inductions.

3.6 The final details of ACoW attendance and the frequency of visits will be agreed at the pre-commencement meeting. The supervision arrangement will be sufficiently flexible to allow the supervision of all sensitive works as they occur.

3.7 The ACoW will make a record of the visits and these will be attached to the site copy of the AMS for inspection. A further copy will be sent to the LPA. The purpose of these written records is firstly to provide proof of compliance that will allow the MWC to robustly demonstrate adherence

to best practice in the event of any dispute. Secondly it will help the LPA efficiently discharge the relevant planning conditions.

Pre-commencement Meeting

- 3.8 A pre-commencement site meeting involving the land owner, representative of the development company, ACoW, contractors and engineers (as appropriate) and the relevant LPA officers will be held to ensure that all aspects of the tree protection processes are understood and agreed.
- 3.9 The meeting is where the details of the programme of tree protection will be agreed and finalised, which will then form the basis of any supervision arrangements between the ACoW and the MWC.
- 3.10 The ACoW will send a record of the meeting to all parties.
- 3.11 The ACoW will request that the contractor signs a Statement of Undertaking (SoU). This document confirms that the contractor fully understands the tree protection measures required throughout the construction process and accepts full responsibility for the protection of retained trees. A copy of the signed document will be kept onsite throughout the duration of the project. A copy will also be sent to the LPA officer for reference.
- 3.12 An example of this document can be found in **Appendix 2**.

4. BARRIERS AND GROUND PROTECTION

Tree Protection Fencing

- 4.1 A protective fence will be erected around the trees, prior to the commencement of any site works. This includes any materials or machinery brought onto site, development or the stripping of soil.
- 4.2 The fence is to be sited in accordance with the TPP enclosed with this method statement. This is shown as a black dashed line with diagonal orange hatching indicating the enclosed CEZ. Where the RPA has been offset the parameters for the fencing have been marked on the TPP. The precise dimensions of the protective fencing has been illustrated on the TPP.
- 4.3 The precise form of fencing can vary provided it is fit for purpose and prevents damaging activities within the CEZ. For a proposal of this nature, the Heras 151 system of fencing will provide the necessary protection to the CEZ. Details of this fencing can be seen in **Appendix 3**.
- 4.4 All Heras fence panels will be joined using a coupling system such as the Heraslock Anti-tamper coupler, using a minimum of two clamps per panel side. Each panel will be fitted securely to a rubberised foot that will in turn be pinned to the ground using metal stakes driven a minimum of 500mm into the ground. If metal stakes cannot be used due to subterranean constraints, a suitable alternative would be step blocks¹.
- 4.5 The fence will have signs attached to it stating that it defines a CEZ and that no works are permitted within the fence. No notice boards, cables or other services will be attached to any tree. An example of a fencing sign is provided in **Appendix 4**.
- 4.6 After the protective fencing has been erected, the retained ACoW will visit the site. The purpose of the visit will be to check that the fencing has been correctly installed so as to provide protection to the trees. The LPA tree officer may also be invited to inspect the tree protection measures prior to any works commencing.
- 4.7 The retained ACoW will provide a written report confirming satisfactory completion of this task. A copy of this report will be sent to the LPA.
- 4.8 The protective fencing may only be removed following completion of all construction works.
- 4.9 The implementation of Heras fencing has already been implemented prior to the issue of this AMS. The ACoW will check regularly at uninvited intervals to ensure that this has been correctly maintained and not moved

¹ <https://www.heras-mobile.co.uk/accessories/step-block>

5. CONSTRUCTION OF SPECIAL SURFACES

- 5.1 Where, due to site constraints, construction activity cannot be excluded through the use of fencing, appropriate ground protection must be installed to protect the rooting environment during the construction process.

Temporary Ground Protection

- 5.2 Where it is not practicable to protect the RPA by use of fencing barriers, BS5837 allows for the fencing to be set back and the soil shielded by ground protection. A range of methods can be used including retaining existing hard surfaces or structures that already protect the soil, installing new materials, or a combination of both. Whatever the choice of method, the end result must be that the underlying soil (rooting environment) remains undisturbed and retains the capacity to support existing and new roots.
- 5.3 In order to protect 5 trees (T011, T012, T014, T015 and T016) temporary ground protection measures in the form of vertical mulching and Cellweb TRP will be implemented. This will be in accordance with industry best practice and in particular with reference to section 6.2.3 of BS5837 which provides guidance as to the installation of temporary ground protection within the RPA. The area for temporary ground protection can be identified by the light green hatching on the attached TPP. An example of temporary ground protection measures can be found in **Appendix 5**.
- 5.4 After the temporary ground protection has been installed, the retained ACoW will visit the site. The purpose of the visit will be to check that the system is protecting the RPAs of retained trees.
- 5.5 The temporary ground protection measures are to remain in place until all construction works have been completed or following advice from the ACoW.

Permanent Ground Protection

- 5.6 No trees on this site require permanent protective ground protection measures.

Additional precautions outside the exclusion zone

- 5.7 Any risk from activities outside RPAs but close enough to have an impact will be assessed during the day-to-day running of the site, and appropriate precautions put in place to reduce that risk.
- 5.8 It is a presumption of this report that all RPAs that have been identified for protection but which lie outside of the protective fencing, will be protected from soil degradation at all times during construction activity.
- 5.9 Further details for working within the RPA are also provided in **Appendix 7**.

6. SPECIFIC TREE PROTECTION MEASURES

- 6.1 No specific tree protection measures are required for any tree on this site other than those detailed in this AMS and defined on the TPP.

7. DEMOLITION

- 7.1 No demolition works will take place within the RPA of any retained tree on this site.

8. DEVELOPMENT

- 8.1 Once all tree works and protective fencing have been completed, the MWC can commence the on-site preparation works and construction can begin.

Site Storage, Cement Mixing and Washing Points

- 8.2 No storage of materials will take place within a CEZ.
- 8.3 No mixing or storage of materials will take place up a slope where they may leak into a CEZ. Where contours of the site create a risk of polluted water running into RPAs, precautionary measures of using heavy duty plastic sheeting and sandbags with the ability to contain accidental spillage will be put in place to prevent contamination.
- 8.4 Water will be kept readily available on site and will be used to flush spilt materials through the soil and avoid contamination of tree roots.
- 8.5 At the time of any spillage the main works contractor will contact the retained ACoW for advice.

Contractors Parking

- 8.6 Contractors parking will not be within or in close proximity to a CEZ.

Utility Services

- 8.7 There is no requirement for any service to be installed within a CEZ or RPA of any retained tree on this site.

Fires

- 8.8 No fires will be lit on this site.

Site Gradient

- 8.9 There will be no changes to any levels on this site within or in close proximity to the RPA of any retained tree on this site.

Use of Herbicides

- 8.10 There is no requirement of any herbicide to be used on this site.

9. POST DEVELOPMENT

Removal of Temporary Surfaces

- 9.1 Any temporary protective surfaces will remain in place until all construction activity is finished and there is no realistic risk of damage.
- 9.2 The temporary ground protective measures 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.
- 9.3 Once this material has been removed vehicular access to this part of the site will not be permitted.

Completion Meeting

- 9.4 Upon completion of all works specified above and all procedures detailed, the ACoW will visit the site and may invite the LPA tree officer to meet on site to discuss the process and agree any final remedial works which may be required.

Landscaping Within the Tree Canopies

- 9.5 The final tidying up and reinstatement can only be carried out when all the protective measures have been removed. This means great care is required by the contractors to observe tree protection measures.
- 9.6 No machines can be used within the RPAs. The use of rotavators is specifically prohibited.
- 9.7 All soil level variations required within the RPAs of retained trees to enable the agreed landscaping works must be agreed and supervised by the retained ACoW.

10. RESPONSIBILITIES

- 10.1 It is the responsibility of the MWC to ensure that the planning conditions attached to planning consent are adhered to at all times and that a monitoring regime in regard to tree protection is adopted on site.
- 10.2 The MWC will be responsible for contacting the LPA at any time issues are raised related to the trees on site.
- 10.3 If at any time pruning works are required advice must be sought from the ACoW first, and if required permission obtained from the LPA and then carried out in accordance with BS3998:2010 Tree Works – Recommendations and industry best practice.
- 10.4 The MWC 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.
- 10.5 The fencing and signs must be maintained in position at all times and checked on a regular basis by an on-site person designated that responsibility.
- 10.6 The MWC will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

11. CONTACTS

11.1 **Table 4** shows a list of all relevant contacts for this development. This table will be completed once the pre-commencement meeting has been undertaken.

Table 3: Development Contacts

Title	Name	Position	Contact
Main Works Contractor			
Agent/Architect			
LPA Tree Officer			
Site Manager/Foreman			
ACoW			
Tree Surgeon			

THIS AMS IS NOT A CONTRACT. THE RETENTION OF A QUALIFIED ARBORICULTURALIST FOR SUPERVISION AND MONITORING MUST BE AGREED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.

12. APPENDICES

Appendix 1: AMS Briefing Statement

Arboricultural Method Statement – Briefing Statement Land off Church Lane, Shinfield. OSU Group

Purpose

The purpose of this briefing document is to ensure that all contractors, sub-contractors and any other personnel working on the land off Church Lane Shinfield project are fully aware of the purpose of the tree protection measures that have been implemented on site.

Key Messages

- The protection of the retained trees and hedges on site is a critical requirement of both the client and the Local Planning Authority.
- The site has been designed with key green features being retained and protected. Any breach of the protection measures has the potential to damage those features and therefore disrupt the overall vision for the site.
- A detailed Arboricultural Method Statement has been prepared. This details the requirements for ensuring that retained trees are protected. This document is available on site at the site office and should be read and understood by all personnel working on the site.
- A Tree Protection Plan has been prepared to provide graphical illustration as to the extent of tree protection measures.
- The approved Tree Protection Fencing is Heras panels to protect areas that are being actively worked.
- All Tree Protection Fencing will have a sign attached at regular intervals to state that it is Tree Protective Fencing.
- No Tree Protection Fencing can be moved, opened, or breached in any way without the prior written approval of the project Arboriculturist.
- The area within the Tree Protective Fencing is a Construction Exclusion Zone. This means that there must be no machinery, no materials, and no personnel within the area. Unauthorised access will be a breach of planning conditions and could lead to enforcement notices from the Local Planning Authority.
- All Temporary Ground Protection will remain in place throughout the duration of the project and be installed prior to demolition/construction vehicles access the site.
- All Permanent Ground Protection will be installed under the supervision of the project Arboriculturist and constructed prior to demolition/construction vehicles accessing the site.
- No works to any tree or hedge can be undertaken by any person that has not been approved by the project Arboriculturist.

- Where additional tree works are required, there may be a requirement to obtain input and approval from: the client; the Local Planning Authority; the project Ecologist; and/or the project Landscape Consultant. If any additional works are required, as much notice as possible must be given to ensure that there are no delays to the works programme while the necessary approvals are obtained.

Project Arboriculturist:

Contact:

Appendix 2: Statement of Undertaking

STATEMENT OF UNDERTAKING

I confirm that I have read and fully understood the tree protection measures that have been detailed in the Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) that have been provided for the site. These documents have been provided to ensure that retained trees on the site are protected at all times during the construction process, and to assist the MWC/construction company maintain compliance with the planning conditions.

I will ensure that tree protection measures are in accordance with the AMS and TPP throughout the construction process. I will also ensure that all site personnel are aware of the tree protection measures that are required throughout the site.

Where issues arise from tree related matters I will consult the retained Arboricultural Clerk of Works (ACoW) before undertaking any activities that may cause damage to the protected trees.

Position:

Name:

Signature:

Company:

Date:

Approved by:

Position:

Name:

Signature:

Company:

Date:

Enc: Arboricultural Method Statement: Church Lane -AMS V1 – NAC - 20251017

Tree Protection Plan: XXXX

Appendix 3: Tree Protective Fencing

heras® 151 and 151steadfast system

Having invented the original concept of temporary fencing back in the 80's, Heras is proud of its reputation as a true innovator.

Our latest solution for securing site perimeters and protecting the public has been phenomenally successful since its launch, and offers the ultimate market leading temporary fencing system.

Our safest, most stable and most secure system ever offers you total peace of mind, and unrivalled performance.

You can be sure that by installing the Heras® 151 Steadfast System (patent pending), you are conforming fully to the latest HSE Guidelines on "Protecting the Public" from the dangers of construction sites.

Heras has campaigned widely over recent years against falling product standards, and has consulted closely with senior figures across the construction industry to ensure our products meet and exceed your expectations. The latest innovative system means you should never again need to compromise on:

- Value for money
- Quality
- Performance
- Design
- Ease of installation.

All backed up with unbeatable service from our nationwide branch network – deal direct with Heras – your safety first fencing supplier.

Fully Tested and Certificated

- Extensive independent testing by Sheffield Hallam University has proved the performance of the system, resisting wind speeds well in excess of gale force.
- The HSE has confirmed that the system meets all of the guidelines in the HSG 151 Publication "Protecting the Public - 'four next move'".
- In turn, therefore, we can offer customers a certificate of compliance when they purchase this system from Heras.
- It is your responsibility to ensure the system is correctly installed and fixed. For help and advice, contact your nearest branch.

151 system

The key components of the Heras 151 system are as listed.

Round Top Panel with Anti-Climb Mesh

- The strongest panel on the market, with 3 sides formed from a continuous length of tube, eliminating the top corner weld, often the weakest point in traditional panel design.

High Visibility Orange Block

- Permanently coloured with a durable UV stabilised "hi-visibility" orange and filled with solid high density concrete.
- Effectively highlights any potential trip hazard.
- Beware of cheap imitations – painted coatings will chip and peel.

Heraslock® Anti-Tamper Coupler

- Providing additional security, these couplers can only be removed with the use of the specialist tool.

151 steadfast system

The Heras 151 steadfast system incorporates all the benefits of the 151 system, with the addition of the patented...

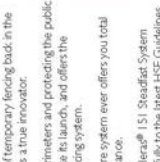
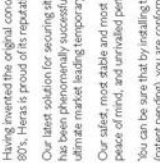
Heras® Steadfast Strut

- The unique design of this clever strut dramatically increases the stability of the fence.
- The strut fits neatly within the high visibility block, allowing a neat and compact solution, and acts as an integrated anti-lift device.
- 3 additional fixing holes incorporated into the design allow for soil pins and handbooks, dependent on ground conditions.

Optional Extras

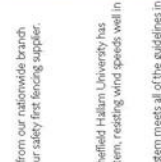
- Heras® Steadfast Safety Strips with reflective coating can be fitted in minutes to highlight site dangers.
- Front support brackets allow vastly improved performance on softer ground conditions and fit quickly and easily into the high visibility blocks.



















round top panel with anti-climb mesh
high visibility orange blocks
steadfast strut
anti-tamper coupler
fully tested and certificated
health and safety compliant (HSG 151)



ROUND TOP PANEL WITH ANTI-CLIMB MESH

Our latest solution for securing site perimeters and protecting the public has been phenomenally successful since its launch, and offers the ultimate market leading temporary fencing system.



1. Front stabiliser
2. High visibility footblocks
3. Round top panel
4. Round top panel
5. Anti-tamper coupler
6. Optional steadfast safety strips
7. Anti-climb round top panel with steadfast strut to increase stability.



2 Heras® The Original Name for Temporary Fencing
www.herasreadyfence.co.uk

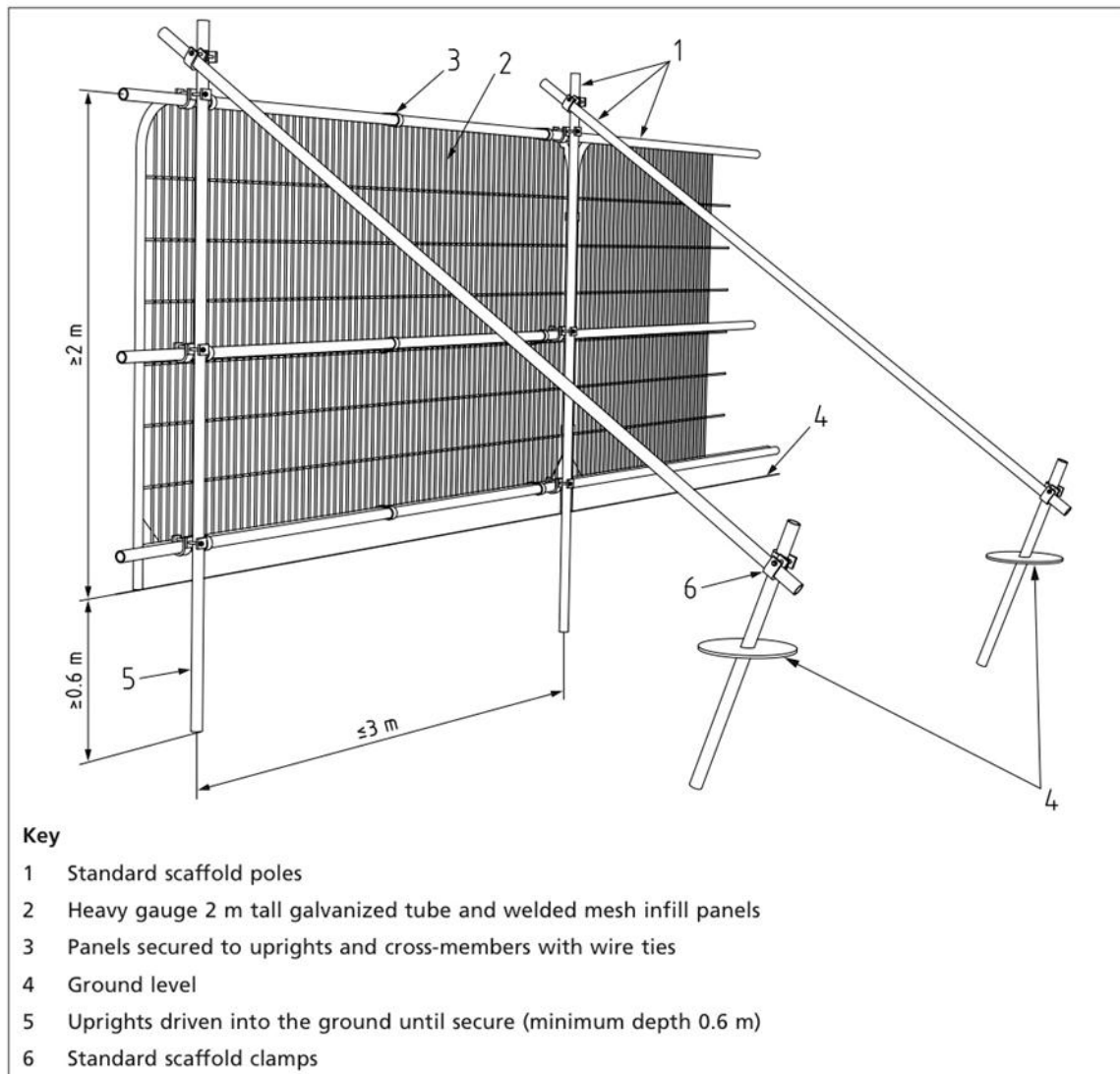


Heras® The Original Name for Temporary Fencing
Telephone: **0844 472 0011**

Church Lane - AMS - V1 - NAC - 20251029

Page 22 of 31

Figure 2 Default specification for protective barrier



Appendix 4: Example of Protective Fencing Signage



(Nicholsons is able to provide useable, weather-proof copies of this sign if required, for attaching to the protective fencing. If required, please contact us for further details).

Appendix 5: Temporary Ground Protection

TREE ROOT PROTECTION DURING CONSTRUCTION PROJECTS

The Department for Communities and Local Government's guide "Tree Roots in the Built Environment" states that "ground protection should be installed before any materials or machinery is brought onto the site" (Section 9.3.3.2) [Crown Copyright acknowledged]

It has been shown that "the major contribution to soil compaction from vehicle movements comes from the first passes of vehicles over the ground" (Section 4.2.3) Thus it is essential that ground protection is specified and installed from day one of construction projects.

Failure to protect the ground from compaction will lead to reduced water and oxygen infiltration to the tree roots and can ultimately lead to the decline of the tree.

TREE ROOT PROTECTION METHOD

GroundGuards trackway mat systems are frequently used on construction sites to protect the ground from erosion and damage by construction vehicles. Where a temporary roadway must pass near to trees, the following extra precautions must be taken in order to provide cushioning for the ground under the tree canopy:

1. Edge rails of 200 x 50mm sawn timber should be installed where the trackway will pass under the tree canopy. These should be staked on either side of the trackway using 50 x 50 x 500mm timber stakes at 1.5m spacings.
2. A layer of geotextile membrane should be laid to cover at least the area under the tree canopy and preferably under the whole of the trackway.
3. A pad of trackway mats should be laid on top of the geotextile membrane, between the timber rails.
4. A 150mm deep layer of wood chipping should be laid over the mats
5. The trackway can then be laid so that it rises over the wood chippings as it passes under the tree canopy.

50x50x500 timber stakes
200x50 timber rails
Geotextile Membrane
Base layer of trackway mats
Wood chippings
Upper layer of trackway mats



Three trackway systems suitable for tree root protection are available for hire or sale:

MultiTrack



MultiTrack
These mats quickly clip together and are suitable for medium weight construction traffic. Where they pass over tree roots, install a double layer of mats with 150mm of wood chippings between to cushion the ground.

MaxiTrack



MaxiTrack
This is a unique heavy duty matting system with overlapping flanges and bolt-together connection, for heavier traffic. Again, use a sandwiched layer of wood chippings where there are tree roots.

XtremeMats



XtremeMats
For very heavy traffic, over extended periods, these rigid 4x2m mats spread the load to protect the ground. Double layering is not necessary, but 150mm of wood chippings should be used in areas with tree roots.

GroundGuards®

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www.ground-guards.co.uk

Appendix 6: Permanent Ground Protection

PRODUCT DATA SHEET

Geosynthetics Limited Tel: 01455 617 139 Fax: 01455 617 140 Email: sales@geosyn.co.uk

Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 - 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

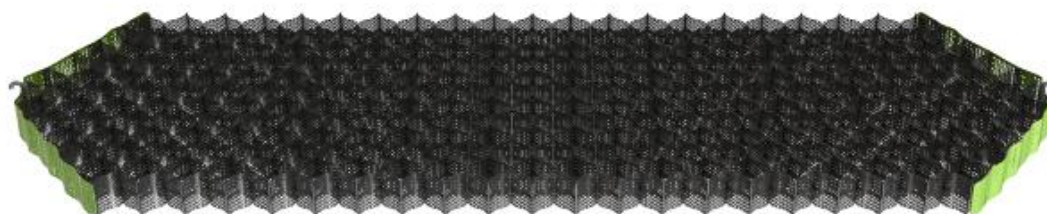
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Pollution Control Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).
- Create a level surface by filling any hollows with clean angular stone or sharp sand.

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



DR: 81/N/5/24.08.16 (Page 1 of 3)



Cellweb® TRP - Installation Guide

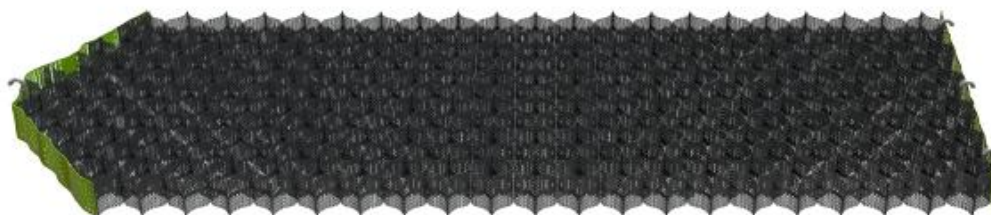


Step 3: Pinning Cellweb® TRP



Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell aperture. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- When cutting Cellweb® TRP, please bear in mind that you will lose two internal cells per cut. Across a 8.1m long panel, this equates to a loss of 0.224m x 2 along the length or 0.259m x 2 across the width.



Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone Type 4/20mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.
- Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- If the clean angular stone is being used as the final surface; regular maintenance will be required to ensure a minimum overfill of 50mm.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- All surfaces in Root Protection Areas must be porous. Surfaces can include porous block paving, porous asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete and astro turf.

NOTES

1. **Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
2. **Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
3. **Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
4. **Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge becomes available. Since we cannot anticipate all variations in actual end use conditions, Geosynthetics Limited makes no warranties and assumes no liabilities in connection with this information. Nothing in this publication is to be considered as a licence to operate under or a recommendation to infringe any patent right.

DR: 81/VS/24.08.16 (Page 3 of 3)



Appendix 7: Site Guidance for working in the RPA**a) What is the purpose of this guidance?**

This guidance sets out the general principle that must be followed when working in the RPA. Where more detail is required, it will be supplemented by illustrative specifications in other appendices to this document. Before work starts on site, the purpose of this guidance is to demonstrate to the LPA that tree protection issues have been properly considered and to provide a written record of how they will be implemented.

Once the site work has started, this guidance is specifically for the site personnel to help them understand what has been agreed and explain what is required to fully meet their obligations to protect trees. All personnel working in the RPA must be properly briefed about their responsibilities towards important trees based on this guidance.

b) What are the RPAs?

RPAs are the areas surrounding important trees where disturbance must be minimised if they are to be successfully retained. All RPAs close to the construction area are identified on the Tree Protection Plan attached to this report. Damage to roots by degradation of the soil through compaction and/or excavation within the RPA will damage the tree. Any work operations within the RPA must be carried out with great care if trees are to be successfully retained.

c) When should this guidance be followed?

Anyone entering a RPA must follow this guidance if the trees are to be retained unharmed. Anyone working in an RPA must take care to minimise excavation into existing soil levels and limit any fill or covering that may affect soil permeability. There are two main scenarios where this guidance must be followed when entering and working within an RPA:

- i. Removal of existing surfaces/structures and replacement with new surfaces, structures or landscaping.
- ii. Preparation and installation of new surfacing structures and/or landscaping.

d) Where does this guidance apply?

This guidance should always be read in conjunction with the site plans illustrating the areas where specific precautions are necessary. Each area where precautions are required is annotated on the plans as identified on their keys. All plans are illustrative and are intended to be interpreted in the context of the site conditions when the work commences. All protective measures should be installed according to the prevailing site conditions and agreed as satisfactory by the appropriate supervising officer before any demolition or construction works commence.

e) What references is this guidance based on?

This guidance is based in the assumption that the minimum general standards for development issues are those set out in BS5837 (2012): Trees in relation to design, demolition and construction – Recommendations, and the NJUG Vol.4 Issue 1: Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.

f) Preventing adverse impact to the RPA beyond the immediate work area

Any part of the RPA beyond the agreed work area must be isolated from the work operations by protective barriers or ground protection to at least the minimum standard described in BS5837 for the duration of the work.

g) Excavation and dealing with roots

All excavation must be carried out carefully using spades, forks and trowels, taking care not to damage the bark and wood of any roots. Specialist tools for removing soil around roots using compressed air may be an appropriate alternative to hand digging, if available. All soil removal must be undertaken with care to minimise the disturbance of roots beyond the immediate area of excavation. Where possible, flexible clumps of small roots, including fibrous roots, should be retained if they can be displaced temporarily or permanently beyond the excavation without damage.

If digging by hand, a fork should be used to loosen the soil and help locate any substantial roots. Once the roots have been located the trowel should be used to clear the soil away from them without damaging the bark. Exposed roots that are to be removed should be cut cleanly with a sharp saw or secateurs 10-20cm behind the final face of the excavation.

Roots temporarily exposed must be protected from direct sunlight, drying out and extreme temperatures by appropriate covering. Roots 2.5-10cm in diameter should only be cut in exceptional circumstances. Roots greater than 10cm in diameter should only be cut after consultation with the appropriate supervisory officer.

h) Arboricultural supervision

Any work within the RPA requires a high level of care. Qualified arboricultural supervision is essential to minimise the risk of misunderstanding and misinterpretation. Site personnel must be properly briefed before any works commence.

Ongoing work must be inspected regularly, and on completion, the work must be signed off by the arboriculturist to confirm compliance by the contractor. In the context of this guidance, an appropriate supervising officer would be an arboriculturist.

Installation of new surfaces in RPAs**a) Basic Principles**

New surfacing is potentially damaging to trees because it may require changes to existing ground levels. This can result in damage to the soil structure affect the efficient exchange of water and gases in and out of the soil. Mature and over mature trees are much more likely to suffer as a result of these changes. These impacts can be minimised by reducing the extent of changes within the RPA. The most suitable surface will be one that is permeable (allowing the movement of water and gas), load bearing (to avoid compaction) and requires little or no excavation (to limit root damage). The actual specification is an engineering issue that needs to be addressed by a suitably qualified professional, and is beyond the scope of this report.

b) Establish the depth of excavation and surface gradient

The precise location and depth of roots within the soil is unpredictable and can only be established once digging has commenced. Ideally, all RPAs should be no-dig, but this is often not possible on undulating surfaces. New surfacing normally requires an evenly graded sub-base layer, which can be made up to high points with granular, permeable fills such as clean angular stone. This sub-base must not be compacted. Some limited excavation may be required to achieve this, and this is not necessarily damaging to trees if it is done carefully and no large roots are cut. The top 5mm of soil on grass surfaces is unlikely to contain any tree roots and therefore the removal of this will not impact the tree. It may be possible to dig deeper than this depending on local conditions, but this would need to be assessed by the retained ACoW.

On undulating surfaces, finished gradients/levels must be planned with sufficient flexibility so as to allow changes to occur if the excavation of high points reveals unexpected large roots. If roots are less than 25mm in diameter, it would normally be acceptable to cut these. However, for roots over 25mm diameter, cutting them may cause damage to the tree and further excavation may not be possible. In this case, the surrounding levels must be adjusted to take account of these high points, by filling with suitable material. If this is not possible and it is necessary to cut larger roots, discussions should be held with the retained ACoW before any final decision is made.

c) Base and finish layer

Once the sub-base layer is finished, the load-spreading surface is installed on top, without compaction. Generally, the load-spreading surface will normally be cellular and filled with clean angular stone—care must be taken as different products produce different results, and the detail must be confirmed prior to installation. Suitable finishes included washed gravel, permeable tarmac or permeable block paving. For lightly loaded surfaces such as pedestrian footpaths, preformed concrete slabs may be appropriate if the sub base is prepared as detailed above.

d) Edge Retention

Conventional kerb retention set in concrete trenches is likely to cause damage to the roots and should be avoided. Effective edge retention within the RPA must be custom designed to avoid significant excavation in to existing soil surfaces. Generally, the use of pre-formed edging secured by metal pins or wooden pegs will be sufficient to ensure minimal impact on the trees.

e) Installing new surfacing on top of existing surfacing

It may be possible/preferable in some instances to use existing surfaces as the base for a new surface. This will not normally result in any significant excavation that could damage the roots, so no special precautions are required. However, if large roots appear above the existing surface, then the precautions and procedures detailed above must be followed.