

**The Wren School,
Bath Road,
Reading**

**ARBORICULTURAL IMPACT ASSESSMENT
AND
METHOD STATEMENT**



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1.0 INTRODUCTION

1.1 This document has been prepared by Rob Longley Tree Consultancy on the behalf of The Wren School, Bath. It provides an Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement in regards to the proposed construction of an eco class-room on site at the school.

1.2 This document follows, and should be read in conjunction with the Tree Protection Plan Drawing and initial pre-development tree survey undertaken October 2021. The initial tree survey, this document and drawings conform to guidelines contained within British Standard 5837:2012 Trees in relation to design, demolition and construction– Recommendations. Documents were modified 15th January in regards to moving the construction outside the tree influence

1.3 For the purposes of preparing this document the following material was referenced:

- Proposed and existing layouts
- toppo

2.0 ARBORICULTURAL IMPACT ASSESSMENT

2.1 The overall impact of the proposed development on trees is considered.

2.2 This Impact assessment considers the consequences on existing trees situated within and proposed development site, both in terms of quantifying tree loss and the potential impacts of those trees for retention. In addition the relationship between trees being retained and the development layout are considered in regards to issues such as potential space/room for retained trees to develop, light loss, and shading of residential properties.

2.3 Loss of Trees

2.4 The development proposals will require the loss of the following trees:

Tree Reference	Species	Retention Category	Notes

NONE REQUIRED

3.0 Tree Pruning Required

3.1 The recommended pruning comprises of the following:

Tree Reference	Species	Retention Category	Notes

NONE REQUIRED

4.0 Special working methodologies required

4.1 The recommended special working methodologies required comprises of the following:

Tree Reference	Species	Retention Category	Notes

NONE REQUIRED

5.0 Shade and growth constraints from existing trees

5.1 There is a relatively dense volume of large fully developed mature trees along the northern boundaries of the site with the potential to affect available light levels, however it is considered generally that the orientation of the space the distance between trees and room and the lifting of the tree will be deemed adequate to maintain suitable availability to light. Pruning to trees in close proximity or potentially causing shading to dwellings has been covered in point 3.0 and will possibly require periodic cutting back to retain light levels every few years.

6.0 Impacts on off-site trees

6.1 No trees within neighbouring properties will be affected by the proposed development.

7.0 Conclusion

- 7.1 The proposals should have no direct impact on trees that are to remain. The maple trees closeby are of poor condition and are a safety hazard going forward and should be looked at to be replaced over the next few years. These are suffering bacterial canker at the unions and weak points will form though decay of exposed bark. Replanting would need to be with a less susceptible species to prevent disease transference. Many of the trees on site appear to be suffering minor damage, monitoring these trees yearly going forward is necessary.

8.0 ARBORICULTURAL METHOD STATEMENT

- 8.1 The Arboricultural Method Statement (AMS) specifies all measures to be undertaken to ensure the ongoing health and viability of trees to be retained.
- 8.2 This AMS is in compliance with British Standard 5837: 2012 Trees in relation to design, demolition and construction– Recommendations.
- 8.3 The AMS must be considered a ‘working document’. It must be made available to the developer, site manager, and LPA. A copy of this document, and the Tree Protection Plan must be kept on the development site at all times. All site operatives must be briefed on the main contents of this document.
- 8.4 The method statement details the required construction practices to be followed to ensure the adequate protection of trees to be retained. It must be read in conjunction with the Tree Protection Plan (4079.07). The Method Statement provides general recommendations (sections 8.0 to 10.1) then details site specific issues (section 11.0 Phases 1 to 6).

8.5 Tree Works –General Issues

- 8.6 All tree/vegetation works are to take place prior to any site operations and immediately before the installation of protective fencing.
- 8.7 All works to the existing trees are to be carried out by a fully qualified tree surgeon and in accordance with BS 3998 (2010) *Recommendations for Tree Work*.
- 8.8 The necessary tree surgery works, or removal of vegetation should be carried out **before** any construction work starts and immediately before erection of protective fencing. Any works will include any trees that require removal in order to facilitate construction. No tree works must be carried out unless permission is provided by the local planning authority. Tree works to any protected trees (trees within a Conservation Area or subject to a Tree Preservation Order) that do not require works to directly enable the development to proceed will require a notification/application to be made to the Local Planning Authority. Any tree works required in order to directly facilitate the development to proceed (such as tree felling) must not proceed unless full planning consent and written consent is given by the local planning authority.
- 8.9 Wildlife issues and timing of operations. The following must be observed:

Bats. Under current legislation it is an offence to ‘intentionally or recklessly disturb a bat’ or ‘damage, destroy or block access to the resting place of any bat’ (Countryside and Rights of Way Act 2001 and further strengthened by other legislation). Where work is being carried out and bats are present, or if the tree is a known roost, consultation must be made with the Statutory Nature Conservancy Organisation (Natural England www.naturalengland.org.uk). A European Protected Species Habitat Regulations Licence is likely to be required. Work to trees with the potential for roosting bats is best done from late August to early October. March through to April is also suitable although this may conflict with nesting birds (see below).

Birds. It is also likely to be an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds should be avoided from late March to August.

9.0 Method Statement – General Issues:

- 9.1 Protective fencing must be erected prior to any site operations. To give the best chance of continued good health of the retained trees, it will be essential to prevent root severance or compaction of the soil in the Root Protection Area. A stout fence shall be erected at the position shown on the Tree Protection Plan, comprising a braced scaffold frame with steel mesh panels securely attached (eg Heras). Mesh is preferred to boarding as it can be seen through and should be re-useable. A detail from BS5837 is attached (Appendix A). Once in place, the fence must be regarded as sacrosanct with no storage of materials/spoil or access by machinery within the protected area. The fencing shall be regularly inspected by the site agent and maintained in full condition.
- 9.2 Developers should enforce the methods of protection identified within the statement. All contractors must also agree to them. Any failure to comply with them must be dealt with by the developer. Any damage that may occur to trees due to failure to observe the method statement must be reported to the Local Planning Authority and arboricultural advice must be sought.
- 9.3 No pruning, lopping, felling or severance of roots is to take place without prior consent of the local authority or unless in compliance with specifications included within the Method Statement.
- 9.4 The ground levels within the protected fenced area must neither be raised nor reduced.
- 9.5 No ropes, cables, services, or notice boards shall be fixed to existing trees.
- 9.6 Fires should not be permitted, or else not lit where flames could extend to within 10m of the foliage, branches or trunk.
- 9.7 Should temporary access within the Root Protection Area be required that is not included within the method statement, an agreement, in advance, with the consultant and the LPA must be made. The fence may need to be re-aligned and the ground surface protected. For vehicular access this protection will need to be specifically detailed and agreed.
- 9.8 Care must be taken in regards to tall or wide loads, or use of plant with booms, jibs and counterweights. Where machinery may be required to operate in the vicinity of trees a banksman must ensure that no direct physical damage is caused to trees. It must be checked that any materials or vehicles entering the site are able to do so without causing damage to adjacent trees.
- 9.9 Any material that will contaminate soil (e.g. concrete mixings, and vehicle washings) must not be discharged within 10m of any tree stem. If diesel and fuel containers are used or stored on site they must be kept within a plastic container bund to prevent any ground contamination and spill kits must be kept available to remediate any spillage).
- 9.10 Where trenching may be required for the placing of underground services all works must adhere to Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG4). National Joint Utilities Group, 2007.
- 9.11 Arboricultural monitoring
- (i) The arboricultural consultant (or local authority Tree Officer) shall be consulted whenever an unexpected issue occurs that involves any retained tree on site including access within the Protection Area.
 - (ii) No amendments shall be made to the methods detailed in this Arboricultural Method Statement without the agreement of the consultant or local planning authority Tree Officer.
 - (ii) If the site agent is at all unclear about exact compliance with any of the above requirements, or if requested by any other party, then a pre-start meeting shall be arranged with the architect, site agent, local authority tree officer and arboricultural consultant in attendance as necessary.

10.0 Health and Safety Issues

- 10.1 All operations must be carried out with full regard to Health and Safety requirements. Due to the diverse nature of recommendations included (e.g. tree surgery works, construction etc) it is necessary that supervisors of those undertaking recommended operations undertake risk assessments prior to starting the relevant works. It should be the Site Managers/developers responsibility to ensure that risk assessments are submitted prior to undertaking relevant works.

11.0 METHOD STATEMENT SCHEDULE

- 11.1 The following schedule details site specific requirements that must be followed. The Tree Protection Plan should be referenced in relation to the recommendations below. Where phase numbers are colour coded this relates to the relevant colour on the Tree Protection Plan.

Phase	Requirements (refer to TPP 4272.02)	Trees affected	Method
1 Prior to erection of protected fencing.	Trees to remove	none	Fell trees according to BS 3998 (2010) removing all arising's from site.
	Trees to prune	none	Prune trees according to BS 3998 (2010 as specified on page 4-5 AIA section point 3.1).
2 Prior to any development works	Erection of tree protective fencing	All trees as shown on protection plan	Protective fencing is to be erected in accordance with BS5837 (2012) shown in Appendix A of this document.
	Fencing (above)		The fencing must comply with the positions shown in the Tree Protection Plan. Where excavations into the RPA are necessary, the fence maybe relocated to the new RPA edge under supervision from the Arboriculturalist.
3 Prior to any development works	Implementation of Cellular confinement systems	none	The installation of a cellular confinement system (CCS) may be required to provide pedestrian access within areas that are subject to root incursion specified on page 5-6 AIA section point 4.1).Appendix D provides a product example of a temporary load reducing cover as a minimum.
4 Prior to any development works	Excavations Within RPA's	None known	Excavations within RPA's should be should be completed using hand tools only under supervision from an Arboriculturalist in accordance with BS5837-Section 7.2.3 Avoiding physical damage to the roots during demolition or Construction (See Appendix B). Any roots encountered should be retained by

			being redirected back into the remaining RPA if possible.
5 Main Construction to proceed	Main construction works	Various	The main section of construction works may proceed
6 After Construction is complete	Removal of protective fencing on completion of main development	Various	Dismantle protective fencing.

9.0 Site monitoring and supervision

9.1 This is to be undertaken by the appointed Arboriculturalist at set intervals to maintain the following actions are satisfactory and where relevant at the discretion of the LPA:

- Trees removed or pruned due to condition and development
- Erection of protective fence
- Hand digging areas within RPA's
- Implementation of Cellular Confinement System's (CCS)

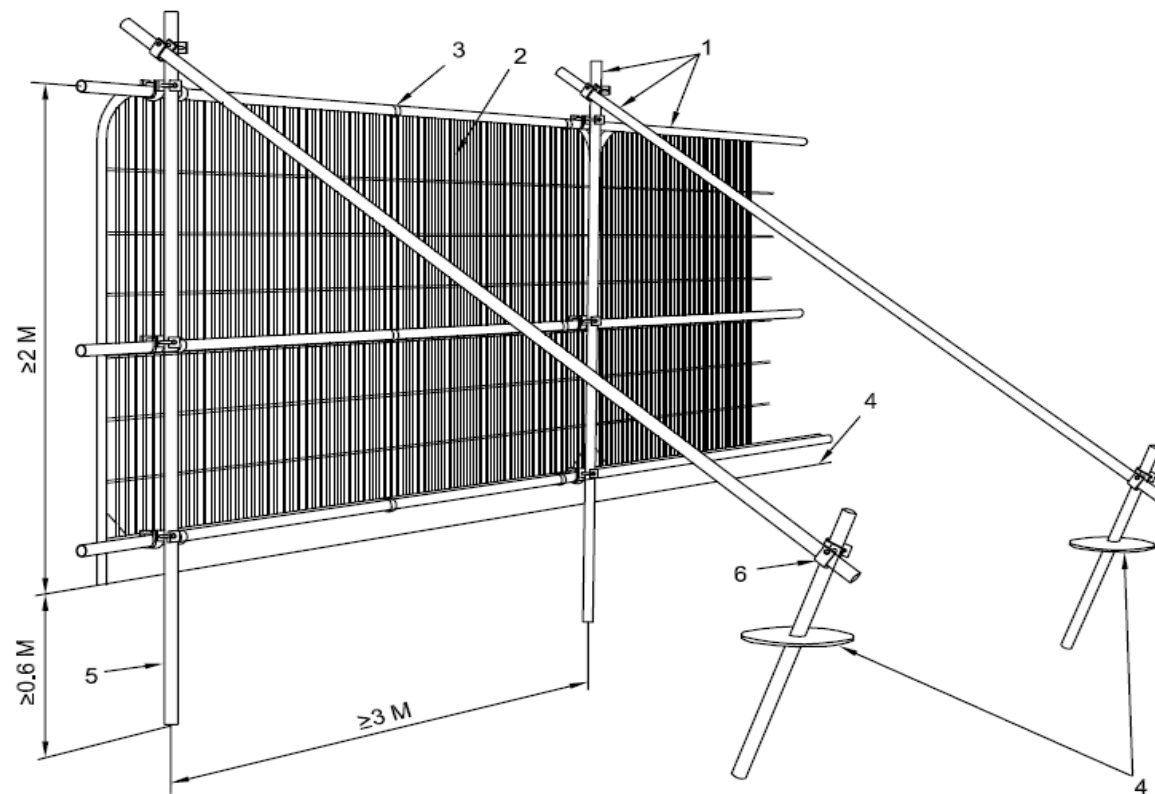
Date	Comments	Developer	Arboriculturalist

APPENDIX A – FULL PROTECTIVE FENCING SPECIFICATION BS5837 2012

BS 5837 (2012) Tree Protection Fencing

NOTES

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|--|---|--|
| 1. STANDARD SCAFFOLD POLES. | 3. PANELS SECURED TO UPRIGHTS AND CROSS-MEMBERS WITH WIRE TIES. | 5. UPRIGHTS DRIVEN INTO THE GROUND UNTIL SECURE (MINIMUM DEPTH 0.6 M). |
| 2. HEAVY GAUGE 2 M TALL GALVANIZED TUBE AND WELDED MESH INFILL PANELS. | 4. GROUND LEVEL. | 6. STANDARD SCAFFOLD CLAMPS. |



Note – Rubber feet are generally accepted by the LPA if driven into the ground using ground pins.

7.2 Avoiding physical damage to the roots during demolition or construction

- 7.2.1** To avoid damage to tree roots, existing ground levels should be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ. However, limited manual excavation within the RPA might be acceptable, subject to justification. Such excavation should be undertaken carefully, using hand-held tools and preferably by compressed air soil displacement.
NOTE Due to the demands that manual excavation places on a development project, and limitations arising from health and safety considerations, it is not realistic to plan for excavation using hand-held tools where there is a need for trench shoring or grading the sides of the excavation to a stable angle of repose.
- 7.2.2** Roots, whilst exposed, should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.
- 7.2.3** Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.
- 7.2.4** Prior to backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree.

CellWeb TRP (Installation Checklist)

Installation of the CellWeb™ Cellular Confinement System within the Root Protection Area of Trees



The following installation checklist can be used on projects where CellWeb™ is being installed as a permanent hard surface, a sub-base, or as temporary root protection during construction works.

The installation procedure can be utilised by the Local Authority (LA) tree officer to ensure that CellWeb™, that is being used for tree root protection, will be effectively installed. Alternatively, it may be more appropriate to request that the installation is certified by arboricultural consultants who are experienced in the installation of CellWeb™ and who can offer installation certification as part of a package endorsed by Geosynthetics.

The completion of the CellWeb™ installation in accordance with this procedure will enable planning conditions to be successfully signed off on completion of the project.

Stage 1 Initial site meeting to assess tree protection requirements in line with the Arboricultural Method Statement (AMS) produced by the developer's arboricultural consultant.

- Check the ground conditions, including the presence of compaction or made ground.
Is any remedial work required, such as the removal of old hard surfaces and rubble or soil decompaction?
- Compare the existing ground levels with the new levels proposed in the development.
Do the new levels allow for the depth of hard surfaces installed with a CellWeb™ foundation without excavation?
Will excavation be required to achieve the proposed levels or to enable site drainage or integration with other water management solutions?
- Assess the suitability of tree protection proposals, including the fencing and ground protection that will be used throughout the demolition and construction phases of development.
Can CellWeb™ be used as ground protection throughout the development period and also form the foundation for final hard surfaces?
Is a temporary CellWeb™ installation needed to enable site access for construction traffic over an area designated as requiring tree root protection?
- Consider how utility service installations can be integrated with the installation of CellWeb™.
Can services be installed before the CellWeb™ is laid, or is it possible to use directional drilling later on in the development?
- Consider how other water management solutions for the site can be integrated with CellWeb™, including porous hard surfaces, drainage and underground storage.
Has a combined and integrated water management plan been designed that considers retained trees?
Do the water management solutions for the site consider the water requirements of retained trees?
Do the storage solutions allow for the slow release of water into areas of the site accessible by tree roots, while also dealing with potential soil pollutants from surface water run-off?
- How are the developers going to ensure that the CellWeb™ is specified and installed effectively?

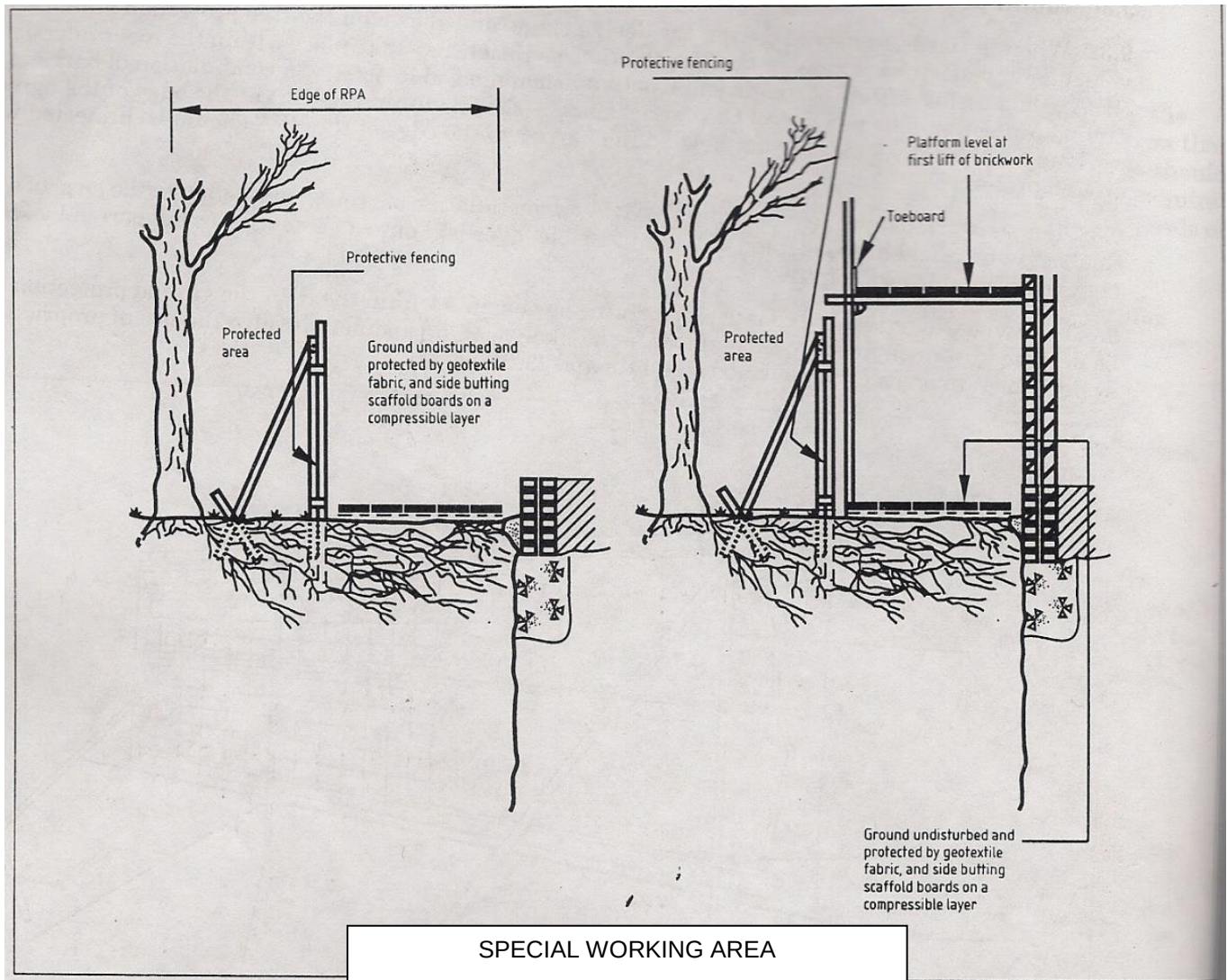


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APPENDIX D – SPECIAL WORKING AREA



The special working area is within the Root Protection Area of the tree – it provides room for scaffolding and access for pedestrians only. The tree protection plan shows the position that the special working area is to be used.

ROAD CONSTRUCTION – ‘NO DIG’ METHOD

This allows for removal of turf only so avoiding any root damage via excavation. A purpose-made three-dimensional plastic cellular system is placed over the existing ground surface - this should increase load capacity by up to 50% allowing a shallower overall construction depth. Installation is summarised as follows (this should not be taken as definitive and will require the input of engineers at the design stage):

- (i) Removal of turf only, provided no surface roots are present. This should only be carried out under supervision by the arboricultural consultant.
- (ii) If judged acceptable by the consultant it may on occasions be acceptable to remove a few more centimetres of top soil - however this must not be done without the arboricultural consultant present.
- (iii) This exposed surface must not be accessed by machinery.
- (iv) Placement of a Geotextile separation fabric (Fibretext F4M recommended).
- (v) Placement of cellular 3 dimensional grid, temporarily pinned into place. The building agent should familiarise himself with the system and choose the appropriate cell depth. However if the surface has to be able to withstand lorries, the maximum 200mm cell depth should be used, and for footpaths the minimum cell depth may be appropriate.
- (vi) Filling of grid with angular roadstone, 40/20mm and clean with no fines (to retain air permeability). To be done working from one end with subsequent dumper movement over the freshly laid stone. (vii) Air and water-permeable top surface (gravel, open-jointed pavements, permeable bonded resin, permeable grade tarmac etc). For the last 2, proper information on the product permeability should be established. Depending on type, a separation fabric and/or layer of fine stone or coarse grit may be required, however this should remain a permeable no-fines grade and not hoggins for example.
- (viii) As this results in a raised surface, containment of the edges is likely to be required. This should be done using treated wooden boards held in place by wooden pegs or metal pins. Kerbing or haunching should not be used as this would excavate into the root area.
- (ix) It is essential that no service trenches or other excavations take place within this footprint.

The cellular system should be installed first before any site machinery or materials come onto this area of the site as the area must not be tracked over prior to installation.

References:

Suppliers of three-dimensional grid for no-dig construction method:

CellWeb, Geosynthetics Ltd. Tel: 01455 617139 sales@geosyn.co.uk www.geosyn.co.uk

Erocell by Terram Ltd. Tel: 01495 757 722 info@terram.co.uk www.terram.com

The recommendations are as follows:

1. Erect temporary fencing and load spreading surface around T5 on extremities of build.
2. Undertake construction work as per method statement above
3. Remove protective fencing