

# Arboricultural Method Statement

in accordance with

**BS5837:2005**

at

**Proposed Car-Park  
Wortley Village  
South Yorkshire**



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# **1 Introduction**

## ***1.1 Purpose of report***

This report has been created to ensure good practice in the management of trees during the proposed development at: The proposed car park, Wortley Village, South Yorkshire.

## ***1.2 Status***

The recommendations of this report are based on the plans as provided Ref 21.70 Drwg No P13, and our tree survey Ref 110408.

This report should be included as part of any specifications and schedules of works supplied to all demolition and construction contractors.



## **2 Preparation for development**

### **2.1 Necessary tree works**

The first operation will be the tree pruning and felling works as detailed at **Appendix 1**.

All tree works should be carried out by suitably qualified, experienced and insured contractors in accordance with BS3998: 2010.

### **2.2 Protective fencing**

The protective fences can be installed after the necessary tree works are completed, but they must be fully installed and completed before any other work commences, this includes; demolition, soil stripping or the bringing onto site of materials, supplies or machinery.

Protective fencing must be constructed in such a way as to exclude construction activity and be appropriate to the degree and proximity of likely works. BS5837:2005 states that 2.3m high welded mesh panels securely fixed onto a braced scaffold framework should be used as shown in **Appendix 2**.

Unless otherwise specified in this report or its attached drawings the fenced areas shall be considered complete construction exclusion zones; there shall be no pedestrians, vehicles, materials, equipment or machinery allowed in the fenced areas at any time.

There should be adequate signs informing all relevant persons that access is denied, an example sign is included at **Appendix 3**.

Care must also be taken to prevent fenced areas being contaminated with chemical spillages, including; petrol, diesel, oils, cements and concretes. In addition, water run-off from areas of construction activity must be diverted away from fenced areas.

### **2.3 Site inspection**

Once the necessary tree works have been completed and the protective fences are in place it is recommended that the developer's arboriculturist is invited to visit the site, meet with the relevant local authority representative, and check that the necessary tree works and the protective fences are completed satisfactorily.



## 3 Development Phase

### 3.1 *The root protection area (RPA)*

The root protection area (RPA) is the area of ground it is desirable to leave undisturbed during development. BS5837:2005 recognises that this is not always practical and that some development within the RPA should be allowed.

The RPAs are shown on the attached plan as hatched circles or squares. Where work will be undertaken within an RPA the area must be fenced off until the planned activities are due to commence.

There must be no activity of any kind within any RPA unless it is by prior written agreement of the local authority.

### 3.2 *Demolition of existing hard surfaces within the RPA*

Existing hard surfaces must be removed with caution to prevent damage to tree roots. This should be done using hand tools, but suitable machinery may be used in some situations.

Where machinery is to be used to break up existing surfaces then work should be done progressively; starting closest to the trees and working backwards towards the outer edge of the root protection areas. Tracks, wheels, or other load bearing parts of machinery used must be located on existing hard surfaces at all times when within the root protection area – vehicles, machinery and equipment must not enter the areas where hard surfaces have already been removed.

Excavation within the RPA must not be deeper than the existing hard surface unless otherwise agreed in writing with the local authority.

Broken up tarmac, concrete and other arisings should ideally be removed by hand using a wheel barrow. However, where the use of machinery (such as excavators, mini-diggers, or dump trucks) is permitted by the local authority, then buckets must have a straight edge and vehicle tracks and/or wheels must be located on existing hard surfaces at all times when within the root protection area.

### 3.3 *Demolition of existing buildings within the RPA*

Often there are existing buildings within the RPA, these should be demolished inwards and within their existing footprint.

Existing foundations and other below ground or surface features must be either left in place, or must be dismantled and removed as described in section '3.2 - Demolition of existing hard surfaces within the RPA'.

### 3.4 *Construction of special surfaces*

Where special surfaces are to be constructed within the RPA then these surfaces must be completed prior to the areas being used for pedestrian or vehicle access.

Until special surfaces within the RPA are complete the RPA must be treated in the same way as an area which has been protected with tree protective fencing.

**This means that until the surface is fully installed, there must be no; pedestrians, vehicles, materials, equipment or machinery allowed within the RPA at any time, other than as required for construction of the special surface.**

The design and construction techniques of special surfaces within tree root protection areas must meet the biological and environmental requirements of tree roots; the expected level and type of traffic; and be practicable in terms of time and resources required for construction.



BS5837:2005 recommends that where the construction of a hard surface is required within the root protection area a “no dig” construction method is used which should be designed to evenly distribute the weight of vehicles over their track width and wheelbase in order to avoid localised soil compaction around tree roots.

Where possible, it is also preferable to construct special surfaces in such a way as to allow the infiltration of moisture and to allow gaseous exchange. This may not be applicable where roads are to be adopted by local authorities due to the frequent requirement that such roads are waterproof.

The various requirements for a hard surface within the RPA are often achieved using a load suspension layer incorporating a three dimensional cellular confinement system. Other systems are also occasionally used.

Any proposed surfaces within the RPA must be fully specified by a suitable engineer and be agreed in writing with the local planning authority prior to implementation.

Examples of several 'no dig' surfaces are given in **Appendix 4**.

### ***3.5 Service runs***

New underground services must not be installed within the tree root protection areas.

Above ground services should be positioned away from the crowns of trees to be retained.

Any works to existing underground services should be done in accordance with current NJUG (National Joint Utilities Group) guidance as shown in **Appendix 5**.

### ***3.6 Changes in ground level***

Ground levels should not generally be lowered within the tree root protection area as this could cause serious damage to tree roots.

Occasionally ground levels may need to be raised within the tree root protection area. This can be achieved by the use of a granular material with a no fines content to allow the vertical diffusion of moisture and gasses.

There must be no works within an RPA unless by prior written agreement of the local authority.

### ***3.7 Removal of protective fencing***

When the development phase is complete, all drainage and service runs are in place, and the main site machinery has been removed, the protective fencing may be dismantled. This must be done with care, there must be no; vehicles, materials, equipment or machinery allowed within the RPA at any time.

### ***3.8 Post Construction Landscaping***

Some trees on the site are likely to be subject to some form of landscaping or seeding beneath the canopy after the main development phase has been completed. At this stage, it is inevitable that some of the protective fencing will have already been removed.

In view of this, the landscaping works must be carried out in such a way as to avoid ground level changes or deep digging. Mechanised cultivation methods must be avoided within the RPA.

There must be no; vehicles, materials, equipment or machinery allowed within the RPA of retained trees at any time.

Any herbicides used must be appropriate for their purpose, and must not be used in such a way as will damage trees to be retained.



## **4 Completion meeting**

Upon completion of all the works specified, it is recommended that the developer's arboriculturist and the local authority's arboriculturist are invited to meet on site to check that all works are completed satisfactorily and to discuss any remedial works as required.



## **5 Contact Details**

**I hope this report provides all the required information. However, if further advice is needed then please contact me and I will be happy to help.**

### **James Royston – Independent Arboricultural Consultant**

*MSc Arboriculture and Urban Forestry, BSc (Hons) Forestry.*

*Professional Tree Inspection Qualified – LANTRA Awards.*

*Professional member of the Consulting Arborist Society*

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**Report completed 2<sup>nd</sup> May 2011**



# Appendix 1: Tree works

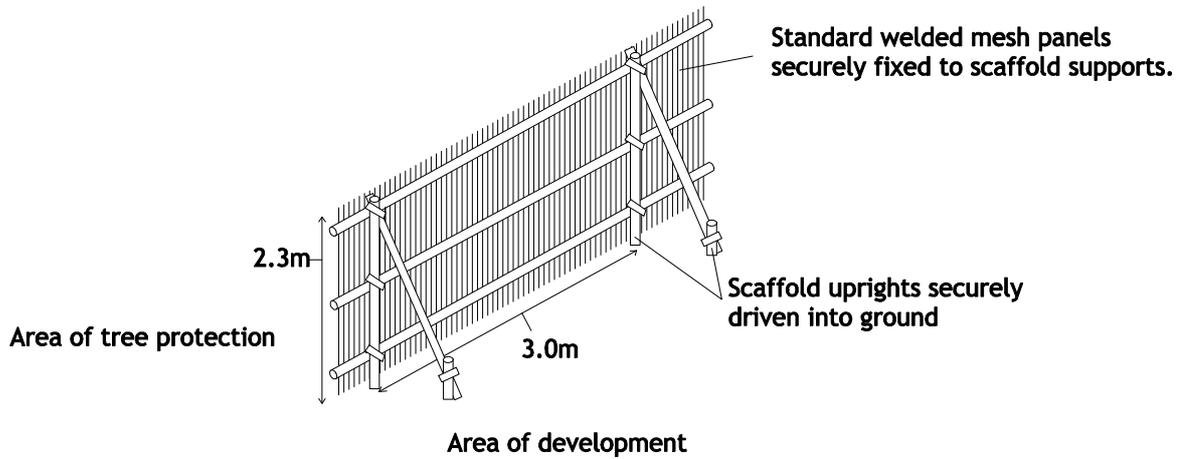


<b>Tree number</b>	<b>Common name</b>	<b>Scientific name</b>	<b>Pre-development tree works</b>	<b>Reason for works</b>
1	Mix	<i>Mix</i>	Fell 8 trees and shrubs as shown on the attached drawings. Crown lift trees as required to facilitate access for construction traffic and end users.	To permit development

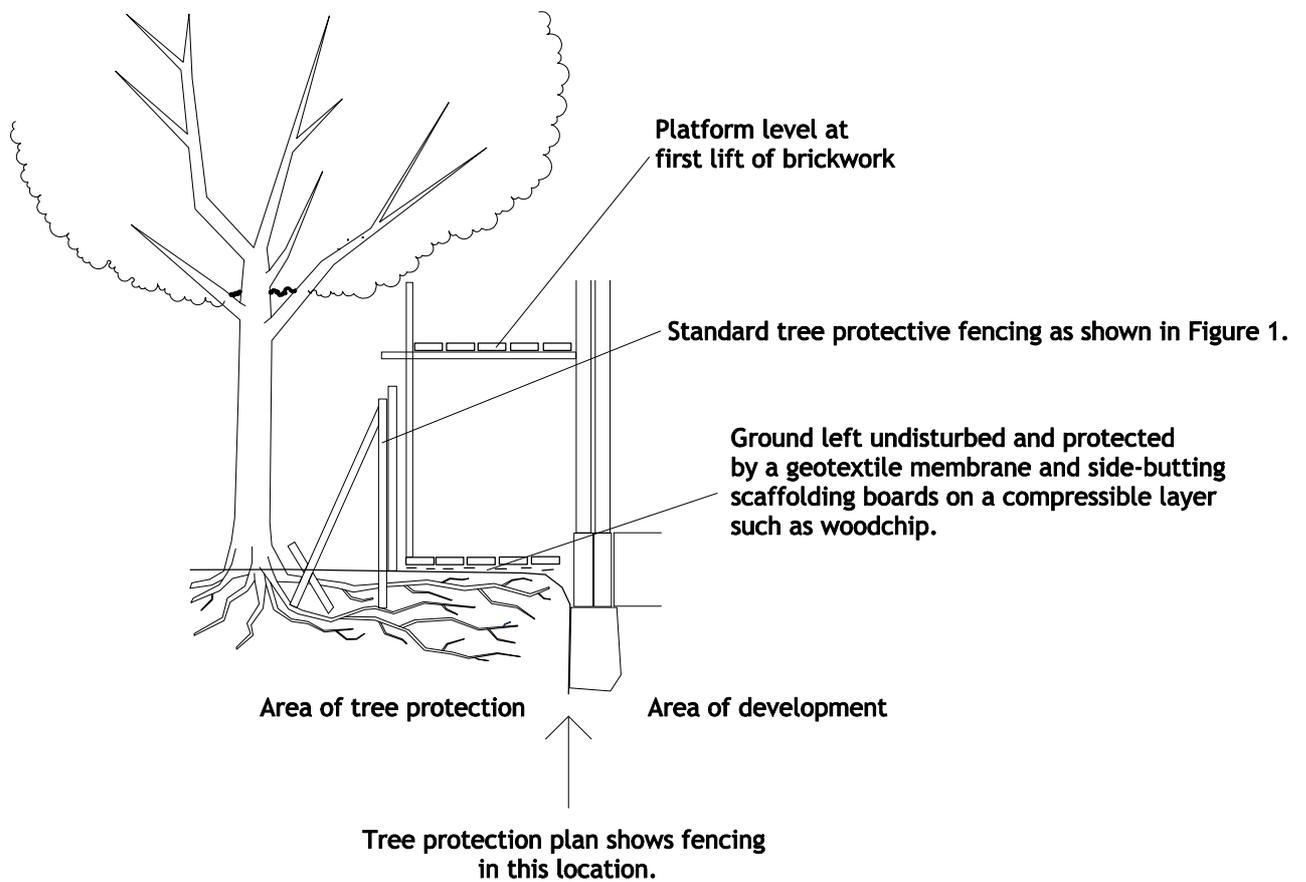
# Appendix 2: Tree protective fencing



**Figure 1: Standard tree protective fencing**



**Figure 2: Ground protection and scaffolding to allow access into RPA.**



**Appendix 3: Example sign to be attached to tree protective fencing**





# TREE PROTECTION AREA - KEEP OUT

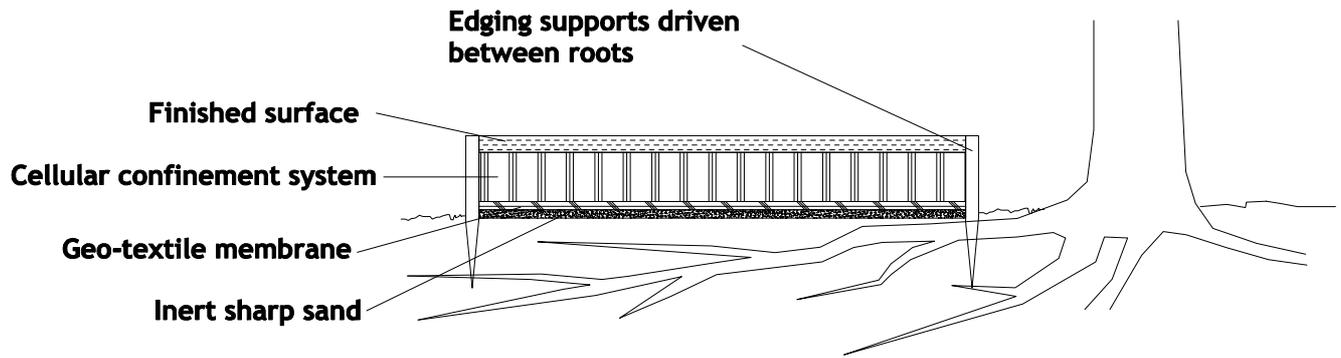
TREES ENCLOSED BY THIS FENCE ARE PROTECTED  
BY PLANNING CONDITION AND/OR A TREE PRESERVATION ORDER

NO INCURSION WITHOUT THE PRIOR WRITTEN PERMISSION OF THE  
LOCAL PLANNING AUTHORITY

# Appendix 4: Example special surfaces within the RPA

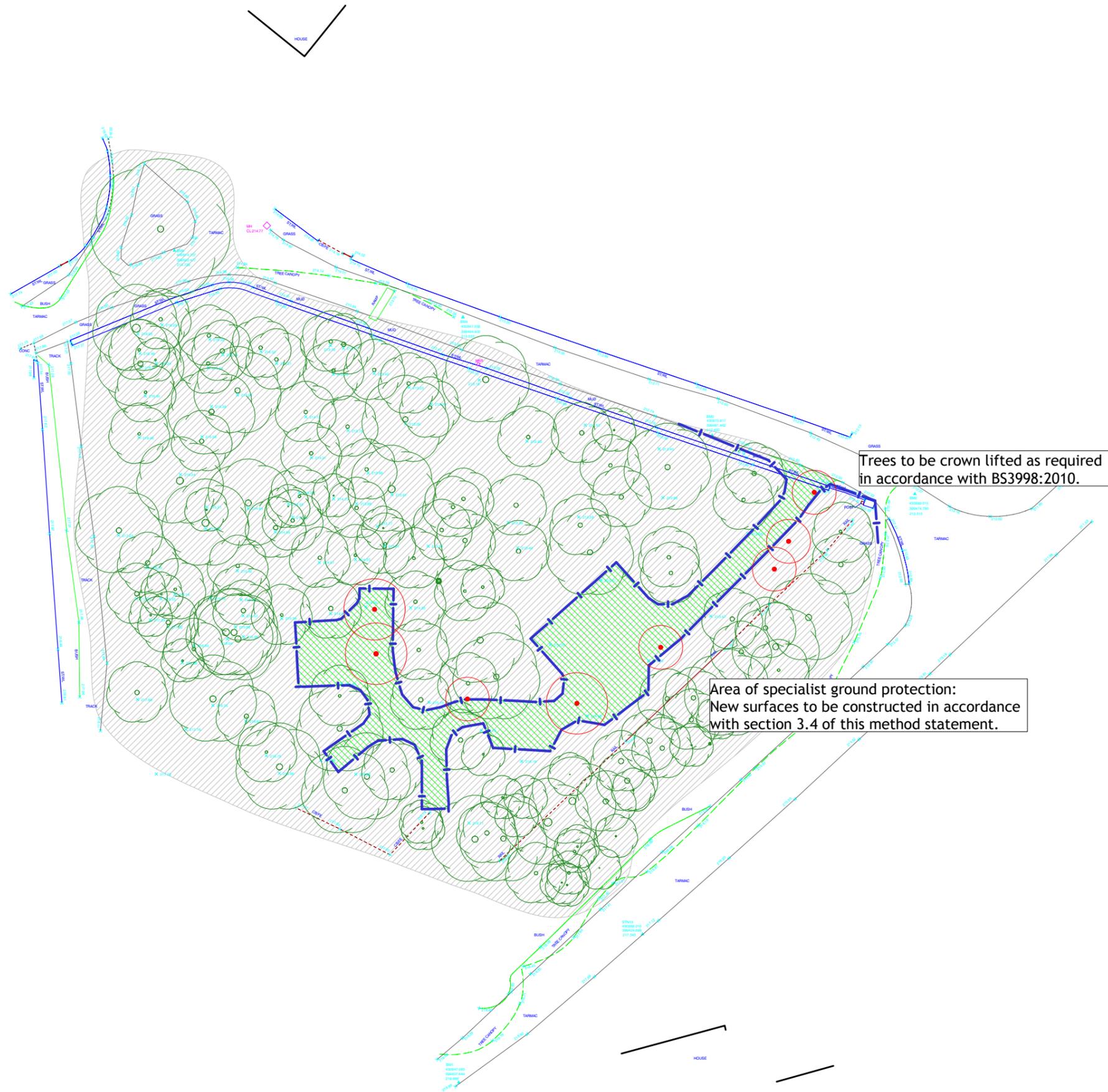


# An example of a 'no dig' construction method incorporating a cellular confinement system.



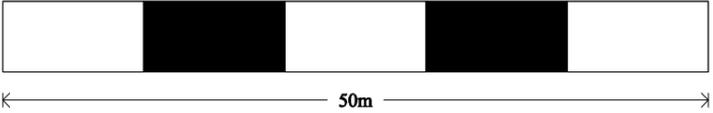
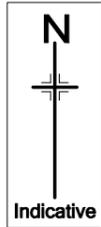
# Appendix 5: Tree protection plans





Trees to be crown lifted as required in accordance with BS3998:2010.

Area of specialist ground protection: New surfaces to be constructed in accordance with section 3.4 of this method statement.



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Arboricultural Method Statement to  
BS5837:2005 at: Woodland car park site,  
Wortley

1:500 PAPER SIZE A3

Key	
	Tree to be retained
	Tree to be removed
	Root Protection Area (RPA) shown as a circle as an approximate guide
	Location of tree protective fencing
	Area of root protection. See explanatory notes and main body of report for further details.

Note: Plans are for guidance only. These drawings should not be used for scaling.