



TREE SURVEY
and
ARBORICULTURAL IMPLICATIONS ASSESSMENT

In relation to:
Proposed Housing Development at
Finkle St / Hill Rise
Market Weighton

25 March 2024

Company of Gardeners General Notes

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Project: Finkle St / Hill Rise, Market Weighton

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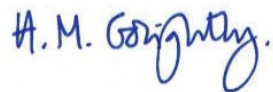
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Date 25 March 2024

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Signature

Date: 25 March 2024

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001	Forward to GBA for review / issue	25 March 24
002		
003		

Tree Report: Finkle St / Hill Rise, Market Weighton

1.0 Introduction

- 1.1 Company of Gardeners have been instructed to carry out a tree survey in accordance with BS5837: Trees in relation to design, demolition, and construction - Recommendations, to provide an appraisal of existing trees and their implications to assist in the evolution of design proposals for the development of land East of Finkle St, Market Weighton.
- 1.2 The report includes:
- A survey / assessment schedule of the quality of individual trees, including species, size, condition and anticipated life expectancy. (Appendix A).
 - A site plan (Tree Constraints Plan) indicating the location of existing trees on site, their size, and anticipated rooting areas, in relation to the proposed development (Appendix B).
 - The impact of the proposed development (Arboricultural Impact Assessment) upon the trees.
 - Recommendations to protect the trees during the proposed site works and ensure their retention on site. (Arboricultural Method Statement: Appendix C).
- 1.3 The survey was conducted 20 March 2024. Trees were inspected in fine weather, from ground level.
- 1.4 BS5837: 2012 Table 1, provides a cascade chart for tree quality assessment proposing four categories indicating trees by retention value and colour coded accordingly. These categories have been employed throughout this report and accompanying documents.

2.0 Limitations

- 2.1 The dynamic nature of trees as living organisms means that their health and condition can change and be affected by external conditions. Therefore, this report should only be considered as valid for a period not exceeding 6 months from the date of inspection. A risk assessment of the trees has not been undertaken.

Tree Report: Finkle St / Hill Rise, Market Weighton

3.0 Site Context

3.1 The project site is surrounded by the rear boundaries of properties on Finkle St, Hill Rise, Hill Rise Drive and Beverley Road, Market Weighton, YO43 3HB, extending to approximately 3,200sq m (0.32 hectares), consisting primarily of rough grassland. The lack of any regenerative scrub vegetation would suggest a degree of maintenance / mowing is carried out on the site.



Project Site Location

- 3.2 The site sits within a Conservation Area (Ca28), and all trees along the Southern boundary have TPO status, File Ref: 905/A1. A lone silver birch within the rear garden of 6 Hill Rise also has a TPO designation, File Ref: 1055/T1
- 3.3 Collectively the trees and accompanying hedges play an important role to the visual amenity of the immediate area, providing valuable screening and buffering between the various land parcels. All tree surveyed exist outside the project site boundaries.
- 3.4 Fifteen trees have been individually surveyed; the remainder being assessed within their respective groups. Numbers of trees in each category are given below:

Category A High Quality	Category B Moderate Quality	Category C Low Quality	Category U Unviable
6	4	6	1

Quality of Individual Trees Surveyed



Tree Report: Finkle St / Hill Rise, Market Weighton

4.0 Arboricultural Impact Assessment (AIA)

- 4.1 The purpose of this report, by surveying existing trees is to establish their condition and physical extent [subterranean root zones and aerial crowns]. And if necessary, propose a sequence of operations which will minimise any potential damage to them, while allowing building works to proceed.
- 4.2 Trees awarded A or B grades are generally considered as features to be retained in any development proposal. Trees graded C are considered as features to be retained only where they do not significantly constrain the development proposal.
- 4.3 Development processes that lead to soil compaction in tree rooting zones and physical damage to trees can adversely affect long-term tree health. This can lead to unnecessary tree loss if not controlled properly on site during the development phases.
- 4.4 Root Protection Areas (RPA's) indicate the area around a tree [12 x the trees girth], with existing constraints taken into account, that should not be disturbed in order to ensure the trees health and longevity. Minimal encroachments into the RPA can be accommodated and specialist construction techniques employed in such circumstances to minimise root disturbance and disruption.
- 4.5 No access to the RPAs of any retained tree will be permitted before or during construction activity to avoid the risk of machinery causing damage to trunks and low branches.
- 4.6 The installation of services within the rooting zones of trees can have a large detrimental impact on the long-term survival of retained trees leading to their unnecessary loss or root failure in high winds. Services are to be installed with due regard to identified RPA's.
- 4.7 Detailed design proposals for the project are yet to be developed. However, it is evident from analysis of the Tree Constraints Plan (Appendix B) that a potential development plot exists beyond the projected Root Protection Areas of trees surrounding the site.
- 4.8 Site access will be from Finkle Street to the East of the site, where a right of access exists to the electrical sub-station. Travelling into site, this route will traverse over the RPA of several trees, including T1, which has been afforded TPO status. Any proposed root protection measures will have to accommodate day to day domestic traffic once the site is operational. And more significantly, heavier construction traffic required during the site's development.
- 4.9 The Arboricultural Method Statement (AMS) describes how the works should proceed to minimise damage to the roots of retained trees both during the works and once the site becomes operational. Protection measures should also be employed to ensure the trees are not damaged, or soils unnecessarily compacted during on site operations (Appendix C).



Tree Report: Finkle St / Hill Rise, Market Weighton

- 4.10 As a general guide protective fencing should be positioned at a minimum distance equal to at least twelve times the trunk diameter measured at 1.5m from ground level. Based on the above calculations, fencing in accordance with BS 5837:2012, or similar agreed with the Local Planning Authority, should be erected around trees to be retained.
- 4.11 Construction traffic and plant could have a negative effect on trees above and below ground. A considered layout controlling the access / movement of traffic and plant will prevent this from happening.
- 4.12 No trees surveyed are proposed for removal.



Protected Birch T1 to rear / Hazel, Hawthorn
G5 to foreground



Sycamores T12, 13 & 14 to Southern
boundary / Ingle Court

Tree Report: Finkle St / Hill Rise, Market Weighton

5.0 Recommendations

- 5.1 Trees proposed for retention should be protected throughout the construction phase of the development to ensure they are not affected by the works.
- 5.2 A site access road constructed from a cell confinement system should be installed at the outset of the project. Its installation should be directed by a project-specific arboricultural method statement. The arboricultural method statement should list any aspect of the proposed construction project that has the potential to adversely impact adjacent trees and detail appropriate methodologies for how the works will be undertaken in ways that would minimise those impacts.
- 5.3 The long-term contribution of the site to the wider amenity of the area should be given consideration as part of any recommendations. It is evident that much of the surrounding tree stock is even aged, and the introduction of younger stock would be beneficial in extending the age profile of tree stock, to improve both longevity and amenity.
- 5.4 Replacement planting should include a high proportion of native / naturalised species that will positively contribute to the overall ecological diversity of the area in addition to securing the long-term continuation of tree cover and amenity value of the site.
- 5.5 The processes of construction are highly unlikely to have a detrimental effect upon the health of retained trees assuming recommendations made in this report are adhered to by the contractors. The positioning of protective fencing between the retained trees and construction activities is to be placed prior to commencement of works and remain intact and in position throughout the duration of the construction programme.

Tree Report: Finkle St / Hill Rise, Market Weighton

6.0 Arboricultural Method Statement: programme of works.

- 6.1 To successfully protect the retained trees on site a sequence of works should be adhered to as outlined below.

	Operation
A	Install protective surfaces / cell confinement systems as required
B	Establish RPZ's: erect protective fencing
C	Undertake development works: building
D	Undertake development works: soft landscape, earthworks, grading and soiling
E	Dismantle and remove protective surfaces and fencing
F	Complete soft landscape works: manual works; planting, turfing etc

6.2 Overview and Sequencing of Operations

- A** Cellular confinement systems provide ground protection in areas where tree root damage would be caused by excavating to lay sub-bases for hard surfacing and where the long-term viability of trees could be harmed if soil that they may depend upon is at risk of becoming compacted.
See: THE USE OF CELLULAR CONFINEMENT SYSTEMS NEAR TREES: A GUIDE TO GOOD PRACTICE
Arboricultural Association
- B** Establish Root Protection Areas / Erect Protective Fencing
Protective fencing should be constructed prior to any materials, plant or equipment being brought to site. The fencing is erected to define the Construction Exclusion Zone (CEZ) and ensure no unnecessary disruption occurs with the Root Protection Areas or aerial parts of those trees to be retained on site. It should be noted that the CEZ is not to be used for the storage of materials, burning of rubbish or parking.
- D+E** Development Works: building and civils
No works will be undertaken, or machines allowed to access any CEZ that may result in damage to soils or tree roots. Protective fencing should remain in place and intact throughout the duration of the building and civils works unless such operations have been detailed within an accompanying Method Statement.
- F** Removal of Tree Protection Measures
Following completion of all building, civils and soiling / earthworks, the protective fencing and any accompanying protective surfacing measures may be removed from site and soft works proposals implemented.
- G** In implementing the soft landscape works, great care should be taken within the RPA's of trees to avoid damage to root systems. Therefore hand tools, rather than machines should be employed in such instances.

Appendix A
Tree Survey

Tree Survey – Land East of Finkle Street, Market Weighton | March 2024

Ref	Species	Tree height (m)	Stem Dia (mm)	Crown Spread N – S E - W	Life Stage	Condition	Comments / Preliminary Recommendations	Life Expectancy	BS Category	BS RPA Radius (m)
		Crown height (m)								
T1	Birch#	10	450	5	M	G	TPO designated tree beyond site boundary. Good shape and form, though some conflict developing with adjacent T2. Crown / RPA projecting into site.	20+	A	5.5
		3								
T2	Conifer#	6	300	4	S/M	F	Growing below and compromised by crown of adjacent Birch T1. Beyond site boundary: crown / RPA projecting into site.	20+	C	4
		2								
T3	Sycamore#	7	300	3	S/M	F	Probable self-seeded specimen growing through boundary hedge.	20+	C	4
		3								
T4	Holly#	8	300	4	M	G	Unmanaged specimen within overgrown, mixed hedge. Good shape and noteworthy feature. Crown / RPA projecting into site.	40+	A	4
		1								
G5	Mixed Hedge	8	250	3	M	P	Untidy / overgrown mixed spp boundary hedge: mainly hazel and hawthorn. Forming boundary to adjacent garden. Crown / RPA projecting into site.	20+	C	3
		1								
T6	Apple#	6	200	2	M	P	Moribund fruit tree within adjacent private garden.	-10	U	2.5
		2								
T7	Apple#	8	350	4	M	F	Wide, spreading / untidy crown and continued strong growth. Fruit tree within adjacent private garden. Crown / RPA projecting into site.	+10	C	4.5
		2								
T8	Holly#	9	250	4	M	G	Strong growing, though compromised by surrounding planting. TPO designation. Crown / RPA projecting into site.	20+	B	3
		1								
T9	Sycamore	14	350	5.5	M	G	Strong growing, though compromised by surrounding planting. TPO designation. Crown / RPA projecting into site.	20+	B	4.5
		3								

Tree Survey – Land East of Finkle Street, Market Weighton | March 2024

G10	Hawthorn Group	8	200 - 300	3	O/M	P	Untidy / top heavy clump. Possible remnant hedge. TPO designation. Crown / RPA projecting into site.	20+	C	4
		2								
T11	Oak	16	450	6.5	M	G	Part compromised by adjacent planting but growing strongly. TPO designation. Crown / RPA projecting into site.	20+	B	5.5
		4								
T12	Sycamore	15	600	8	M	G	Three well shaped and prominent trees with wide, open crowns. TPO designation. Crown / RPA projecting into site.	20+	A	7.5
		5								
T13	Sycamore	16	650	7	M	G		20+	A	8
		5								
T14	Sycamore	15	2 x 500 m/s	8	M	G		20+	A	10
		4								
T15	Alder	12	250	2.5	E/M	F	Reasonable tree, slightly younger than most along the boundary. TPO designation. Crown / RPA projecting into site.	20+	B	3
		3								
T16	Beech	8	300	3	S/M	P	Untidy shape, with badly damaged crown and deadwood. TPO designation. Crown / RPA projecting into site.	10+	C	4
		3								
T17	Sycamore	16	650	8	M	G	Well shaped and prominent trees with wide, open crowns. TPO designation. Crown / RPA projecting into site.	20+	A	8
		4								

Tree Survey – Land East of Finkle Street, Market Weighton | March 2024

Key to Tree Survey Schedule

Tree No

Tree numbers applied as T1, etc to each tree are per the Tree Survey Plan and accompanying drawings. In line with the advice of BS5837, where trees occur as a cohesive group, these are suffixed with a 'G', and are assessed as such with all size data being given as mean figures unless otherwise stated. Any trees on site and off site that are appropriate to be included but are omitted from the topographical survey supplied are included in the schedule, though their positions are only shown indicatively.

Height

Tree height measured in metres.

Stem Diameter

Stem diameter in millimetres at 1.5m above ground level. Where the stem is divided before 1.5m, measurements are taken immediately above the root flare, indicated by the notation 'RF'.

Branch Spread

Radial crown spread in metres, measured for each of the four cardinal points [N, S, E & W] of the compass from the centre of the trunk.

Height of Crown

Height above ground in metres to the lowest branch.

Age Class

Y	Young	Recently planted or establishing tree that could be transplanted with specialist equipment, i.e. less than 150 dia at 1.5m
S/M	Semi-mature	An established tree, but with some growth to make before reaching its potential maximum size. A tree within its 1 st third of lifespan.
E/M	Early-mature	A tree that is reaching its ultimate potential height, but if healthy will still increase in stem diameter and crown spread. 2 nd third of lifespan.
M	Mature	A mature specimen with limited potential for any significant increase in size. A tree within its final third of lifespan.
O/M	Over-Mature	A senescent, or moribund specimen of low vigour, within its final third of lifespan. Possibly also containing defects with implications.
V	Veteran	Specimens exhibiting features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species.
D		The tree is dead.

Deadwood

Twigs Small branch material up to 10mm in diameter.

Minor Deadwood Dead wood 10mm – 50mm in diameter.

Major Deadwood Dead wood 50mm in diameter and above.

Tree Survey – Land East of Finkle Street, Market Weighton | March 2024

Condition

G	Good	Generally in good health typical of the species needing little, if any, attention. Few minor defects of little overall significance such as physical damage or suppressed branches. Showing no adverse risk or failure / defects.
F	Fair	Minor, but rectifiable defects or in the early stages of stress, from which it may recover. Showing minor signs of deterioration. This could include a major defect in an early life stage, or multiple minor defects. A tree that may require work to remove or improve a defect.
P	Poor	A tree, or trees with major structural and physiological defects or stressed such that it would be a risk to retain in its current or future known situation. Unlikely to return to a good condition given time or remedial work.
D	Dead	A tree or trees no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or are becoming or have become dangerous.

Comments / Preliminary Recommendations

These may include further investigations for the presence of decay or climbed inspections, ivy removal or pruning works. (This is not intended to be a specification for tree work and further advice may be required prior to implementation).

Trees assessed as being in apparently immediately hazardous condition will be notified to the client separately as soon as practicable.

Estimated Remaining Contribution

An estimate of the safe remaining life contribution in years that the tree or group of trees is expected to have based on species / site condition in its current context. The following bands are used:

- 10	Estimated life remaining contribution less than 10 years.
10+	Estimated life remaining contribution of at least 10 years.
20+	Estimated life remaining contribution of at least 20 years.
40+	Estimated life remaining contribution of at least 40 years.

Quality and Value grade classification according to BS5837

Category U	Trees in such a condition that they cannot be retained as living trees in the context of the current land use for longer than 10 years.
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
Category C	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees below 150mm dia.

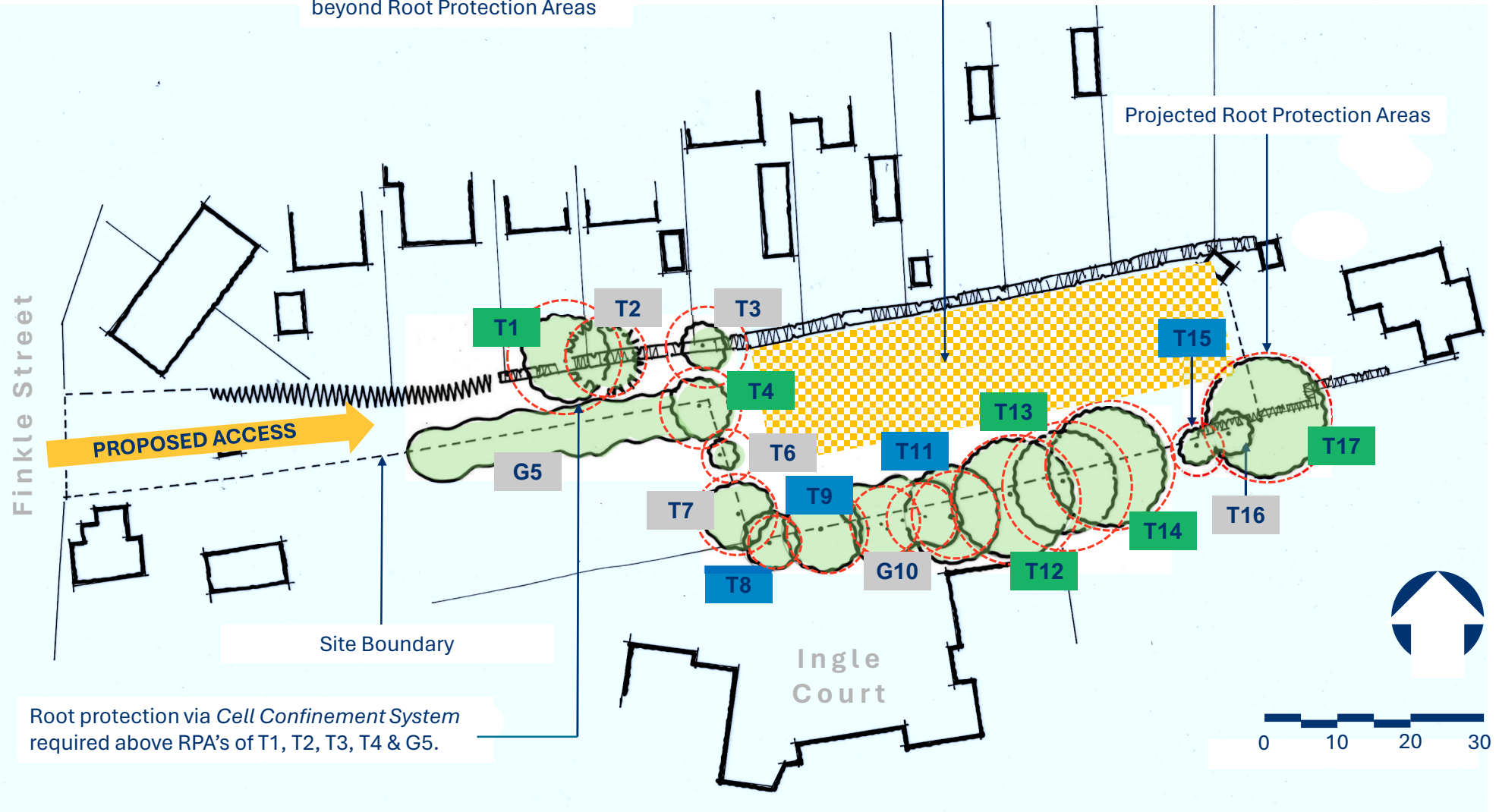
RED
GREEN
BLUE
GREY

Suffix 1	Tree valued mainly because of its arboricultural qualities
Suffix 2	Tree valued mainly because of its landscape qualities
Suffix 3	Tree valued mainly because of its cultural values, including conservation

Whole / part of tree inaccessible to survey, therefore estimates are given.

Appendix B
Tree Constraints Plan

Potential development plot,
beyond Root Protection Areas



Root protection via *Cell Confinement System*
required above RPA's of T1, T2, T3, T4 & G5.

Land East of Finkle Street, Market Weighton Tree Constraints Plan

Dwg No: 332 / 010

1:500 / A3

21 March 2024



COMPANY OF
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Appendix C

Arboricultural Method Statements

- Temporary Ground Protection
- No Dig Surface Construction
 - Protective Fencing

**Land East of Finkle Street
Proposed Method Statement for installation of Ground Protection Systems
Appendix C.**

Introduction

Where it is not possible to install protective fencing around the RPA, or to enable construction works / access to proceed within the Root Zones of the retained trees, it is necessary to adopt special ground protection measures to ensure that such works do not prove detrimental to the roots resulting in damage / decline to the trees.

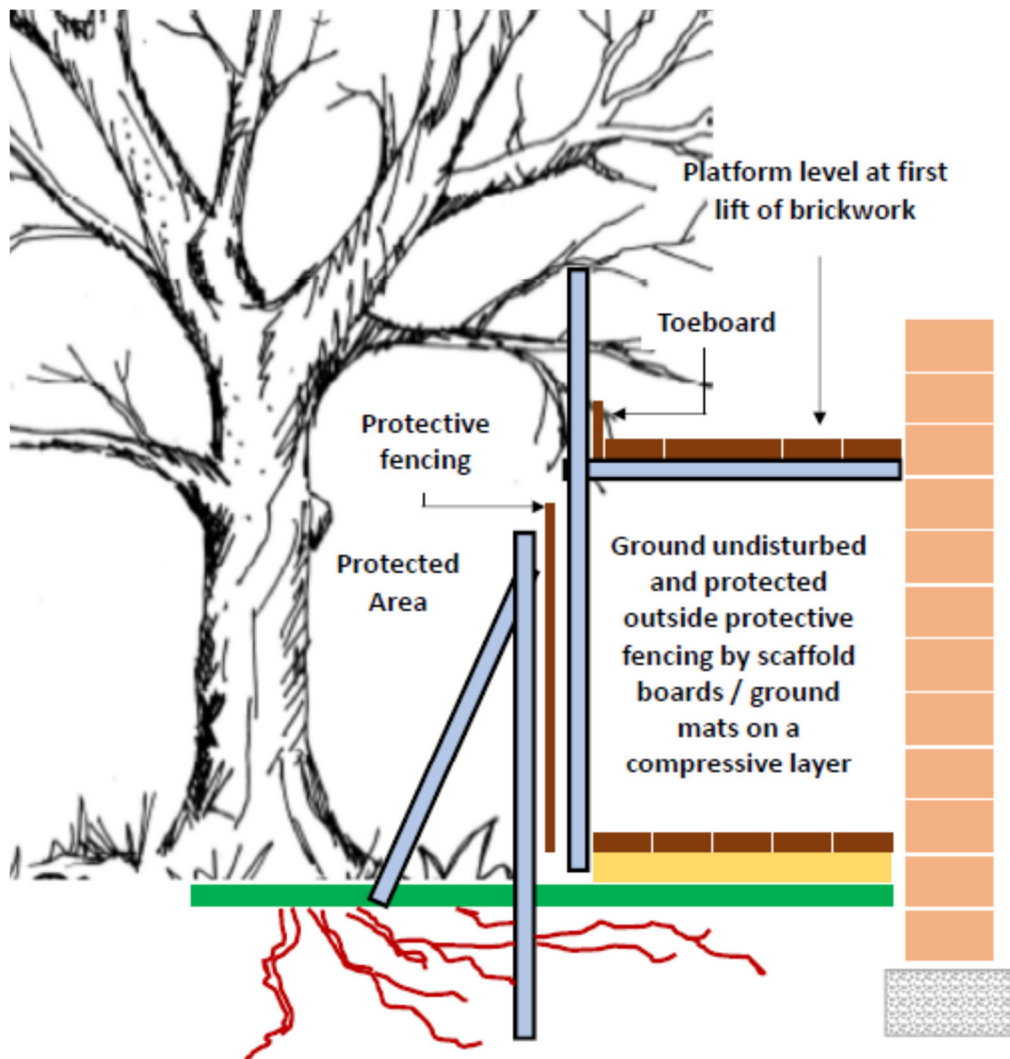
The root protection measures to be undertaken will:

- Maintain the structure and integrity of the underlying soil, by avoiding compaction which would damage soil pores and limit the trees future root growth and development.
- Ensure that no contaminants arising from the adjacent building works can enter the soil.
- Protect the soil profile and underlying tree roots from physical damage arising from the adjacent building works.

Method

- I. Any obstructing ground cover vegetation should be cut back down to ground level to enable a level platform to be established above ground level. All vegetative arisings should be removed from site.
- II. Root protection works should be carried out in advance of any other works within the protected trees Root Zone.
- III. No plant or machinery should be allowed to operate over the root protection zones until the ground protection measures are in place.
- IV. The root protection zone should stay in place for the duration of the works and only be removed following approval from the LPA.
- V. If heavy plant and machinery will be accessing the area, heavy-duty ground guards (e.g. *Track Mat*) as illustrated below, should be laid over a protective, 100mm compressible layer of sharp sand above a geotextile membrane: Terram 1000g, or similar approved.
- VI. Light weight, pedestrian traffic can be accommodated with scaffolding boards over sand / geotextile as noted above.





Typical Root Protection Using Scaffold Boards

**Land East of Finkle Street
Proposed Method Statement for No-dig Surfacing Construction within a Root
Protection Area (RPA)
Appendix C.**

Introduction

Cellular confinement systems can be used for ground protection in areas where tree root damage would be caused by digging into the ground to lay a conventional sub-base for new hard surfacing and where the long-term viability of trees could be harmed if soil that they may depend upon is at risk of becoming compacted.

BS5837 (2012), recommends that cellular confinement systems (CCS) be employed in the creation of 'no-dig' hard surfaces, where such proposed surfaces would transgress and therefore damage the Root Protection Areas (RPA's) of retained trees on site. The new surface will in effect be built above existing ground and will be permeable to water and air flow.

The adoption of a no-dig method of construction in the vicinity of the trees will:

1. ensure that physical damage to tree roots by excavation will be avoided
2. avoid long term stress to tree roots resulting from soil compaction caused by vehicular movements
3. ensure that water and minerals continue to be available to the roots
4. ensure that gas exchanges can continue around the roots

The extent of the RPA's is based upon calculations as advised by BS5837 (stem dia x 12) and are indicated on the Tree Constraints Plan. Such areas have been increased where the CCS is to be employed to provide a safety buffer and protection for future root growth for the trees concerned.



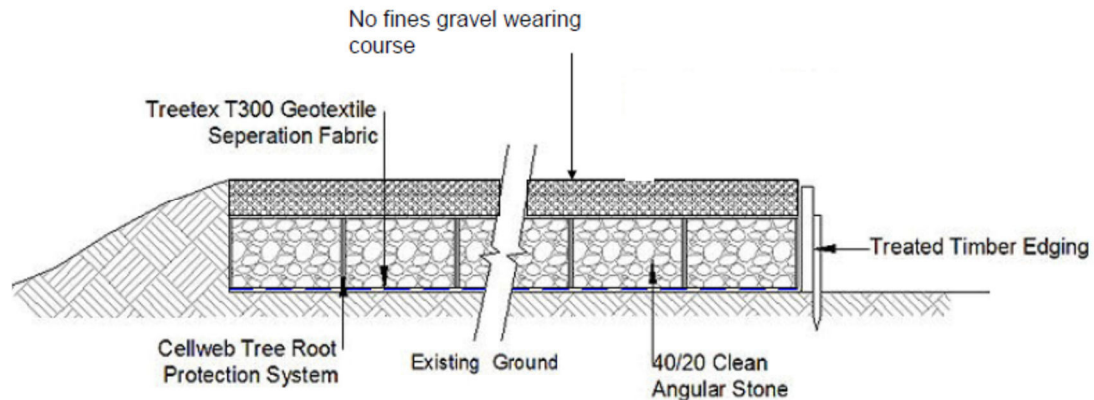
Example of Cellweb by Geosynthetics Ltd

This method statement has been prepared to ensure the longevity and health of retained trees on site. The CCS described here should in conjunction with the proposed Protective Fencing be installed on site in advance of any other operations.

Products used should conform to ISO 13426-1:2003 Geotextiles and geotextile-related products – strength of internal structural junctions – Part 1: Geocells.

Method

1. Remove existing surface vegetation with the use of hand tools and equipment only. Vegetation can be pre-treated with a contact herbicide e.g. *glyphosate* in advance of clearance works. Any ground irregularities can be made up with an application of clean, sharp sand.
2. Lay a semi-permeable geo-textile separation membrane e.g. *Treetex T300 / Fibretex F4M* within the full extent of the construction zone to prevent contamination of the subsoil.
3. Install 200mm deep tanalised edging boards fixed and secured using 16mm dia metal pegs driven into the ground at 900mm intervals.
4. Install a 150mm deep 'geo-grid' cellular root protection system e.g. *Bodcell, CellWeb* or similar within the board edges, this should then be filled with clean angular stone 20 – 40mm no fines.
5. Infill should be lightly compacted and installed progressively so that machinery only moves on the sub-base. It must not be capped with impermeable materials. Employment of a geo-grid system will ensure that downward forces of access vehicles are spread laterally reducing loads in the underlying soils.
6. A permeable wearing course of decorative gravel can be used to dress the area. This should remain permeable and not contain any fines.
7. Kerbs and concrete haunching should not be employed for this method of construction and no excavations / service trenches are allowed are to take place within the footprint of the construction zone described above.



Typical Cross Section Showing No-Dig Method of Construction

**Land East of Finkle Street
Proposed Method Statement for Plant Protection during construction works.
Appendix C.**

Introduction

The Arboricultural Method Statement outlines the scope of works required to protect aerial and subterranean parts of trees during site construction works. Tree protection measures should be conducted and completed in advance of any construction works and remain in place until all development works are complete and all plant / machinery etc has been removed from site.

The general aim is to create a protective zone [Construction Exclusion Zone CEZ], around the tree allowing the trees defined Root Protection Area [RPA], to remain undisturbed throughout the site development programme. As a rule of thumb, the RPA radius, radiating from the centre of the protected tree extends to 12 x, the trees diameter measured at a height of 1.5m above ground level. For example, a tree with a diameter of 400mm will require a RPA of at least 4.8m [72.38 sq metres].

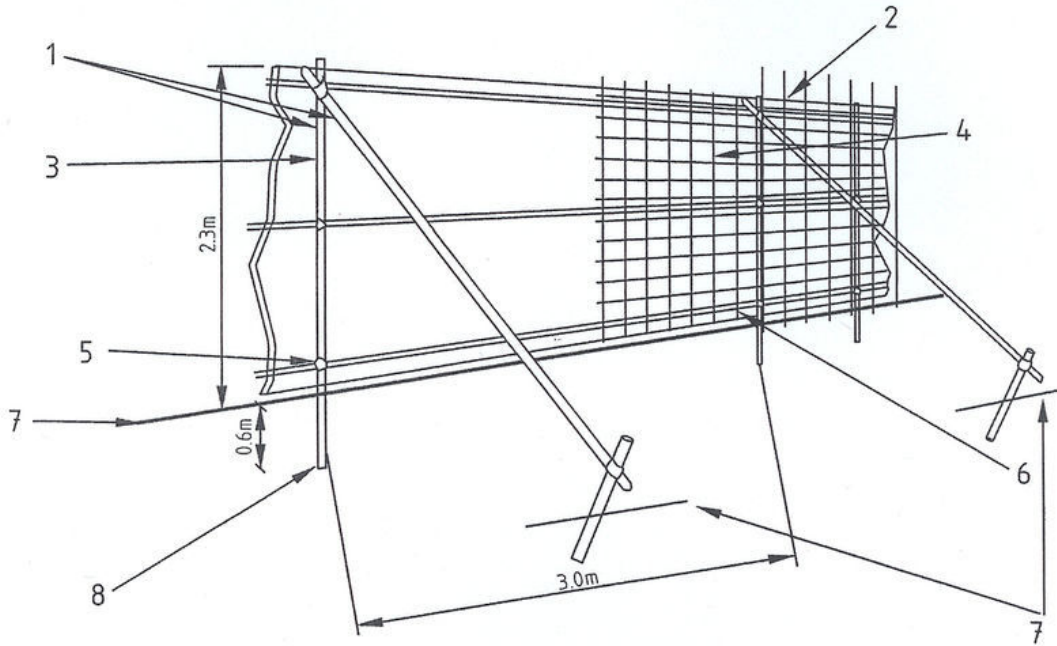
Method

1. Determine and confirm trees requiring protection: reference to arboricultural surveys & reports, landscape layout drawings, planting plans etc may be available to assist in this process.
2. Erect fencing as per accompanying detail, or similar approved e.g. Heras type fencing fixed to posts driven into the ground, or into propriety rubber block plates where surface mounting. Secure panels with a minimum of two clips as shown below and include for support struts mounted within block plates at each junction.



Typical surface mounted protective fencing detail.

3. Ensure weatherproof signage is fixed at minimum 10m centres, in accord with accompanying illustration, shown below.



- | | |
|--|--|
| 1 Standard scaffold poles | 5 Standard clamps |
| 2 Uprights to be driven into the ground | 6 Wire twisted and secured on inside face of fencing to avoid easy dismantling |
| 3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps | 7 Ground level |
| 4 Weldmesh wired to the uprights and horizontals | 8 Approx. 0.6m driven into the ground |

Typical fencing detail using scaffold poles and weldmesh panels.



Weather proof signage at a maximum of 10m centres.

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