



Hebburn Extra Care
Hebburn
ARBORICULTURAL IMPACT ASSESSMENT
July 2025 (v1.8)

Biodiverse Consulting

Beech,
Dissington Hall,
Dalton,
Newcastle Upon Tyne,
NE18 0AD

Telephone: 0191 303 7805

Email: enquiries@biodiverseconsulting.co.uk



Arboricultural Impact Assessment

Scope

Biodiverse Consulting have been instructed to carry out a survey at a site in Hebburn, adjacent to Rose street, and produce a report on the arboricultural impacts in accordance with British Standard BS:5837 Trees in relation to design, demolition and construction – Recommendations.

This is to provide information to accompany a planning application. Findings from field and desktop surveys are described and the effects that granting planning permission would entail for arboriculture within influencing distance of the development.

Survey

The survey was undertaken on 5th January 2023, all observations were made from ground level by a qualified arboriculturalist. The survey methodology is provided in the appendices of this report (B – Survey Method).

A topographical survey was provided by Spatial Geomatics which was used to record the position of trees and vegetation (drawing reference: 2469200), where trees were not shown their locations were estimated using aerial photography and on site observations.

Specimens on third party land or outside of the application boundary were surveyed insofar as was practicable, some trees were present in inaccessible locations. Whilst reasonable effort has been made to ensure accuracy of the data of these areas, it cannot be guaranteed.

Limitation

Trees are dynamic organisms and therefore due to change, all observations are relevant on the day of inspection.

The information provided within this report relates to the specific development proposals provided and should not be used or interoperated for any other circumstances. This includes but not limited to alternative developments, tree risk management, tree related subsidence or the design of foundations.

This report is valid for a period of 1 year, any alteration in site, any change in the development or of the current circumstances may invalidate this report.

Protections and Designations

Tree Preservation Orders	No	Confirmed with local planning authority on 01.02.2023
Conservation Areas	No	Confirmed with local planning authority on 01.02.2023
Third Party Trees	Yes	Third party trees are within influencing distance of the site
Ancient Woodlands	No	Confirmed with Natural England / DEFRA online mapping on 24.01.2023
Veteran Trees	No	No records with the Woodland Trust online mapping or evidence on site
SSSI Sites	No	Confirmed with Natural England / DEFRA online mapping on 24.01.2023
Community Forests	No	Confirmed with Natural England / DEFRA online mapping on 24.01.2023
Deciduous Woodlands	No	Confirmed with Natural England / DEFRA online mapping on 24.01.2023
Traditional Orchards	No	Confirmed with Natural England / DEFRA online mapping on 24.01.2023
Woodland Pasture and Parklands	No	Confirmed with Natural England / DEFRA online mapping on 24.01.2023
Hedgerows	No	A hedgerows on site is over 20m in length and 80% native trees (H1), although the feature is too young to note as a habitat of principle importance
Other	-	Please see the local planning authorities 'SPD3: Green Infrastructure Strategy'; 'Recognise the value of Street Trees and Woodlands in line with the councils Tree & Woodland Policy'; UA44 'Ensure long term viability of street trees through a programme of replacement and re-establishment'

Arboricultural Impact Assessment

Constraints

This drawing presents an overview of the trees within influencing distance of the proposed development.

Site

The site is adjacent to Rose street, Hebburn. The land is currently open space with a recently demolished building. The area of focus is approximately 15000m2 in size. The area is centred on grid reference NZ 30673 64334.

Survey results

12 individual trees (T1 – T12); 9 tree groups (G1 – G9); and 1 hedgerow (H1) were recorded within influencing distance of the site.

The British standard, BS5837:2012 Trees in relation to design, demolition and construction – recommendations, assigns categories to features depending on their qualities, hedgerows are not categorised.

Categories

A - Trees of high quality, typically with a long remaining life expectancy; and with clear and identified merit as specimens, visually, culturally or for conservation.

B - Trees of moderate quality, typically with at least a medium remaining life expectancy; with remediable defects only; or low quality but with collective merit.

C - Trees of low quality, typically with at least a short remaining life expectancy; unremarkable trees; young or small trees that could be replaced.

U - Trees that cannot realistically be retained in the current land use for 10 years; with serious and irreparable defects, pathogens or decline.

All arboricultural information recorded during the site survey is present in the appendices (A – Data Tables). Feature locations, root protection areas, BS:5837 categories and crown spreads are shown in the drawings opposite.

Trees on site are primarily category C individually due to age, size or condition. Some features such as group G5 and G6 are noted as category B, primarily due to their collective quality.

Tree T1 is noted adjacent to the site and is a mature specimen, although historic branch and limb failures have been noted, it still provides good amenity and is a prominent feature in the landscape.

Unfortunately, due to the recent demolition, extensive root damage and soil compaction has been noted amongst features G7 as well as T2. The retention of these features is questionable due to the extents of the impacts, further investigation is advised.

A single category U specimen was noted, a standing dead whitebeam T9, which is unretainable in its current location adjacent to a road.

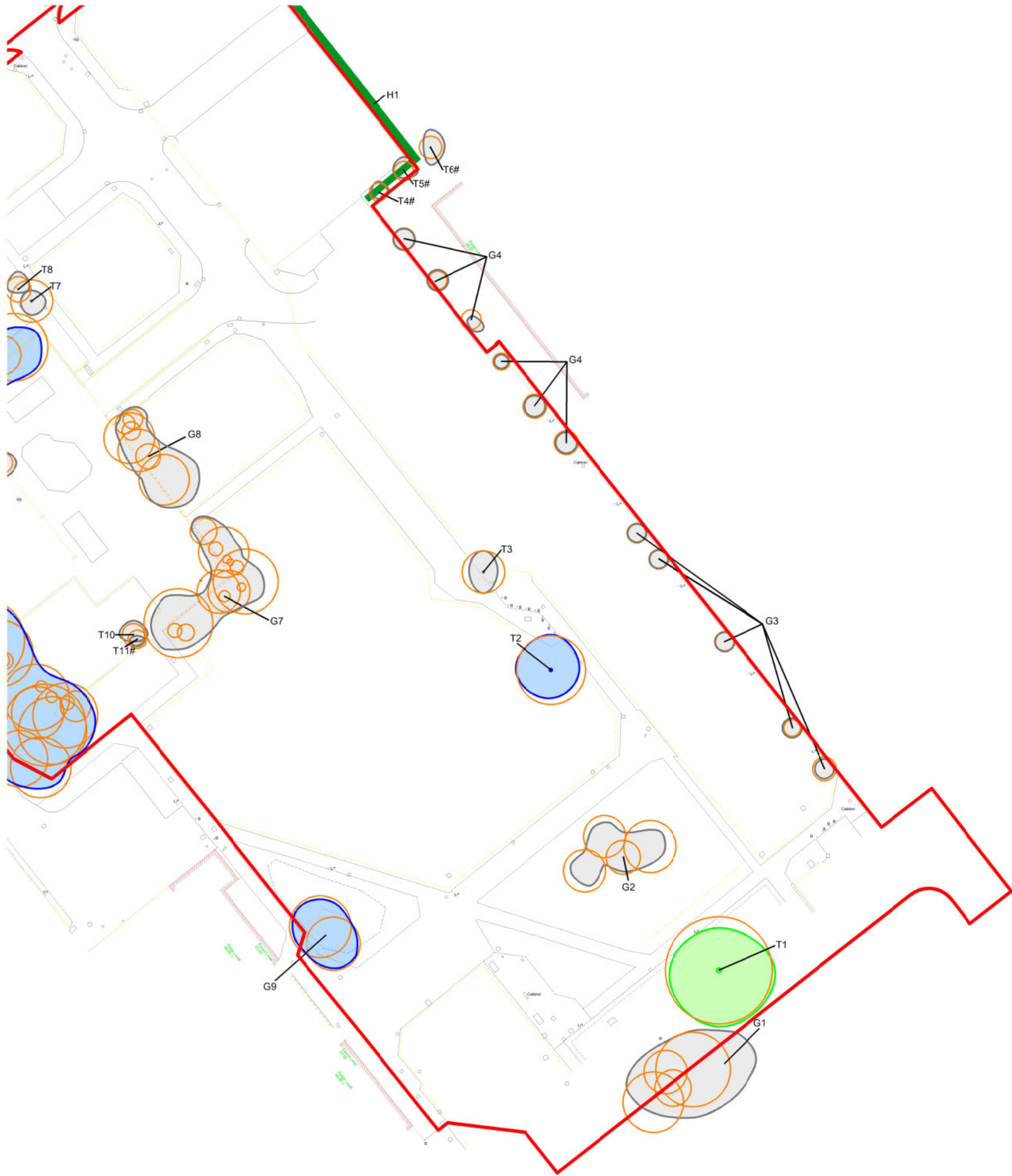
Root Protection Areas (RPA)

A root protection area is the minimum area around each tree, group or woodland that must be retained and undisturbed to ensure survival.

The RPA's have been calculated in accordance with BS5837 using the diameter of each feature at a height of 1.5m, referred to as diameter at breast height (DBH).

Conditions on site that may have influenced root morphology are retaining walls & hard standing. These have been taken into consideration and RPAs have been adjusted to try represent the rooting area more accurately.

No assessment of protected species has been carried out during the production of this report. Features that may be of interest that were observed during the tree survey are recorded in Appendix A - Data Tables. If an assessment of protected species is required, it should be carried out by a licenced ecologist.



KEY

T1/G1/W1

Trees

Root Protection Area (RPA)

Site Boundary

Approximate location

(Feature not noted on topographical survey)

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

Category A

(High quality)

Category B

(Moderate quality)

Category C

(Low quality)

Category U

(Unsuitable for retention)

Hedgerow

(Not categorised)

Please see the Arboricultural Survey Data in the Appendix (A - Data Tables)

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Site		
Hebburn Extra Care		
Title		
Drawing 1: Tree Constraints Plan		
Drawing No.		
230105.001.A		
Scale	Date	
1:750 @ A3	24/08/2023	
Drawn	Checked	Approved
PCL	CH	VM



KEY

- T1/G1/W1 Trees
- Root Protection Area (RPA)
- Site Boundary
- # Approximate location
(Feature not noted on topographical survey)

Tree Quality Categorisation
(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A
(High quality)
- Category B
(Moderate quality)
- Category C
(Low quality)
- Category U
(Unsuitable for retention)
- Hedgerow
(Not categorised)

Please see the Arboricultural Survey Data in the Appendix (A - Data Tables)

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Site Hebburn Extra Care		
Title Drawing 1: Tree Constraints Plan		
Drawing No. 230105.001.B		
Scale 1:750 @ A3	Date 24/08/2023	
Drawn PCL	Checked CH	Approved VM

Arboricultural Impact Assessment

Proposals

This drawing presents the results of an assessment in accordance with BS 5837, including which trees would be removed or pruned in relation to the proposed development.

The proposed development consists of a new children's centre and associated infrastructure such as roads, footpaths and parking. The proposals were provided in a .DWG format.

Proposed tree works

In total 10 individual trees (T1, T2, T3, T4, T7 - T12); 7 tree groups (G1, G2, G3, G5, G7, G8 & G9); 3 partial tree groups (G4, G5 & G6); and 3m of hedgerow will require removal to facilitate the proposed development.

Tree T9, noted as category U, will be removed due to being dead.

Tree T1, a category A specimen to the South of the site, has been noted for removal in the updated proposals alongside a single specimen from tree group G1 due to level changes.

Tree T3 is of low quality, category C and will have a limited safe useful life expectancy within the new development.

The new building footprint requires the removal of trees T7, T8, T10, T11 & T12; tree groups G2, G5, G7 & G8. An area of tree group G6 will require removal to facilitate a bin store.

Tree group G9 will require removal due to soil level changes and foundations for a boundary retaining wall.

Tree T4 and a section of hedgerow H1 will require removal for the proposed footpath.

Tree T2 is noted to be removed due to ground level changes.

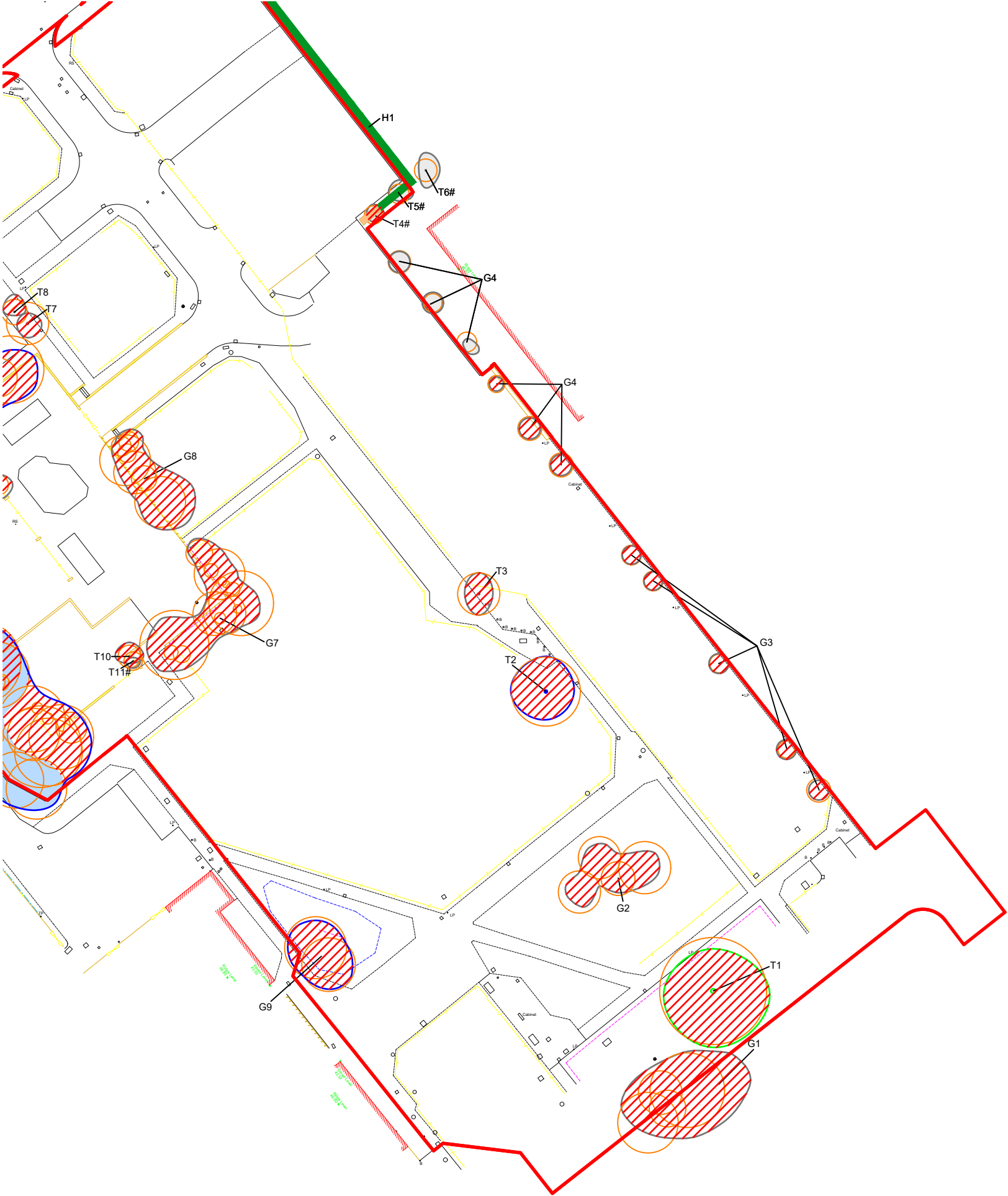
Tree group G1 is noted for removal for a temporary footpath.

Effects on designated or protected features

Trees are a material consideration and the quality of trees, related planning policies, and the presence of any protected status or designation is likely to be considered by the local planning authority when determining a planning application. The removal of trees, without mitigation, constitutes an adverse effect. Each development or program is encouraged by the government guidance in the National Planning Policy Framework (NPPF) to minimise impacts on and provide net gains for biodiversity.

- Tree preservation orders (TPO) - N/A
- Conservation area (CA) - N/A
- Ancient woodland - N/A
- Veteran trees - N/A
- Sites of special scientific interest (SSSI) - N/A
- Community forest - N/A
- Deciduous woodland - N/A
- Woodland pasture and parkland - N/A
- Traditional orchards - N/A
- Hedgerows - N/A

In consideration to the protections and designations, there are no adverse effects that cannot be mitigated or offset. The local planning authority may determine the level of mitigation required and will evaluate the proposed development, including any proposed mitigation measures, in consideration of all relevant local and national planning policies, guidance and tree laws.



KEY

- T1/G1/W1 Trees
- Root Protection Area (RPA)
- Site Boundary
- # Approximate location (Feature not noted on topographical survey)

Trees and hedgerow to be retained

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (May be retained for habitat value)
- Hedgerow (Not categorised)

Trees and hedgerow proposed works

- Trees to be removed
- Hedgerow to be removed

Please see the Arboricultural Survey Data in the Appendix (A - Data Tables)

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Site
Hebburn Extra Care

Title
Drawing 2: Tree Works Plan

Drawing No.
230105.002.A

Scale
1:750 @ A3

Date
08/07/2025

Drawn

PCL

Checked

CH

Approved

VM



KEY

- T1/G1/W1 Trees
- Root Protection Area (RPA)
- Site Boundary
- # Approximate location
(Feature not noted on topographical survey)

Trees and hedgerow to be retained

- Category A
(High quality)
- Category B
(Moderate quality)
- Category C
(Low quality)
- Category U
(May be retained for habitat value)
- Hedgerow
(Not categorised)

Trees and hedgerow proposed works

- Trees to be removed
- Hedgerow to be removed

Please see the Arboricultural Survey Data in the Appendix (A - Data Tables)

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Site Hebburn Extra Care		
Title Drawing 2: Tree Works Plan		
Drawing No. 230105.002.B		
Scale 1:750 @ A3	Date 08/07/2025	
Drawn PCL	Checked CH	Approved VM

Arboricultural Impact Assessment

Tree Protection & Mitigation

Proposed measures

Protection measures described in this section must be observed, implemented and maintained to avoid a breach of planning.

Prior to Starting

The site manager will read, understand and hold responsibility for implementing the protection measures in this document. In addition, a copy of this document will be made available on site for all relevant contractors.

Paul C Lambert, can be contacted on 07773182835, if required to assist with the correct interpretation of this document. With request, an inspection of the tree works and tree protection measures can be carried out.

An Arboricultural Contractor will undertake tree works shown in this document in accordance with BS3998:2010 Tree work- recommendations.

Tree protective fencing will be implemented as shown in the drawing opposite. The specification for tree protective fencing will be as shown in Appendix C. The old walls can be retained within RPAs of tree group G6 or taken down manually. No heavy machinery will be used unless a suitable method statement is in place using ground protection and no excavation. A ground protection AMS is noted in appendix C.

The site manager will inspect and verify the correct installation of tree protective measures and maintain such, keeping a photographic record. The tree protective measures will not be removed or realigned. Access is prohibited within areas of tree protection, this includes but not limited to storage, excavation, level changes and parking unless described in this document or by an Arboricultural Method Statement approved by planning.

Construction Phase

Works will proceed with care and consideration to prevent accidental damage from plant and vehicles.

If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought (*please see the contact details above*).

Following completion of all construction works and the removal of vehicles, plant, compounds and materials, the tree protection measures will be removed.

Recommendations

Arboricultural Method Statement (AMS)

Additional tree protective measures and special construction methods to prevent harm to the retained trees in accordance with BS5837:2012 should be produced in an AMS prior to the commencement of works. The areas of works which are liable to harm retained trees without an AMS are highlighted in the drawing opposite under special mitigation.

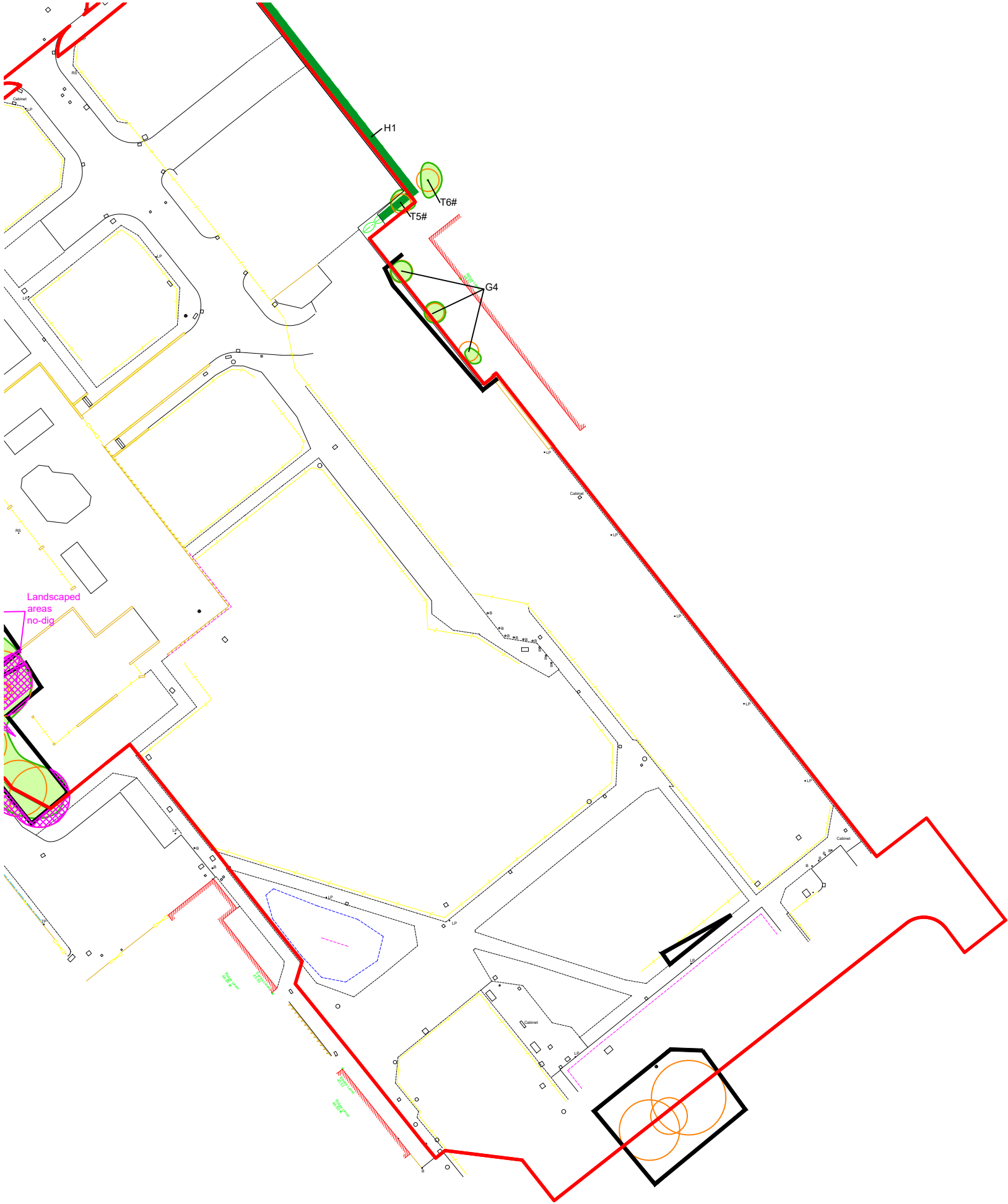
These areas are noted as new footpaths or walkways that may be refurbished. Cellular webbing will used prior to construction with the new hard standing implemented, else the tree protective fencing will encompass the areas shown in magenta until these works are carried out. These areas are no dig, therefore any soil levels will have to remain, an increase is possible, although within the manufacturers guide lines.

In addition, micro-piling will be required adjacent to tree group G6 to act as the new foundations of the retaining wall. Supervision upon demolition and micro-piling will be required. This will allow for access under the structure by the adjacent trees roots, for a greater volume of soil. Photographs of these works will be provided to the LPA for their records.

Planting

The proposals in drawing shows indicative tree planting, totalling 105 individual trees as part of the development to mitigate the tree loss. The local planning authority may determine the level of tree planting required to mitigate the adverse effects of the proposed development, this may be through on site planting, off site planting or a donation for the LPA to plant and manage the trees on the developers behalf.

The maintenance of new planting in accordance with BS 8545:2014 Trees: from nursery to independence in the landscape - Recommendations, should be a requirement.



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Retained trees
- H1 Retained hedgerow
- Root Protection Area (RPA)
- Site Boundary
- # Approximate location (Feature not noted on topographical survey)
- Tree Protective Fencing (Must be installed prior to commencement of works)
- Special Mitigation (Requires Arboricultural Method Statement)



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Site
Hebburn Extra Care

Title
Drawing 3: Tree Protection Plan

Drawing No.
230105.003.A

Scale
1:750 @ A3

Date
08/07/2025

Drawn

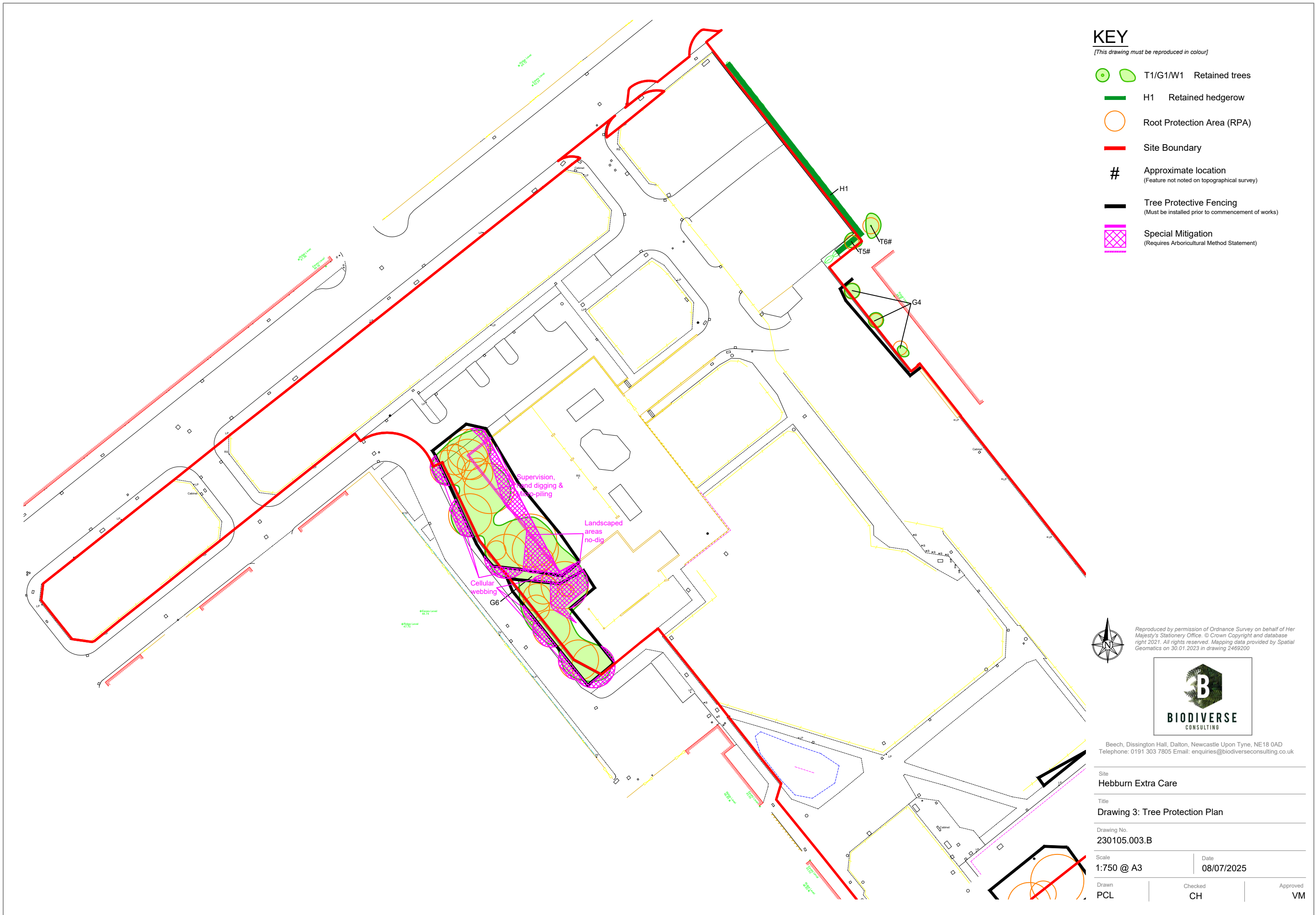
PCL

Checked

CH

Approved

VM



KEY

[This drawing must be reproduced in colour]

T1/G1/W1

Retained trees

H1

Retained hedgerow

Root Protection Area (RPA)

Site Boundary

#

Approximate location

(Feature not noted on topographical survey)

Tree Protective Fencing

(Must be installed prior to commencement of works)

Special Mitigation

(Requires Arboricultural Method Statement)

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Site		
Hebburn Extra Care		
Title		
Drawing 3: Tree Protection Plan		
Drawing No.		
230105.003.B		
Scale	Date	
1:750 @ A3	08/07/2025	
Drawn	Checked	Approved
PCL	CH	VM

Arboricultural Impact Assessment

Arboricultural Method Statement

Proposed measures

Areas shown in the drawing adjacent require specific arboricultural method statements (AMS) to allow for works within the root protection areas of retained trees. These measures will be put in place to prevent damage to retained features.

Protection measures such as tree protective fencing are presented in the tree protection plan (please see drawings **230105.003.A** & **230105.003B**).

Prior to Starting

The site manager will read, understand and hold responsibility for implementing the protection measures in this document. In addition, a copy of this document will be made available on site for all relevant contractors.

Paul C Lambert, can be contacted on 07773182835, if required to assist with the correct interpretation of this document. With request, an inspection of the tree works and tree protection measures can be carried out.

Arboricultural Method Statements

Structure Removal In Root Protection Areas (Purple Line)

The walls & hard standing currently present to the East of the tree group will require removal (Purple line represents the wall, hard standing noted Eastwards). The feature is currently within the root protection areas and therefore will require a method to prevent damage to trees & their roots during demolition & removal. Please see drawings **SR.RPA.231111** for the Arboricultural Method Statement (AMS) for the 'Structure Removal In Root Protection Areas'; and drawing **HS.RPA.211015** for the AMS for the 'Hard Standing Removal In Root Protection Areas'

Cellular Webbing with Porous Asphalt (Blue Hatch)

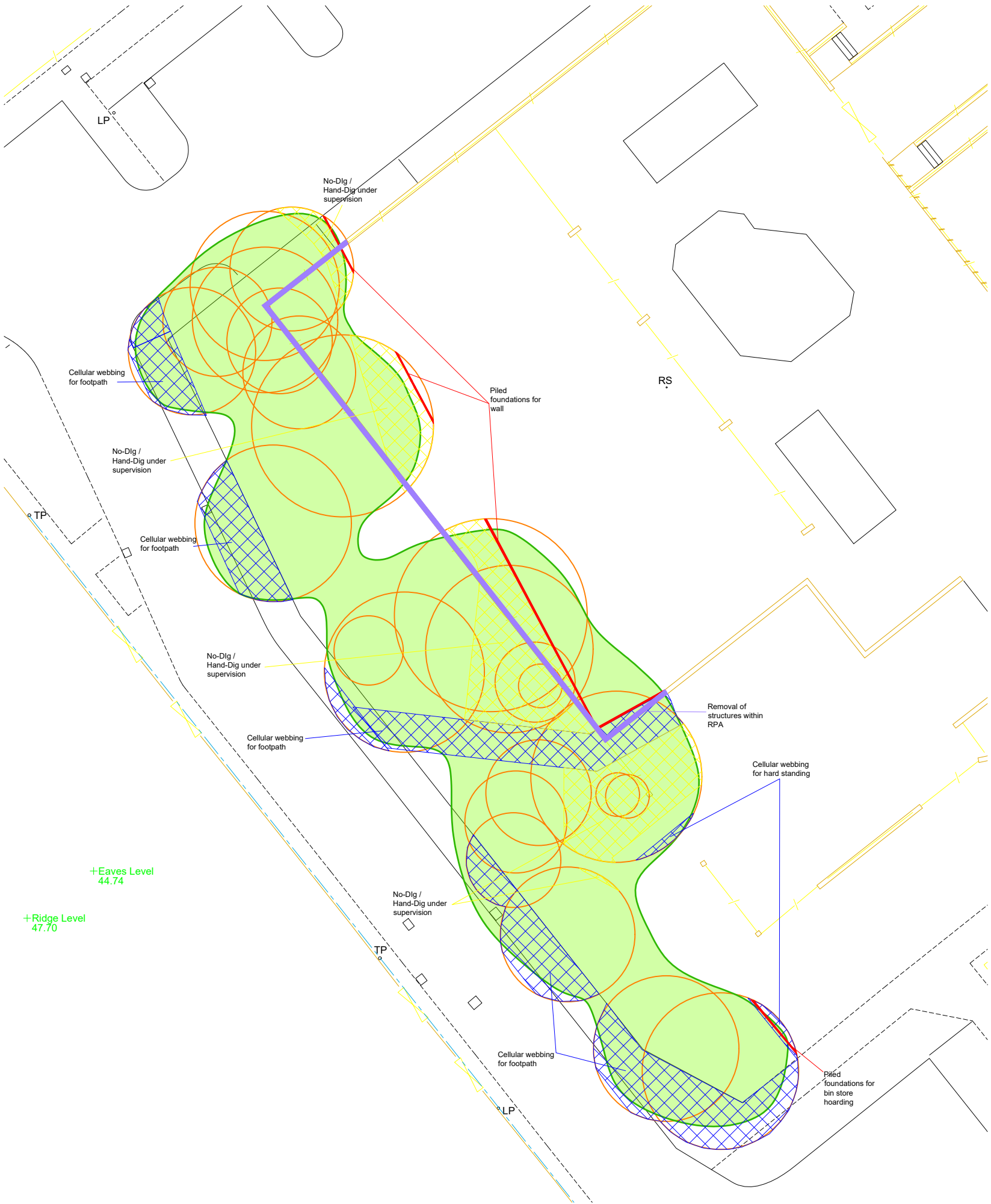
A proposed tarmac footpath is noted within root protection areas of retained trees. Please see drawing **CW1.RPA.211023** for the Arboricultural Method Statement for the application of 'Cellular Webbing with Porous Asphalt.'

No-Dig & Hand-Dig Under Supervision, Landscaping (Yellow Hatch)

The landscaping proposed within the root protection areas of retained trees will be installed with no-dig techniques. Any digging required for these works, such as tree planting, will be carried out under arboricultural supervision.

Piling Within an RPA (Red Line)

The foundations of the proposed wall, noted as a red line to the East of the retained tree group, as well as the foundations for the bin store's hoarding, will require piled foundations to prevent excessive root loss & structural instability of retained trees. Please see drawing **PI.RPA.231112** for the Arboricultural Method Statement for 'Piling In Root Protection Areas'.



KEY

[This drawing must be reproduced in colour]

- Retained trees
- Root Protection Area (RPA)
- Special Mitigation (Requires Arboricultural Method Statement)
- Cellular Webbing
- No-Dig / Hand-Dig with supervision
- Removal of Structures Within RPA
- Piling Within RPA



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Site
Hebburn Extra Care

Title
Drawing 4: Arboricultural Method Statement

Drawing No.
230105.004

Scale
1:250 @ A3

Date
08/07/2025

Drawn
PCL

Checked
CH

Approved
VM



Appendix A - Data Tables

Surveyor Mr Paul C Lambert
Date 5 th January 2023
Locality Hebburn
Site Hebburn children's centre

Tree / Group / Wood / Hedge	Nr	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS Tree Quality Assess.	Management Recommendations	Estimated Remaining Contribution	Calculated BS5837 RPA Area	Radius of RPA guide circle	
T,G,W,H			(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)		Long, Medium, Short, Very Short	(m2)	(m)	
T	1	Norway maple	14	630	1	6	8	8	7	3.5	E	Mature	Fair	Prominent specimen; historic limb and branch failures noted, likely due to storm damage; surface roots present; crossing branches noted; wire tied up in crown attached to both adjacent lamp posts; good vigour, fair form	A	,1	Long	179.55	7.6	
T	2	Whitebeam	6	410	1	5	4	4	5	3	E	Middle Age	Poor	Multi-stem union at 3m; broad canopy; good amenity; recent demolition works have caused excessive soil compaction around the base in addition to trenching works within the RPA to the East; longevity questionable	B	,1	Investigate root damage	Short	76.05	4.9
T	3	Sycamore	7	248	2	3	3	2	2	1.5	SW	Middle Age	Poor	Included union at stem bifurcation 0.5m; potential abnormal rooting due to historic wall foundations; limb wounds	C	,1	Medium	27.73	3.0	
T	4	Lime	4	110	1	1.5	1	1.5	1	2	W	Young	Good	Part of avenue adjacent to site boundary; situated amongst hedgerow H1; minor crossing branches; typical form for species	C	,1,2	Long	5.47	1.3	
T	5	Lime	4.5	120	1	2	1	2	1.5	1.5	E	Young	Good	Typical form for species; part of avenue adjacent to site boundary; situated amongst hedgerow H1; minor crossing branches	C	,1,2	Long	6.51	1.4	
T	6	Lime	4.5	130	1	2.5	2.5	2	1	1.5	E	Young	Good	Minor crossing branches; typical form for species; part of avenue adjacent to site boundary; adjacent to hedgerow H1	C	,1,2	Long	7.65	1.6	
T	7	Whitebeam	7	250	1	1.5	2	2	1.5	2.5	S	Middle Age	Fair	Bottle buttress, indicating basal decay; stem wound at 1.5m North; historically thinned; fair form; slight Easterly stem lean	C	,1,2	Medium	28.27	3.0	
T	8	Whitebeam	6	150	1	2.5	0.5	1.5	1.5	2.5	N	Middle Age	Poor	Surface roots noted; stem wound at 0.5m East and 1.5m South; low vigour; historically over-thinned; dieback noted; poor form	C	,1,2	Short	10.18	1.8	
T	9	Whitebeam	4	200	1	2	0.5	1.5	1	2	N	Middle Age	Dead	Standing dead specimen	U		Remove	Very Short	0.00	0.0
T	10	Sycamore	7	136	2	2	1	2	2	1	W	Young	Poor	Growing through fence from the base of a wall; fair vigour; poor location; self-sown; limited safe useful life expectancy	C	,3	Remove	Very Short	8.37	1.6
T	11	Whitebeam	3	112	5	0.5	1	1	1	0.5	E	Young	Poor	Multi-stem at base; growing through fence; fair vigour; poor location; self-sown; limited safe useful life expectancy	C	,3	Remove	Very Short	5.65	1.3
T	12	Sycamore	4	117	3	1.5	2	2	0.5	0.5	N	Young	Poor	Self-sown specimen; growing under fence, cushioning; poor location; limited safe useful life expectancy	C	,3	Remove	Short	6.15	1.4
G	1	Norway maple, whitebeam	7 to 10	220 to 440	4							Middle Age	Poor to Fair	Collective canopy; whitebeam specimens are poor to fair quality due to historic excessive thinning; landscape feature; birds nest noted in lime specimen at 9m; individual root protection areas calculated for accuracy	C	,1,2	Long	n/a	Refer to Drawing	

G	2	Norway maple	6 to 7	200 to 310	4							Middle Age	Fair	Amenity planting; situated in open space; canopies beginning to merge; fair condition; individual root protection areas calculated for accuracy	C	,1,2		Long	n/a	Refer to Drawing
G	3	Lime	3 to 4	100 to 140	5							Young	Poor to Fair	Avenue planting; minor damaged branches due to vandalism; poor to fair condition; stem wound frequent; adjacent to footpath; linear planting links up with tree group G4; individual root protection areas calculated for accuracy	C	,1,2		Long	n/a	Refer to Drawing
G	4	Holm oak	3 to 4	100 to 140	6							Young	Fair	Tree grates are present on Northerly specimens, one of which is growing close to the metal; 4 th specimen has a heavy lean due to poor historic management post planting; part of avenue, links up with tree group G3; individual root protection areas calculated for accuracy	C	,1,2		Long	n/a	Refer to Drawing
G	5	Norway maple	6 to 10	140 to 400	10							Middle Age	Fair	Buttress wounds frequent; linear planting, avenue of Norway maple; collective canopy; individually trees are category C; collective qualities are moderate; minor deadwood noted; minor girdling roots present; individual root protection areas calculated for accuracy	B	,2		Long	n/a	Refer to Drawing
G	6	Norway maple, sycamore, whitebeam, hawthorn, elder	2 to 13	70 to 490	34							Young to Middle Age	Mixed	Collective canopy; individually most specimens individually are category C due to age, form or condition; moderate deadwood present; good amenity value; screening feature; basal wounding frequent; individual root protection areas calculated for accuracy	B	,1,2		Long	n/a	Refer to Drawing
G	7	Norway maple, sycamore, whitebeam, hawthorn, elder	1 to 8	50 to 410	14							Young to Middle Age	Mixed	Recent demolition works has caused significant root disturbance, damage and soil compaction; stem wound and damaged branches present; adjacent to retaining wall; large severed roots within 2m of stems; individual root protection areas calculated for accuracy	C	,1,2	Investigate root damage	Short	n/a	Refer to Drawing
G	8	Norway maple, whitebeam, hawthorn, elder	2 to 6	110 to 300	7							Young to Middle Age	Mixed	Adjacent to retaining wall; collective canopy; ivy cover frequent; moderate deadwood noted; stem wound present on Northerly whitebeam; branches growing through adjacent fence; individual root protection areas calculated for accuracy	C	,1,2		Long	n/a	Refer to Drawing
G	9	Whitebeam	7 to 8	320 to 270	2							Middle Age	Fair	Pair of whitebeams; good amenity; typical form for species; collective canopy; individually specimens are asymmetric; basal wounds noted; individual root protection areas noted for accuracy	B	,2		Long	n/a	Refer to Drawing
H	1	Beech	1	10 to 50	>50							Young	Good	Young, well managed boundary hedge				Long	n/a	Refer to Drawing



Appendix B - Survey Method

Survey Method

The survey of trees, tree groups, woodlands and hedgerows is conducted from ground level by a qualified arboriculturalist. Trees are dynamic organisms and therefore due to change, all observations are relevant on the day of inspection. The following details may have been recorded in the surveys Data Tables: -

Species – The species of tree/shrub. Typically the common name is given, if further clarification is required a Latin name.

Height – The height of individual tree; range of height of a tree group, woodland or hedgerow; recorded in metres.

Stem Diameter – Measurement is taken at 1.5 metres above ground level; referred to as diameter at breast height (DBH); recorded in millimetres; multi-stemmed features are taken as an average.

Number of Stems – A count of stems occurring below a height of 1.5 metres.

Crown Spread – Recorded in metres; the crown spread in the directions North, South, East and West.

Height of Lowest Branch – The lowest branch location recorded in metres.

Direction of Lowest Branch – The direction of the first significant branch from the point of attachment.

Maturity – Recorded as young (in the early stages of maturity), middle aged (established specimen with potential to continue increasing in size) or mature (a specimen that has reached its ultimate size)

Condition – An assessment of a tree's physiological and structural health and condition; recorded as poor, fair, good or veteran (Veteran are trees are considered irreplaceable habitats, features with great biological, cultural or aesthetic value)

Comments – A brief evaluation and description of the features form, vitality, health, defects or symptoms of ill-health.

BS 5837 Tree Quality Assessment -

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Survey Method

Root Protection Area (RPA) – A root protection area is the minimum area around each tree, group or woodland that must be retained and undisturbed to ensure survival; the RPA's have been calculated in accordance with BS5837 using the diameter of each feature at a height of 1.5m, referred to as diameter at breast height (DBH); the RPA is recorded in metres squared and is typically centred on the tree stem, features affecting root morphology may change this.

Recommendations - Recommendations for arboricultural works taking into consideration defects, the land use, targets and BS3998:2010 Tree work – recommendations, with no bias toward the proposed development.

Estimated Remaining Contribution – The estimated life expectancy as healthy functioning tree suitable for its location, influenced by species and condition at the time of survey; recorded as Long (> 40 years), Medium (20 – 40 years), Short (>20 years), Very Short (>10 Years).

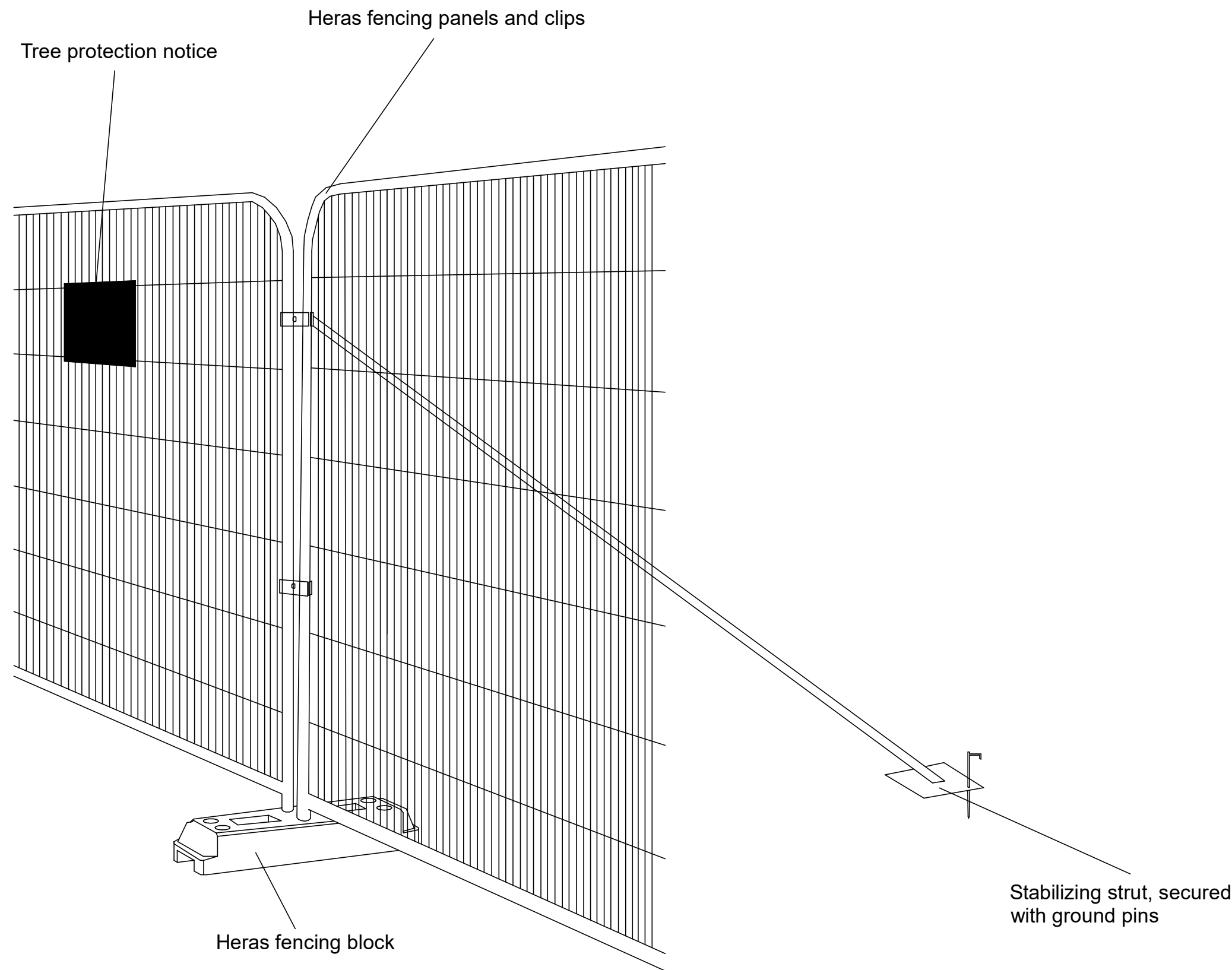
NOTES:

- Soil assessments were not carried out for the purposes of this survey.
 - All young trees are assessed as quality category 'C' this does not pre-determine their retention within a development.
-



Appendix C - Specification Drawings

Representative Tree Protective Fencing



Fencing Specification

The purpose of tree protective fencing is to demarcate the construction exclusion zone (CEZ). No materials will be stored within and no vehicles or machinery will be allowed access to the CEZ unless a suitable Arboricultural Method Statement (AMS) is in place. This will prevent damage being caused to retained trees.

For every three Heras fencing panels (10.5m total length; 2m x 3.5m per panel) there will be a tree protection notice fitted in a visible location. The panels will be held together using security Heras fencing clips (12).

The base of the Heras fencing will be stabilized using blocks. Where blocks are not suitable a vertical scaffold pole, driven into the ground, can be used.

Stabilizing struts will be implemented every third panel. The struts will be held down using ground pins (soft ground) or blocks (hard standing).

Title		
Tree Protective Fencing Detail		
Drawing No.		
TPF.RPA.211029		
Scale	Date	
Not to scale @ A3	29/10/2021	
Drawn	Checked	Approved
PCL	JEK	PCL



ATTENTION

**TREE PROTECTION AREA
KEEP OUT!**



**YOU MAY NOT ENTER THIS AREA OR
USE IT FOR STORAGE**

**YOU MUST NOT MOVE OR DAMAGE THIS
PROTECTIVE FENCING**

**IF YOU REQUIRE ACCESS WITHIN THE
TREE PROTECTION AREA PLEASE ASK
THE SITE MANAGER TO CONTACT A
QUALIFIED ARBORICULTURAL
CONSULTANT**

Ground Protection Specification

This method statement outlines the parameters within which the application of ground protection will be undertaken in regards to trees.

General Terms

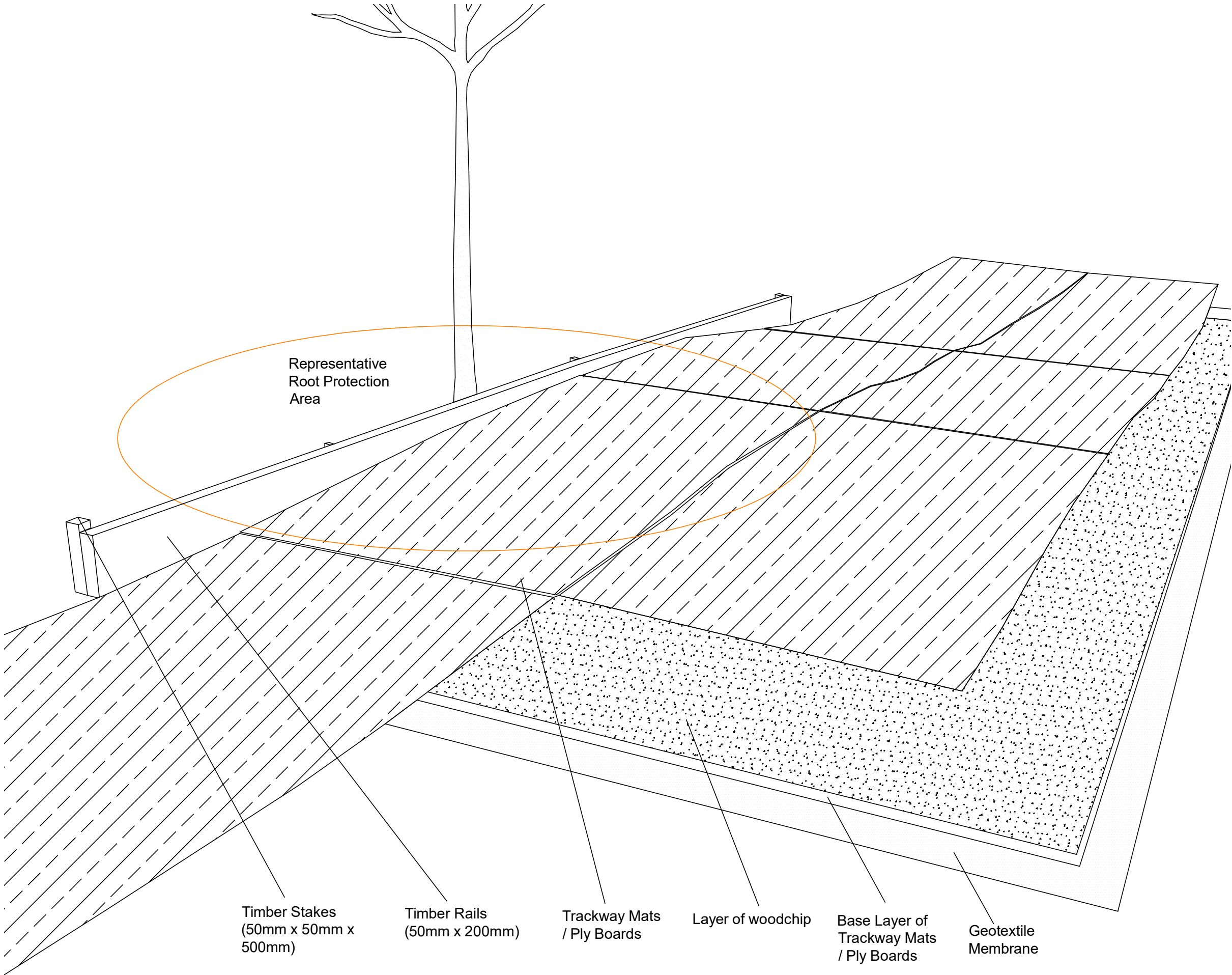
- A. This document will be produced in colour in a A3 format.
- B. The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- C. A copy of this document will be made available on site.
- D. Ground protection will be installed prior to any machinery or materials being brought on site.

Preparation

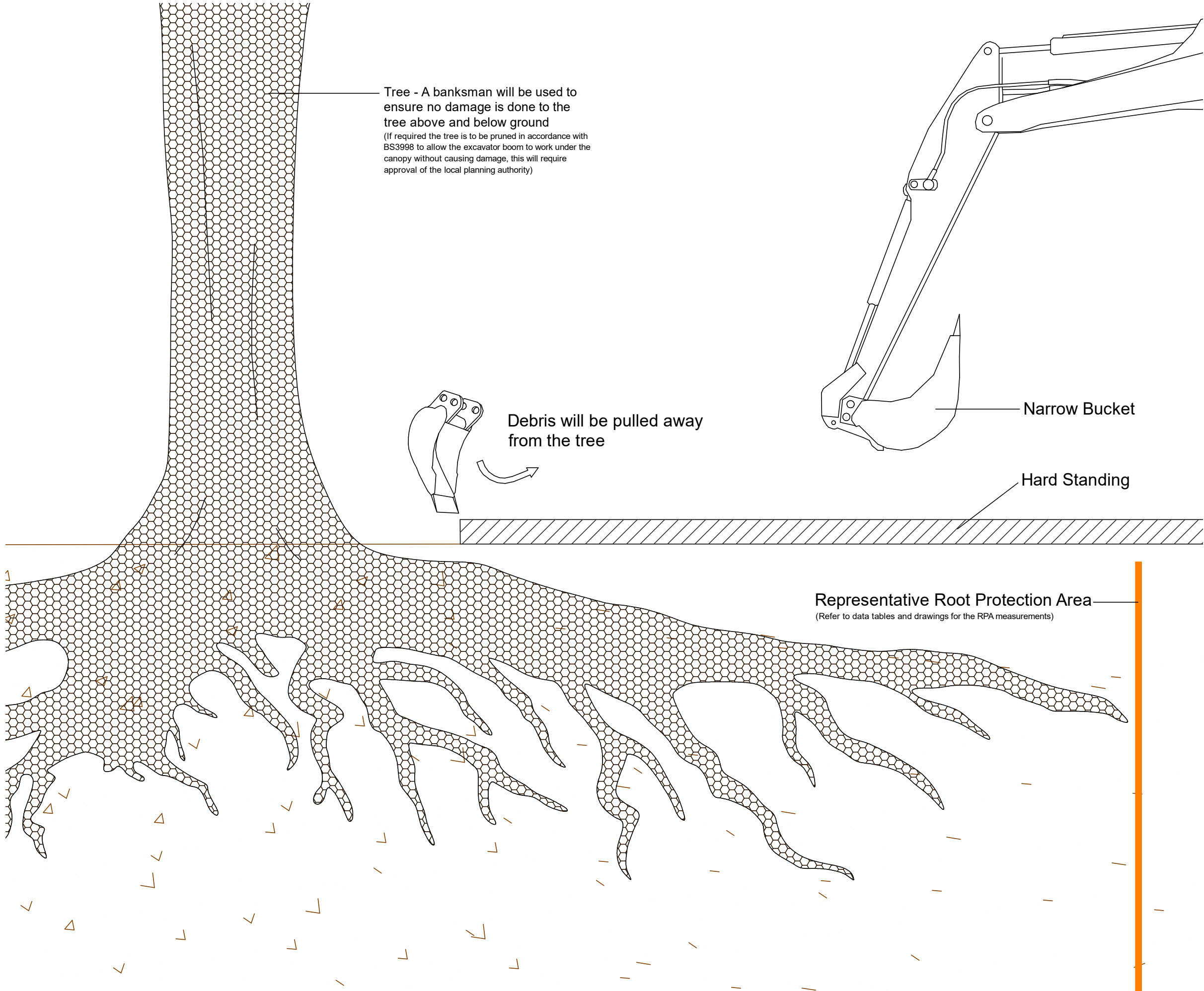
- 1. Cut surface vegetation.
- 2. Mark out the perimeter edge.

Installing ground protection

- 3. Using a layer of geotextile material, cover the entirety of the root protection areas.
- 4. Install the timber edge rails (50 x 200mm), using stakes (50 x 50 x 500mm) at 1.5m spacings.
- 5. Place a base layer of trackway mats or ply board on top of the membrane.
- 6. Cover the base layer of mats with 150mm of woodchip.
- 7. Install the upper layer of trackway mats or ply boards on top of the woodchip.



Title		
Ground Protection For Tree Roots		
Drawing No.		
GP1.RPA.220710		
Scale	Date	
Not to scale @ A3	10/07/2022	
Drawn	Checked	Approved
PCL	JEK	PCL



Arboricultural Method Statement (AMS)

This AMS outlines the parameters to the removal of hard standing within tree root protection areas (RPA) will be undertaken.

General Terms

- This document will be produced in colour in a A3 format.
- The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- A copy of this document will be made available on site.
- If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought.

Removal of Existing Surfaces

- The site manager will arrange supervision of the works by the Arboricultural Consultant
- Temporary fencing will be removed allowing access. This will only be at the time when the works are being carried out.
- No unauthorised personnel or machinery will have access.
- Any plant being used will be positioned outside of the root protection areas.
- Any cutting disc used to score the hard surfacing will be limited to 50mm cutting depth.
- Using an excavator with a narrow bucket, remove the hard surfaces and kerbs closest to the trees, working away from the tree itself.

Material Type

Concrete - Will be removed by using a cutting disc to score the surface (up to 50mm depth) and using an excavator with a flat un-toothed bucket to lift away from the surface. Debris will be manually carried outside of the RPA.

Flag Stones - Will be removed using an excavator with a flat un-toothed bucket, lifting away from the surface and debris manually carried outside of the RPA.

Hard Core - Will be removed by scraping with a excavator, with a flat un-toothed bucket, in 50mm deep layers, or less, to a pile outside of the RPA.

Tarmac - Will be removed by scraping with a excavator, with a flat un-toothed bucket, in 50mm deep layers, or less, to a pile outside of the RPA.

Title		
Hard Standing Removal In Root Protection Areas		
Drawing No.		
HS.RPA.211015		
Scale	Date	
Not to scale @ A3	15/10/2021	
Drawn	Checked	Approved
PCL	JEK	PCL

Arboricultural Method Statement (AMS)

This AMS outlines the parameters within which the application of cellular webbing will be undertaken in regards to trees.

General Terms

- A. This document will be produced in colour in a A3 format.
- B. The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- C. A copy of this document will be made available on site.
- D. If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought.

Preparation

- 1. Remove surface vegetation.
- 2. A maximum of 30mm of top soil can be removed, unless surface roots are present.
- 3. Backfill any holes and uneven areas discovered with clean angular stone 4/40mm (BS EN 13242 and 12620).
- 4. Mark out the perimeter edge.

Applying membrane and cells

- 5. Place the base membrane over the works area, overlap sections with a minimum of 250mm. The membrane should be secured by pins roughly every 500mm along the edging.
- 6. Apply the cellular webbing, clipped together, on top of the base membrane.
- 7. If required some cells may require cut to shape, to suit the edge.

Backfilling

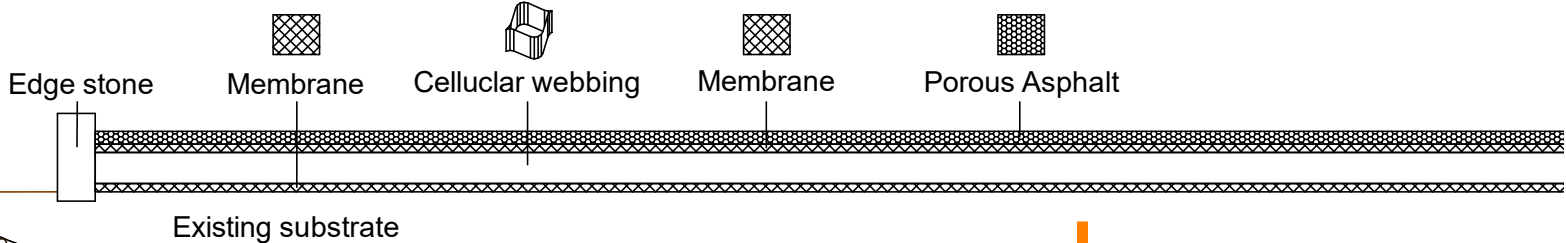
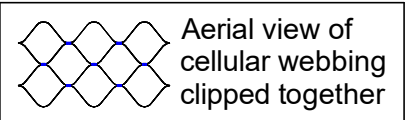
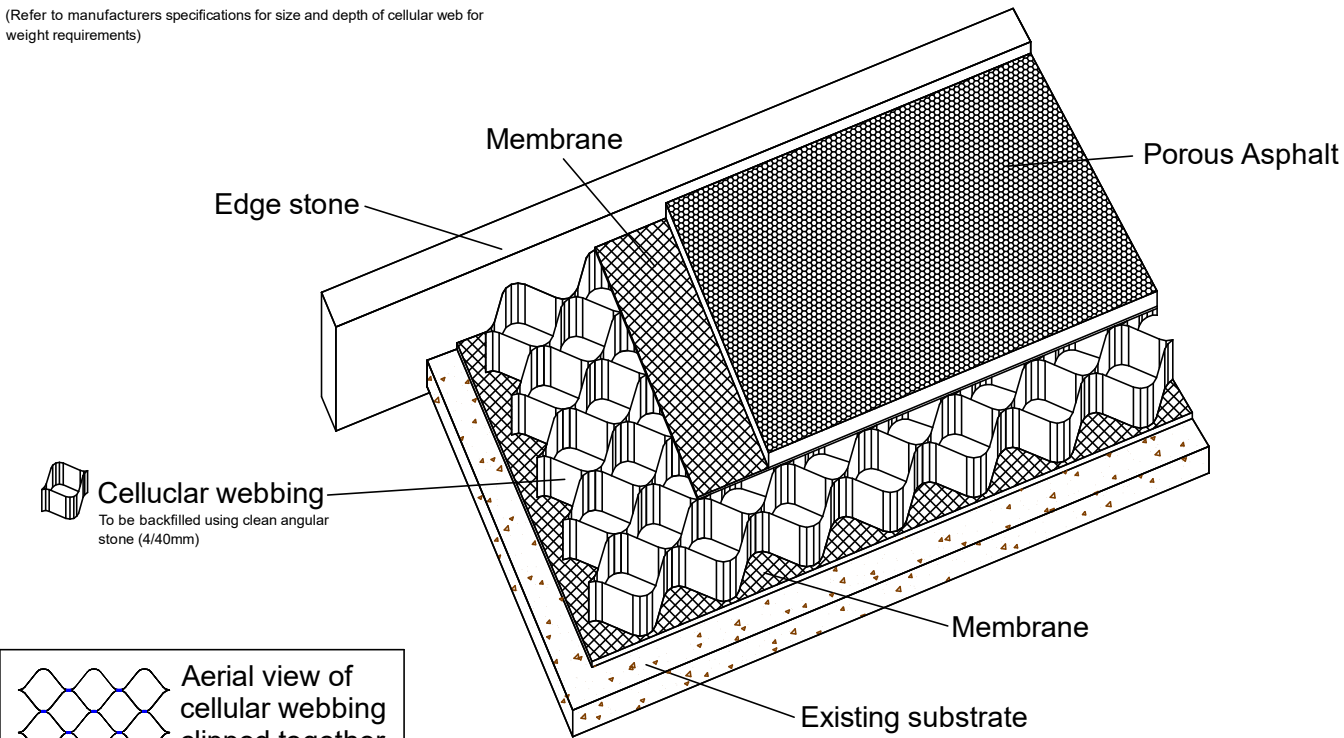
- 8. Using clean angular stone (BS EN 13242 and 12620) 4/40mm, backfill the cells progressively.
- 9. Overfill by 25mm approximately to allow the stone to settle in the cells.
- 10. If using a vehicle, limit the drop height below 1m to avoid cells collapsing during the backfilling process.

The surface

- 11. Apply light vibrating compaction to help the stone settle in the cells.
- 12. Place a second layer of protective membrane over the backfilled cells.
- 13. Lay and compact (within root protection areas) porous asphalt as per manufacturers guidance; (outside of root protection areas) asphalt as per manufacturers guidance.

Cross Section

(Refer to manufacturers specifications for size and depth of cellular web for weight requirements)



Representative Root Protection Area

(Refer to data tables and drawings for the RPA measurements)

Title
Cellular Webbing with Porous Asphalt

Drawing No.
CW1.RPA.211023

Scale
Not to scale @ A3

Date
23/10/2021

Drawn
PCL

Checked
JEK

Approved
PCL

Arboricultural Method Statement (AMS)

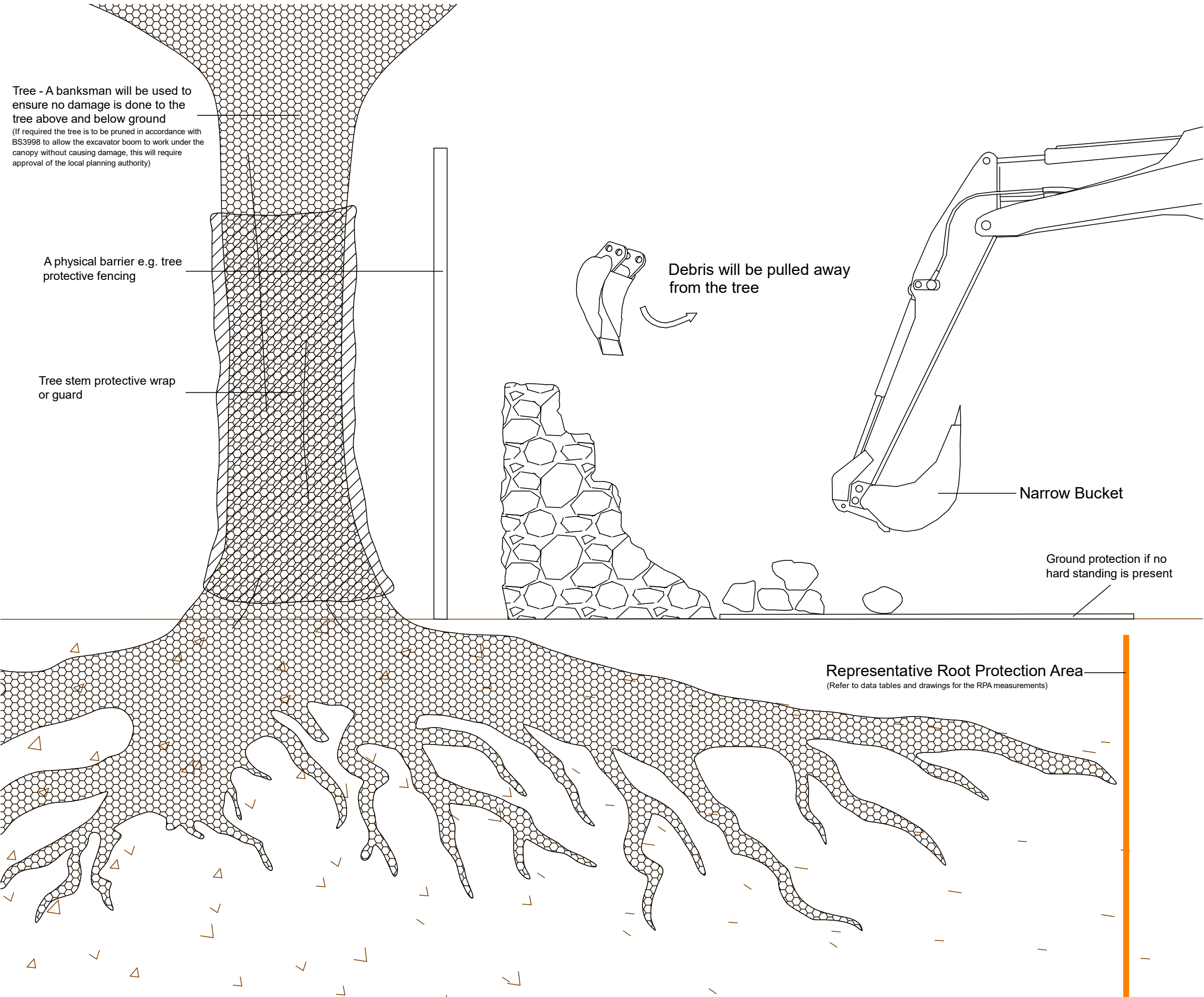
This AMS outlines the parameters to 'the removal of structures within tree root protection areas' (RPA) that will be undertaken.

General Terms

- A. This document will be produced in colour in a A3 format.
- B. The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- C. A copy of this document will be made available on site.
- D. If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought.

Removal of Structure within RPA

1. The site manager will arrange supervision of the works by the Arboricultural Consultant
2. Task specific tree protection measures will be put in place such as a physical barrier e.g. tree protective fencing or hoarding, and stem protection e.g. tree guards or protective wrapping, to protect the tree from any debris that may fall towards the specimen. Ground protection may be required if hard standing is not present, to prevent soil compaction from the debris.
3. Temporary fencing will be removed allowing access. This will only be at the time when the works are being carried out.
4. No unauthorised personnel or machinery will have access.
5. Any plant being used will be positioned outside of the root protection areas.
6. Any cutting disc used to score a hard surfacing at ground level will be limited to 50mm cutting depth.
7. Using an excavator with a narrow bucket, remove small areas of the structure working from the top down, pulling debris away from the tree itself.
8. Debris will be cleared at intervals to prevent excess weight causing compaction and additional debris falling or rolling further than intended.
9. Once the structure has been demolished and debris removed, tree protective fencing can be put back in place and task specific protection measures removed.



Title		
Structure Removal In Root Protection Areas		
Drawing No.		
SR.RPA.231111		
Scale	Date	
Not to scale @ A3	11/11/2023	
Drawn	Checked	Approved
PCL	JEK	PCL

Arboricultural Method Statement (AMS)

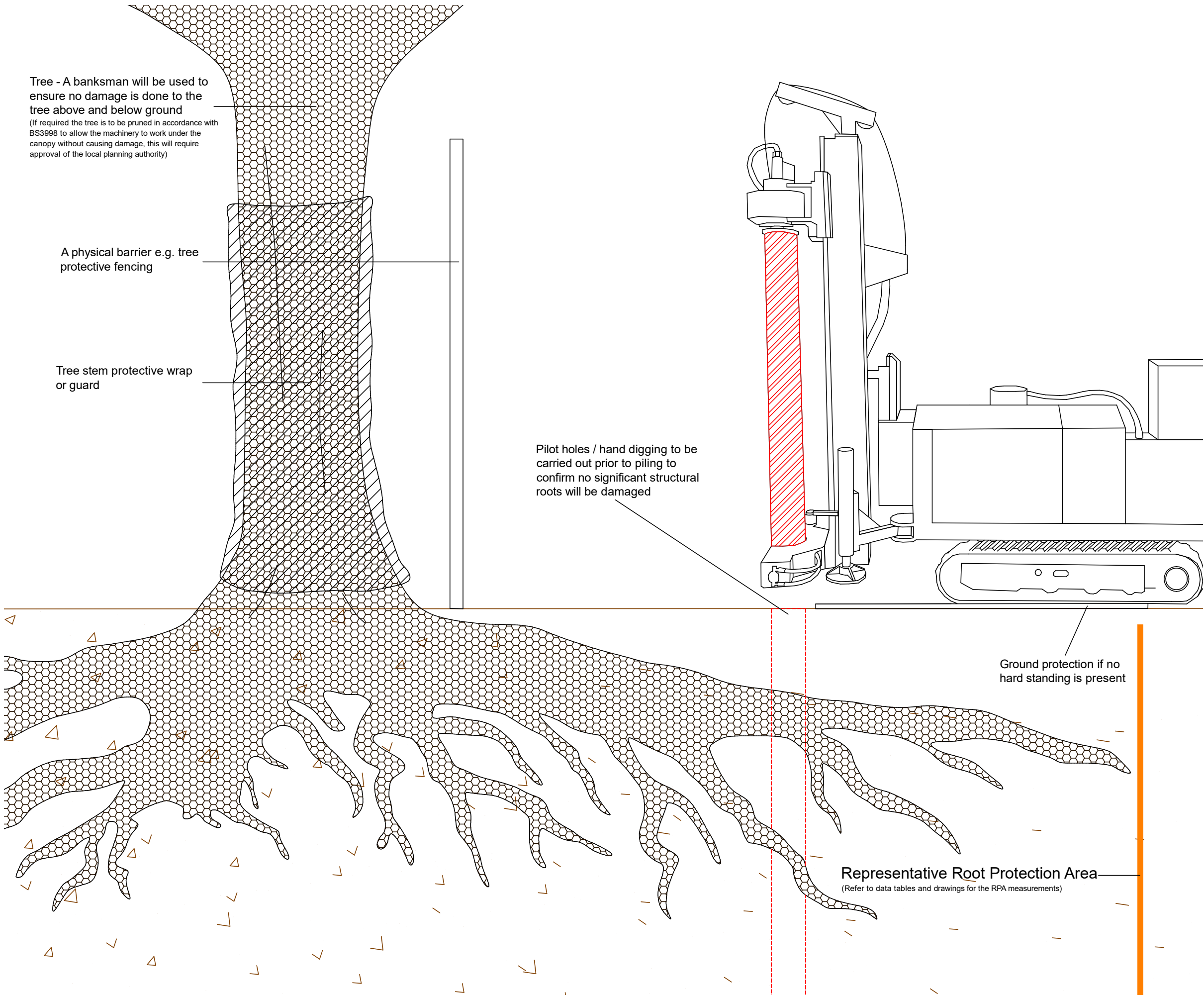
This AMS outlines the parameters to 'piling within tree root protection areas' (RPA) that will be undertaken.

General Terms

- A. This document will be produced in colour in a A3 format.
- B. The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- C. A copy of this document will be made available on site.
- D. If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought.

Piling within Root Protection Areas

1. The site manager will arrange supervision of the works by the Arboricultural Consultant
2. Task specific tree protection measures will be put in place such as a physical barrier e.g. tree protective fencing or hoarding, and stem protection e.g. tree guards or protective wrapping, to protect the tree from anything that may fall towards the specimen. Ground protection may be required if hard standing is not present, to prevent soil compaction.
3. Temporary fencing will be removed allowing access. This will only be at the time when the works are being carried out.
4. No unauthorised personnel or machinery will have access.
5. Any plant being used will be positioned outside of the root protection areas or on areas with suitable ground protection.
6. The piling locations will be marked. Exploration of the roots below will be carried out by either producing a pilot hole with an airspade or hand digging, to ensure no significant structural roots are going to be impacted, typically to a depth between 1 - 1.5m. The supervising Arboricultural Consultant will gauge the depth required depending on the site specific environment. If significant structural roots are found, the piles will require re-positioned.
7. The piling machine will be brought into position. The pile will be inspected, prepared and only used if deemed suitable for the task.
8. The pile will be lifted into position and driven into the approved location.
9. Once all the piles are in place, the removal of all machinery, equipment and materials from the area will take place.
10. Tree protective fencing can be put back into position as per the arboricultural impacts assessment and task specific protection measures removed. The construction exclusion zone (CEZ) is re-instated.
11. Future works within the CEZ will have to be assessed for suitable tree protective measures.



Title		
Piling In Root Protection Areas		
Drawing No.		
Pi.RPA.231112		
Scale	Date	
Not to scale @ A3	12/11/2023	
Drawn	Checked	Approved
PCL	JEK	PCL



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