



Ross Consulting

Solutions in Arboriculture and Landscape Management

CLIENT- Mr and Mrs Youngman

SITE- Larkby, Kew Lane, Bursledon

PROJECT- Tree Report Based on Recommendations in BS 5837 2012

SURVEY DATE – 1st December 2022

REPORT DATE- 12th December 2022

COMPILED BY- William Ross

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APPENDICES

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1.0 INSTRUCTION

1.1 Received From – Tom Hayes of John Pardey Architects on behalf of Mr and Mrs Youngman.

1.2 Purpose – To survey the trees on site and produce an Arboricultural report as requested by Eastleigh Borough Council Tree Officer.

2.0 INTRODUCTION

2.3 Setting – The property known as Larkby is situated in a rural setting on the Western side of Kew Lane, Bursledon with other properties to the North and South with woodland & trees to all aspects. The dwelling and outbuildings are to the East of a plot extending to approx. 0.2ha reached by a short, surfaced drive from the road. See the Tree Constraints Plan (TCP) (Appendix One)

2.4 Statutory Protection – A search of the Eastleigh online planning map identified the following

2.4.1 Conservation Area – The property itself is not in a CA, the Old Bursledon CA is situated to the East and West.

2.4.2 Tree Preservation Orders – The Trees to the front of the property are protected **TPO 342E**, listed as 3 Oak. An application for proposed work to a TPO'd tree must be made to EBC for them to consider works and either grant or refuse permission, removal of deadwood doesn't require an application, however, the consultant recommends that EBC are notified. In some cases, removal of large deadwood may result in the removal of live branches which will need permission.

2.5 Clients Proposal – To demolish the existing dwelling and infrastructure and replace with a single-story architect-designed dwelling with outdoor entertainment space and a bespoke designed garden to compliment the dwelling. The associated landscaping has been planned to include ecological enhancement based on the recommendations within the ecology report and the recommendations in **9.0** of this report

3.0 SOIL ASSESSMENT

3.1 BS5837 2012 recommends that a soil assessment should be carried out as trees can cause damage (indirect) to structures built on soils that are liable to shrink and swell as a result of changes in the moisture content, this applies mainly to Clays. Such movement is exacerbated by the influence of trees and therefore if a **shrinkable soil** is **suspected foundations** should be **designed to extend below the likely zone of seasonal moisture change**.

3.2 The British Geological Survey 1:50,000 scale map -Fig 1 indicates that the underlying geology of the site is **Earnley Sand Formation** - Sand, silt and clay. The architect/structural engineer must satisfy themselves as to the geology in the case there are any local differences in the bedrock geology.

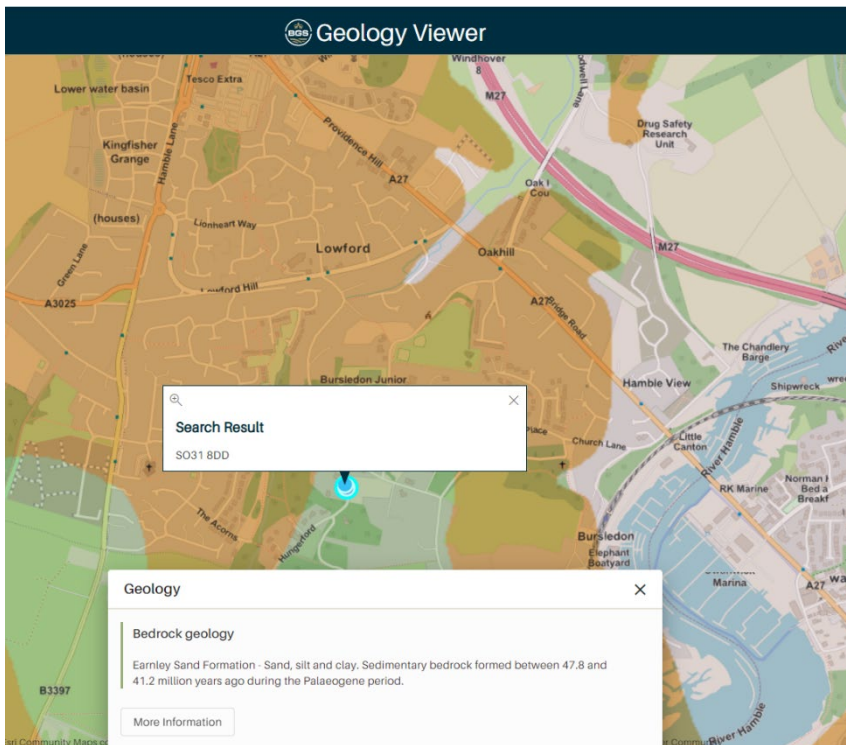


Figure One

3.3 Cranfield Soil and Agri-food Institute – Soilscape 18 – Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils SCOPE OF SURVEY

4.1 Survey Purpose:

- To survey and plot all the significant trees within the site.
- To present findings in report form to aid in the design and construction phase of the proposed development ensuring any impact on the significant trees is minimised.
- To use the data enabling a Tree Protection Plan (TPP), Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS) to be drawn up.

4.2 Survey Methodology - Based on BS 5837 2012; the inspection was carried out from ground level with use of binoculars where necessary:

- The tree survey methodology is based on the Visual Tree Assessment method (VTA) in which the biological and mechanical condition of each tree is visually assessed by the surveyor. Should a particular cause for concern be raised a more detailed inspection will be carried out examining the suspected defects.
- Stem diameter measurements in millimetres were carried out using a diameter tape where possible at 1.5m from ground level. Height measurement was carried out using a Haglof laser measurement device. Tree canopy spread was measured in Meters to the North, East, South and West. **Note** – Where measurements were not possible an estimate is given denoted by **Est**
- The data for each individual tree is recorded in the survey schedule table (Appendix Two) with work recommendations, locations are plotted on the site plan (Appendix One).
- Each tree is given a retention category A, B, C or U as specified in the Ross Consulting Tree Categorisation Chart (Appendix Three) based on their Arboricultural merit, condition, and age and remaining useful contribution in years.
- **The stem diameter** is used to calculate the Root Protection Zone (RPA) to be observed during the Demolition and Construction process. The calculation for single stem trees is 12 times the diameter = RPA.
- **Note-** All measurements are approximate.

5.0 SURVEY

5.1 Weather Conditions - Cold, Sunny Date – 01/12/22

5.2 Observations and Work Recommendations - Based on the site and condition of each tree at the time of the survey 01/12/22; Trees are living organisms subject to exterior influences of both an Abiotic and Biotic nature that can lead to changes in the physical and structural condition. The full survey schedule can be found in Appendix Two, reference photographs can be found in Appendix Four.

5.2.1 Preliminary Ecological Survey – Produced by Cherry Tree Ecology Ltd dated 30/09/22, the report recommends a number of ecological enhancements to include bat boxes in trees. The report also identifies Pilands Wood SINC adjacent to the Western Boundary, which is also Priority deciduous woodland habitat, for full detail please refer to the report in the planning application pack.

5.3 Visual Assessment – For ease of reference the site has been divided into two Zones, Z1 Front Garden and drive, Z2 rear Garden

5.3.1 Zone One –Area consisting of the roadside boundary hedge as per Tree Constraints Plan (TCP) (Appendix One) with one mature Oak on the Northern side of the drive with shrubs, two on the Southern side with lawn on the Southern side. The existing drive consists of concrete and general hard surfacing of an undetermined depth, an estimate would suggest no more than between 100 to 150mm in depth.

5.3.2 Zone Two–Covers the majority of the property as Per TCP (Appendix One), set to lawn with a hedge on the Northern Boundary of approx. 55m in length, the remainder being an open boundary of approx. 30m in length marked with posts. The Western boundary meets with a woodland and the Southern consists of a mixed hedge, the garden itself is laid to lawn with the occasional trees and shrubs, a building and swimming pool.

5.4 Survey Findings – The full survey schedule can be found in Appendix Two; the results are summarised below with full recommendations in **8.0**

5.4.1 Summary - See Table One for proposed tree work

Tree	Species	Recommendations	Tree	Species	Recommendations
T1	Beech stump	NA	T2	Turkey Oak	In 3 rd party ownership NA
G3	Mixed to Include Holly and Oak	Dependent on L/S plan, Retain some Holly as part of boundary planting	H4	Lawsons Cypress	Establish Ownership Option One – Trim and reduce in height and replace dead plants Option Two – Fell and plant replacement dependent on L/S plan
G5	Scrub and Felled tree	Remove	T6	Scots Pine	Remove lower Deadwood, aesthetic reasons?
T7	Poplar	Reinspect root plate following veg clearance	T8	Birch	Clear scrub around base otherwise NA
T9	Goat Willow	Retain as feature, reduction of laterals growing to E to retain and prevent collapse	T10	Domestic Fruiting Apple	Fruit tree pruning
H11a	Lawsons Cypress and Laurel	Establish Ownership Option One – Cut back/prune and replace dead conifers Option Two – Fell and replace with	H11b	Rhodo, Yew, Beech	Formative pruning to retain and planting up any gaps
H12	Mixed to include Holly, Yew and scrub	Remove scrub, prune as necessary and plant shrubs as per L/S plan	T13	Turkey Oak	NA at present
T14	Turkey Oak	Remove D/W, reduce laterals over road by 1.5 in length	—	—	—

Table One

6.0 ARBORICULTURAL IMPACT ASSESSMENT

6.1 Rationale – To examine the likely impact of the proposed development on the trees/hedges and shrub mass in each zone, refer to the Tree Protection Plan (TPP) in Appendix Five for full detail.

6.1.1 T1 Beech – Stump, the proposed development has no impact on this as it is moribund with minor growth and of some habitat value, although as it is still alive if removal is proposed a check must be made with EBC.

6.1.2 T2 Turkey Oak – Large Tree in third party ownership situated on a bank above the drive of the proposed site, the calculated RPA impinges on the site, the angle of the bank, existing garage and hard surface suggest that there is likely to be minimal rooting in this area.

6.1.3 G3 Mixed Shrubs – Growing to the South and beneath T2 and within its RPA, categorised as B due to combined value with T2 to make good screening, in the case they are removed replacement planting with natives should be carried out.

6.1.4 H4 Lawsons Cypress – Forming part of the Northern boundary, the hedge has been classified as a B cat feature due to its overall impact although there are a number of dead plants at the Eastern end. The proposed development does impinge on the calculated RPA of the hedge however the Meeuwsen Muldoon Landscape plan 29.09.22 indicates that the existing hedge will be replaced with mixed planting. The consultant is of the opinion that a mixed hedge with some further additions will provide better visual amenity value than the existing hedge.

- 6.1.5 G5 Mixed** – Partially felled tree and scrub, the proposed development poses no impact on this.
- 6.1.6 T6 Scots Pine** – Situated adjacent to the Western Garden boundary away from any proposed building work, however the proposed landscape design indicates a wildflower meadow, planting and compost bins at the Western end of the garden.
- 6.1.7 T7 Poplar** – To the West of T6 on the Woodland Edge therefore outside the influence of proposed construction.
- 6.1.8 T8 Silver Birch** – To the South of T6&7 also outside the influence of proposed construction works.
- 6.1.9 T9 Goat Willow** – To the South of T8, as above.
- 6.1.10 T10 Apple** – To the North of H11a to be retained, fruit tree pruning required.
- 6.1.11 H11a Laurel/Lawsons Hedge** – Outside the direct influence of proposed development, only necessary work required is the replacement of dead conifers and gapping up of the hedge.
- 6.1.12 H11b Rhododendron, Yew and Beech** – Outside direct influence of proposed development, minor impact from proposed landscaping which can be addressed by control measures.
- 6.1.14 H12 Holly & Yew** – Not directly impacted on by the proposed development, landscaping and planting can be addressed by control measure.
- 6.1.15 T13 Turkey Oak** – As per H12.
- 6.1.16 T14 Turkey Oak** – Large tree situated on the roadside bank with a calculated RPA radius of 15Lm
- 6.2 Phasing of Works** – The final programme is yet to be confirmed but will consist of
- Installation of no dig solution
 - Demolition & site clearance
 - Initial Arboricultural Works
 - Dwelling Construction and hard landscaping
 - Soft Landscaping and finishing works
 - Arboricultural Sign Off
- 6.2.1 Arboricultural Supervision** – The project must be supervised by a competent Project Arboriculturalist using the recommendations in this document, any changes must be agreed with the Consultant and LPA Tree Officer if appropriate.
- 6.3 Initial Arboricultural Works**
- Removal of dead hedge plants
 - Following confirmation of client's decision removal of H4 or pruning/trimming
 - Removal of G5 and other shrubs etc
 - T 1 stump cut down
 - Installation of Tree Protection Fencing
 - Transplant S2
- 6.3.1 Tree Protection Fencing (TPF)** – As per Tree Protection Plan (TPP) and Tree Protection Fencing (TPF) spec (Appendix Five and Appendix Six), it must be noted that the area for the proposed garage within the RPA of T14 must be fenced off separately. **No work other than initial tree related site clearance will take place until the TPF has been erected.**

6.3.2 Decompaction Measures – Full control measures have been put in place in the way of tree protection fencing as per 6.3 1 and 7.0 all of which must be adhered to. In the unlikely event that soil compaction should occur within an RPA for whatever reason action must be taken to alleviate this. A full set of guidelines and method statement can be found in Appendix Seven.

6.4 Proposed Construction – At this stage a full construction programme has yet to be agreed, the consultant has based the recommendations on his normal experience of site logistics. **All operations will be carried out in strict adherence with the Impact Assessment (AIA), Arboricultural Method Statement (AMS), all control measures, best practice and build specifications.**

6.4.1 Existing Drive Modification – Prior demolition commencing the existing drive area must be modified to reflect the final design, this is to give the maximum working space for demolition, storage and working space.

- **Use of Existing Drive During Construction** – To be left as is, this appears to be of a sturdy construction with sub-base and wearing course., see Appendix Nine

6.4.1.1 Drive Extension – The proportion within the RPA of T14 will consist of a no dig cellular confinement solution, See Appendix Eight and Nine for detailed specification.

6.4.1.2 Drive Entrance Modification – The depth of the existing wearing surface and sub-base are yet to be confirmed, **the consultant is of the opinion** that the drive **should not be broken up** until all **construction works are complete** unless service trench excavations are required as per **6.4.5. The existing drive is outside the RPA of retained trees**, prior to any modifications in this area the depth of the existing area must be confirmed to include the sub-base in order for levels of the no-dig solution in the new drive area to be matched.

6.4.2 Demolition – Consists of a number of elements all of which could impact on retained trees/hedges to some extent, these are examined below with the appropriate control measures.

6.4.2.2 Garage – Situated under the canopy of and on the edge of T2 RPA, the following precautions must be taken:

- A banksman must be present whilst demolition takes place to avoid any excavator damage to the canopy of T2.
- Whilst the slab is being removed the banksman will supervise the removal to ensure that any roots discovered outside the RPA are treated in accordance with the Excavation Method Statement (Appendix Nine). All roots will be severed with a sharp pair of secateurs or saw. Dependent on the work programme there are two options for use of the area.
 - a) **Preferable - Temporary use as a works/storage area leaving slab in place** – Lay a geotextile fabric and cover with stone, following completion of construction works remove stone and fabric, decompacted using a machine bucket and re-topsoil as part of landscaping.
 - b) Leave as is – **Not recommended** as this will result in soil damage

6.4.2.3 Dwelling and Garden Building – Standard demolition following best practice, as per **6.4.2.1** a banksman must be present at all times.

6.4.2.4 General – The main contractor must agree with the consultant

- A muck-away stockpile position
- An export route as per Tree Protection Plan (TPP)

6.4.3 Dwelling Footings and Foundations – AS per contractor's programme and specification.

6.4.4 Garage Footings and Foundations – To be constructed using a no dig solution consisting of a block and beam floor supported by piles with a void beneath, the soil beneath will be irrigated using rainwater harvested from the roof. The exact specification is to be confirmed and can be conditioned; an example of a similar project can be found in Appendix Ten.

6.4.5 Services – Route is yet to be confirmed, the Consultant has been informed that the main sewer is to the West of the proposed dwelling in the rear garden and will be subject to a full survey. The consultant recommends that new services should be routed along the existing drive as this is outside the RPA of retained trees, any concerns must be addressed to the Consultant.

6.4.6 Dwelling and Garage Construction – As per build specification, exact garage specification to be confirmed, an example of the proposed construction method can be found in Appendix Ten

7.0 ARBORICULTURAL METHOD ASSESSMENT

7.1 AIS - The contractor must adhere to **6.0 AIS** as part of the AMS and all subsequent method statements both generic and task specific, no deviation will be accepted unless confirmed with the consultant prior to commencement.

7.2 Construction Exclusion Zone (CEZ) - As per TPP (Appendix Five) No infrastructure or construction work will commence until the CEZ is enforced by the tree protection fencing.

7.3 Site Access - All vehicular and pedestrian site access will be gained via the existing drive.

7.4 Site Compound and Materials Storage

- Car Parking will be on the existing Hard surface areas.
- The working site compound will be situated in an area designated by the main contractor a minimum of 5m from the CEZ/Tree Protection Fencing.
- All materials injurious to tree growth to include fuels, Cement etc. will be stored on hard standing a minimum of 5m away from the tree protection fencing/CEZ spill control kits always present.
- Fuelling must take place in a designated area away from RPAs with a spill kit present and drip tray where appropriate.
- All fuel containers must be bunded or situated within a spill container.
- Machinery and materials to be stored away from the CEZ.

7.5 General Responsibilities

- The Main Contractor MUST familiarise themselves with this DOCUMENT.
- Arboricultural Supervision and advice will be in place but ultimately adherence to tree related planning conditions on site is the responsibility of the Main Contractor.
- The main contractor will ensure no damage is caused to the CEZ/RPA and Tree Protection Fencing during the construction/demolition process and that the fencing remains in place until the project is complete.
- Immediate action must be taken to limit damage caused by accidental spills of chemicals; all waste must be disposed of in appropriate containers/skids. All spills and remedial action taken must be evidenced in report form by the contractor.
- Any concerns relating to CEZ, trees on site and other arboricultural matters must be addressed to the consultant for instructions and advice.

8.0 ARBORICULTURAL SUPERVISION

8.1 Project Management – The success of any project is down to good communication and organisation; this is of particular importance with tree related elements of a development especially where TPO'd trees and specific planning conditions are concerned.

8.2 Pre-Mobilisation /Planning Meeting – The Main Contractor/ Project will meet with the Consultant at the planning stage either in person or virtually to agree on the following:

- **Arboricultural Induction** – Use of Method Statements and Toolbox Talks (Appendix Eleven)
- **Site layout** – Office, welfare, compound and materials storage
- **Operations** – Demolition, traffic movement and haul routes
- **Programme** – Start and Stage Dates and supervision

8.3 Pre-Start Meetings

8.3.1 Tree Related Site Clearance – To confirm removal of scrub/trees etc and hedges if to be removed prior to demolition

8.3.2 Demolition and Construction – Arboricultural induction with Project Manager and Supervisor to confirm TPF positions/sign off, agree on no-dig drive solution and temporary surfaces, to save on time it would be ideal to install the no dig solution at the same time.

8.4 Supervision Programme – Based on **Table Two** below

Stage Visit	Description	Notes	Frequency
Site Pre-Start	Meet with client and contractors' team, walk site, ensure all parties understand control measures etc	To answer questions and make changes if required in agreement with PA	Once
Arb Induction	Give working team a Toolbox Talk based on method statements, ensure they understand the importance of the control measures and the ramifications if they don't adhere to them.	Ensure personnel sign up to M/S and TBT	Once unless otherwise required
Tree Protection Measure Sign Off	Inspection of TPF following or during erection	Ensure TPF is to acceptable standard and in correct position	Once
No dig solution	Supervision of ground preparation and installation of cellular confinement solution	Supervision to ensure installation is carried out correctly	Once
Demolition	Visit to ensure this has gone without issues	General inspection	Once
Post demolition/ Footings	General inspection to ensure measures are in place		
Construction	As required dependent on duration of works	To include garage foundations and construction	As required Minimum of 2x unless otherwise agreed
Landscaping	Induction of landscape team and confirmation of proposed works	To cover ground prep works for turfing / seeding and planting adjacent to or within RPA's	As required minimum of 2x unless agree
Finishing to include drive	As required and requested by PM/contractor	General inspection	1x
Sign Off	Thorough inspection of works, agreement of TPF removing etc	Sign off and completion	1x

8.5 Supervision Methods – Site Supervision relies on full cooperation with the PM and Main Contractor, the PA can only be held responsible when on site and as long as the team adhere to the AIA, AMS and task-specific method statements.

8.5.1 Project Arboriculturalist – The PA is part of the Project Team and is there to advise and assist the team as a whole and not to obstruct and to help where variations to this document may be required.

8.5.2 Remote Support This will be available via email, phone and video communication using WhatsApp or similar. These methods have proven to be useful and efficient on previous projects as site staff can contact the PA with most questions etc and show practical queries on screen.

8.5.3 Inductions and Toolbox Talks – The initial inductions will be given to the contracts manager and site supervisor; in the case the PA is satisfied a member of staff will be selected to give TBT to personnel joining at a later date the relevant information can be found in Appendix Eleven.

8.6 Record Keeping The PA will produce a report following each visit and send a copy to the client team and TO

8.6.1 Site Team The supervisor will keep a record of daily works relating to trees and submit a simple report with photographs to the PA each week

9.0 LANDSCAPING

9.1 Soft Landscaping Preparation of flower beds and general planting within RPAs of individual retained trees will have an impact on the rooting environment in the way of soil disturbance and root damage. The following precautions must be taken:

- **Turf Stripping** – To be carried out by hand taking off no more than 50mm in depth unless supervised by **the PA and banksman, a toothless bucket must be used**
- **Topsoiling** – In order to provide a tilth for seeding /turfing in the RPA a layer of topsoil approx. 50mm in depth will be raked out, soil to be taken into the RPA by wheelbarrow or loaded into the area by a machine working from without the RPA and raked out
- **Removal of Existing Plants** – To be carried out using hand tools and not an excavator
- **Soil Preparation** – Do not use a rotavator, any roots less than 25mm in diameter can be severed using a pair of secateurs, and roots greater than 25mm will be retained and worked around
- **Planting** – No planting of shrubs will take place any closer than 1.5m from retained trees. In the case planting is carried out within the RPA of trees this will be carried out using hand tools as per Soil Preparation
- **Mulching** – Retained trees will be mulched to a minimum radius of 1m using composted woodchip to a depth of 50-75mm

8.2 Planting The landscape plan indicates that proposed planting will take place outside the RPA's of retained trees apart from T2&T14, planting within these areas must be carried out using hand tools and following the Excavations Method Statement (Appendix Nine)

8.3 Hard Landscaping Apart from the drive which is examined in 6.4.1 and Appendix Eight this is outside the remit of the consultant.

9.0 RECOMMENDATIONS

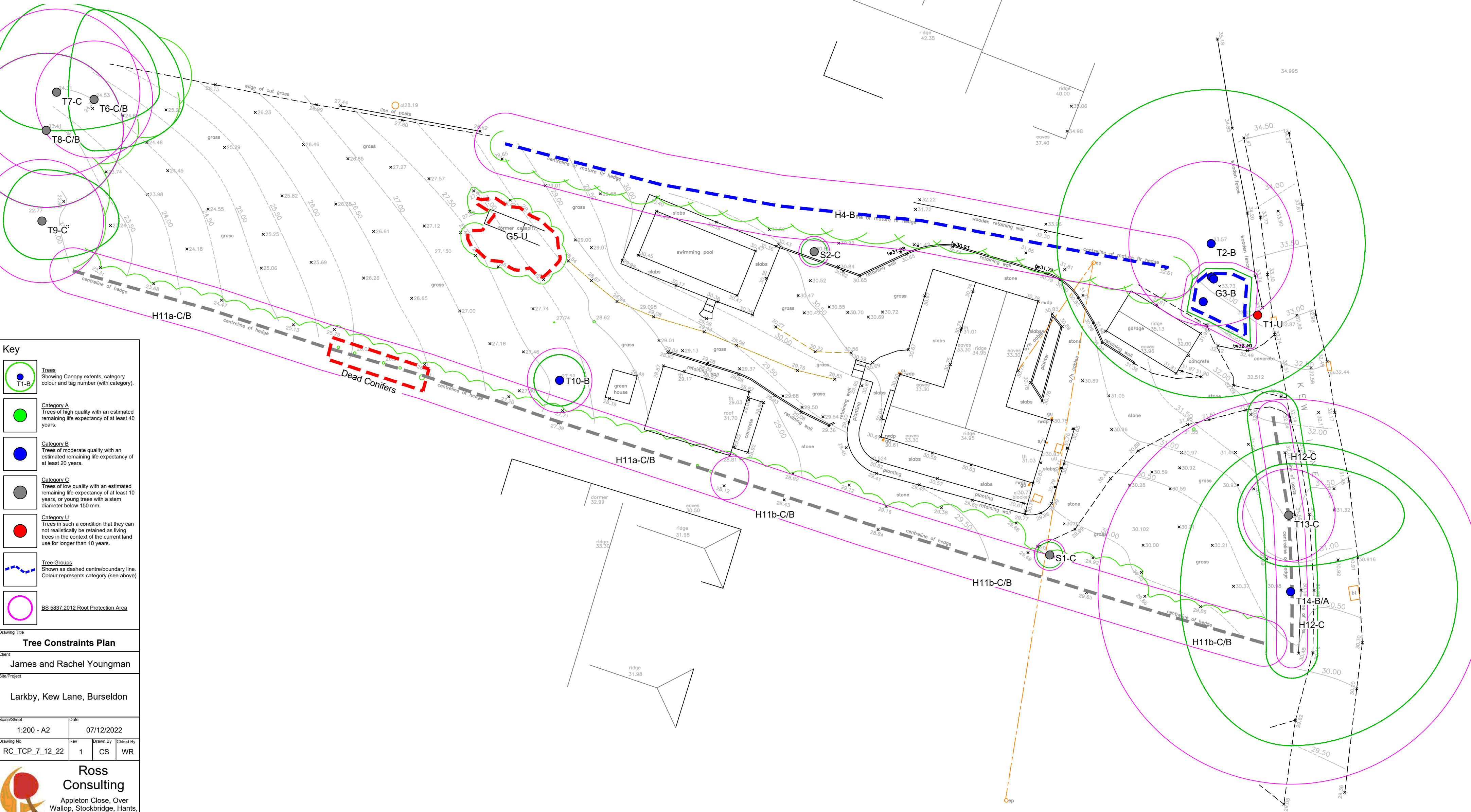
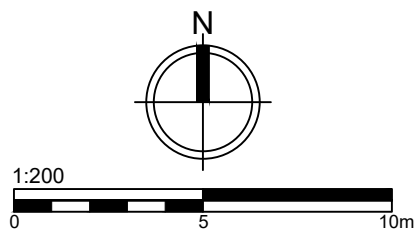
9.1 Consultants Comments The majority of works do not present a major risk to significant trees and control measures are in place to prevent damage to the RPA's

9.1.1 Landscape The design is well thought out with hard and soft features to include meadows to blend in with the surrounding landscape and woodland. The consultant would request **thought** to be given to **more use of native trees and shrubs at the Western end** of the garden to **blend in with the woodland**.

William Ross 12th December 2022

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
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APPENDIX ONE



Key

- Trees
Showing Canopy extents, category colour and tag number (with category).
- 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 with a stem diameter below 150 mm.
- Category U**
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- Tree Groups**
Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area**

Tree Constraints Plan

Client: James and Rachel Youngman

Site/Project: Larkby, Kew Lane, Burseldon

Scale/Sheet: 1:200 - A2	Date: 07/12/2022		
Drawing No: RC_TCP_7_12_22	Rev: 1	Drawn By: CS	Chkd By: WR

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APPENDIX TWO

Client – Mr and Mrs Youngman

Site – Larkby **Surveyor** – William Ross

Weather – Cold and Sunny

Date – 1/12/22

Tree No	Species	Height (M)	Crown spread (M)	Dia @ 1.5m (mm)	Ht of lowest branch (M)	Age class	Est Cont years	Cat Ret	Condition Physical- P Structural-S Good-G Fair-F Poor - P	RPA M2	RPA Rad	Observations	Management recommendations
T1	Beech (<i>Fagus sylvatica</i>)	2	0	0	1	NA	0		NA			Stump of tree on roadside bank, various shoots	Retain Stump as habitat pole or cut to ground as per client's preference
T2	Turkey Oak (<i>Quercus cerris</i>)	18	Av 12	534	4	M	40>	B	P-F S-F			Situated at top of a bank within 3 rd party ownership overhanging client's site, unidentified fungi on ground 2 no's toadstools. Cavity present on N side, appears to be a result of historical branch loss many years ago, water and decayed organic matter present, probe shows surface decay only	recommend owner to reinspect
G3	Mixed to include Holly (<i>Ilex aquifolium</i>) Turkey Oak	3 Av	1	200 max	G	Y	40>	B	P-F S-F			Mixed group surrounding T1&2, scrub and natural regen on both sides of the boundary	Dependent on landscape plan WR to revisit design
H4	Lawsons Cypress (<i>Chamaecyparis lawsoniana</i>)	10	Av 3	Av 200	G	M	40>	B As group	P-F&P S-F&P See obs			Established conifer hedge, typical of type, approx. 7 dead plants to west of Telegraph Pole,	Confirm ownership, trim back on client's side and reduce in height. Consideration must be given to screening it provides care must be taken in any work. An alternative would be to remove and replace with a semi-mature mixed hedge or Yew, see recommendations
G5	Group of scrub and felled tree	N A	NA	NA	NA	NA	NA	NA	NA	N A	NA	Remains of bed/tree overgrown with Brambles	Remove
T6	Scots Pine (<i>Pinus sylvestris</i>)	14	N7 E7 S4 W2	380	2.5	M	30>	C/B	P-F S-F			Situated at Western end of garden on the boundary, typical of woodland edge tree, lower branches dead to 5m above GL. Lateral growth to the West limited due to shading by larger woodland trees. Situated in brambles to the W	No Action required; deadwood could be removed but for Aesthetic reasons. Remove scrub
T7	Aspen? (<i>Populus tremula</i>)	20	N7 E8 S3 W5	540 @ 1.3	2	M	30>	C	P-F S-F			Situated in Brambles/scrub, not clear if in ownership of client, growing to North, Tension root visible to S 2m long on surface total Dia 200mm? Lean possible result of storm damage, not able to carry out full inspection	Clear scrub around the root plate and inspect root plate for movement

APPENDIX TWO

Client – Mr and Mrs Youngman

Site – Larkby

Surveyor – William Ross

Weather – Cold and Sunny

Date – 1/12/22

Tree No	Species	Height (M)	Crown spread (M)	Dia @ 1.5m (mm)	Ht of lowest branch (M)	Age class	Est Cont years	Cat Ret	Condition Physical- P Structural-S Good-G Fair-F Poor - P	RPA M2	RPA Rad	Observations	Management recommendations
T8	Silver Birch (<i>Betula pendula</i>)	17	Av6	500	3	M	30>	C/B	P-F S-F			Growing in scrub, fluted lower stem with ribs/butresses typical of woodland type, leaning to N for 5m then adapted growth to vertical	Clear scrub as required
T9	Goat Willow (<i>Salix caprea</i>)	6	N4 E6 S3 W3	Est 400	G	M	30>	C	P-P S-P			Collapsed woodland tree extending into garden, gives the impression of multi stem tree, trunk growing horizontal with branches growing upright	Dependent on final landscape design. Case for some pruning and retention of horizontal stem in woodland for habitat
T10	Domestic Apple	3	Av 2	210 @ 0.5	0.5	M	30>	B	P-F S-F			Forks N/S at 0.5. S 1branch to W and again E/W plus 1 cut dead branch to S. N forks again at 400mm to W&E	Requires standard fruit tree renovation pruning, worthy of retention.
H11 a	Lawsons Cypress and Laurel (<i>Prunus laurocerasus</i>)	3m Av	1.5	Av 150	G	MA	30>	C/B	P-F S-F See Notes			Consists of 18m of laurel from West boundary, 17 m of Cypress from laurel to shed includes 6 dead topped conifers	Option 1 – Remove total hedge and replace with semi-mature mixed hedge of yew Option 2 Prune and fill up gaps with selected species
H11 b	Rhododendron, Yew (<i>Taxus baccata</i>) Beech (<i>Fagus sylvatica</i>)	4	Av 2	150	G	Y/MA	30>	C/B	P-G S-G			Mixed hedge/boundary planting, unable to id Rhodo appears to be selected species rather than plain <i>ponticum</i> therefore worthy of retention	Formative pruning to form irregular mixed hedge, fill gaps with selected species

APPENDIX TWO

Client – Mr and Mrs Youngman

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Tree No	Species	Height (M)	Crown spread (M)	Dia @ 1.5m (mm)	Ht of lowest branch (M)	Age class	Est Cont years	Cat Ret	Condition Physical- P Structural-S Good-G Fair-F Poor - P	RPA M2	RPA Rad	Observations	Management recommendations
H12	Holly, Yew, Brambles, Ivy & Forsythia	4	2	100	G	MA	30>	C	P-F S-F			Roadside boundary hedge approx. 2m in width situated on bank/mound	Dependent on L/S plan, remove scrub, formative prune shrubs etc and gap up planting as required
T13	Turkey Oak	17	N4 E9 S4 W4	300	2	M	30>	C	P-F S-F			Growing under and suppressed by T14, grows to W at approx. 12m from ground	NA
T14	Turkey Oak	20	N11.6 E13 S12 W8.6	1320	2.5	Near Vet	30>	B/A	P-F S-F			Forks E/W@3m with centre stem, centre forks at 6m with multiple branches. Deadwood present throughout, branch to E over road forks N/ at approx. 7.7m with D/W. Condition of Deadwood not determined	Major deadwood needs removing over the road and moribund partially dead branch to E requires reducing back to live wood. TPO consent required.

KEY:

Age Class: **Y T**- Young (1st 1/3rd of life expectancy) **MA** - Middle aged (2nd 1/3rd of life expectancy) **M** - Mature (final 1/3rd of life expectancy)

OM - Over mature (beyond life expectancy and declining naturally) **Vet** – Veteran (As per Ancient Tree Forum definition - of conservation value with various features found in a vet – Justification will be given) **Ancient** – A tree of great Age for its species

Future Vet – Judged by the consultant that it has various features that will make a vet in the near future

Condition: **P** = Physiological

Good – no significant health problems **Fair** – symptoms of ill health that can be remediated

Poor – significant ill health

S = Structural

Good – no significant defects

Fair – significant defects that can be remediated.

Poor – Significant defects no remedy

Note: All Measurements are Approximate

Estimated Contribution in years – This is based on the species and condition of the individual tree, its position and the surveyor's opinion

APPENDIX THREE

ROSS CONSULTING TREE CATEGORISATION TABLE

Category Of Retention	Qualities	Sub Category	Colour Code
A	Trees that are deemed to be a good example of the species and are of importance to the local environs	AG – Groups of great Arboricultural or Amenity/Landscape value. OR a number of trees which would individually be Cat B may as a group be classed as AG due to the visual impact	Light Green
B	Trees that have been downgraded from Cat A due to defects (which can be managed), poor past management	BG – Similar to AG, groups of Cat C may be upgraded	Mid Blue
C	Trees that do not fit into the above categories due to condition, Such as defects, questionable vitality (deemed to be irreversible) and poor examples	CG – Similar to BG , a number of Cat U trees may be included in a CG C/U – Trees that are of limited of visual Amenity Value but worthy of short-term retention at discretion of client	Grey
U	Dead, Dying, Dangerous trees or those which cannot be remediated with tree surgery works and presenting or will become an unacceptable risk. Trees that have an expected useful life of less than 10 years Exceptions those being of ecological value may be retained for ecological/habitat value.	UE – U cat trees which are of ecological/habitat benefit and can be retained by use of control measures such as creation of a habitat feature to reduce risk	Dark Red
Ancient Tree(AT)	One that has passed beyond maturity and is old or aged in comparison with other trees of the same species (Ancient Tree Guide No 4 –ATF 2008)	To be assessed on individual merits	Symbol AT
Veteran (VT)	A tree that may not necessarily be very old but has the physical characteristics of an Ancient Tree (Ancient and other Veteran trees :Further guidance on management ATF 2013)	To be assessed on individual merits	Symbol VT

Note – Trees on the cusp of two categories are defined with the two letters with a slash in-between eg A/B or B/A depending on the surveyor's personal opinion or AG - A as a group which would mean the group is of High Arboricultural Merit /Visual Amenity although the individual trees may have a lower categorisation

After – J. Barrell (BS5837 Advanced Course JB/AA)
BS 5837 2012 (British Standard Document)

The above categorisation table is an adapted version of the BS 5837:2012 Tree Categorisation Table
Any Deviation from the above will be justified within the report

William Ross 01/09/22Version V3

E&O.E

APPENDIX FOUR



Photograph One – T1 In the background with dead Lawsons Cypress in H4 to the left



Photograph Two – Cavity at base of T2

APPENDIX FOUR



Photograph Three – H4



Photograph Four – T6 in the foreground with T7 in the background

APPENDIX FOUR



Photograph Five – T8

APPENDIX FOUR



Photograph Six – T9



Photograph Seven – H11a

APPENDIX FOUR



**Photograph Eight –
H11b**

APPENDIX FOUR



Photograph Nine – H11a in the foreground and T14 in the background



Photograph Ten – Deadwood in T14 overhanging road

APPENDIX FOUR



Photograph Eleven
Canopy of T14

APPENDIX FIVE

General Notes

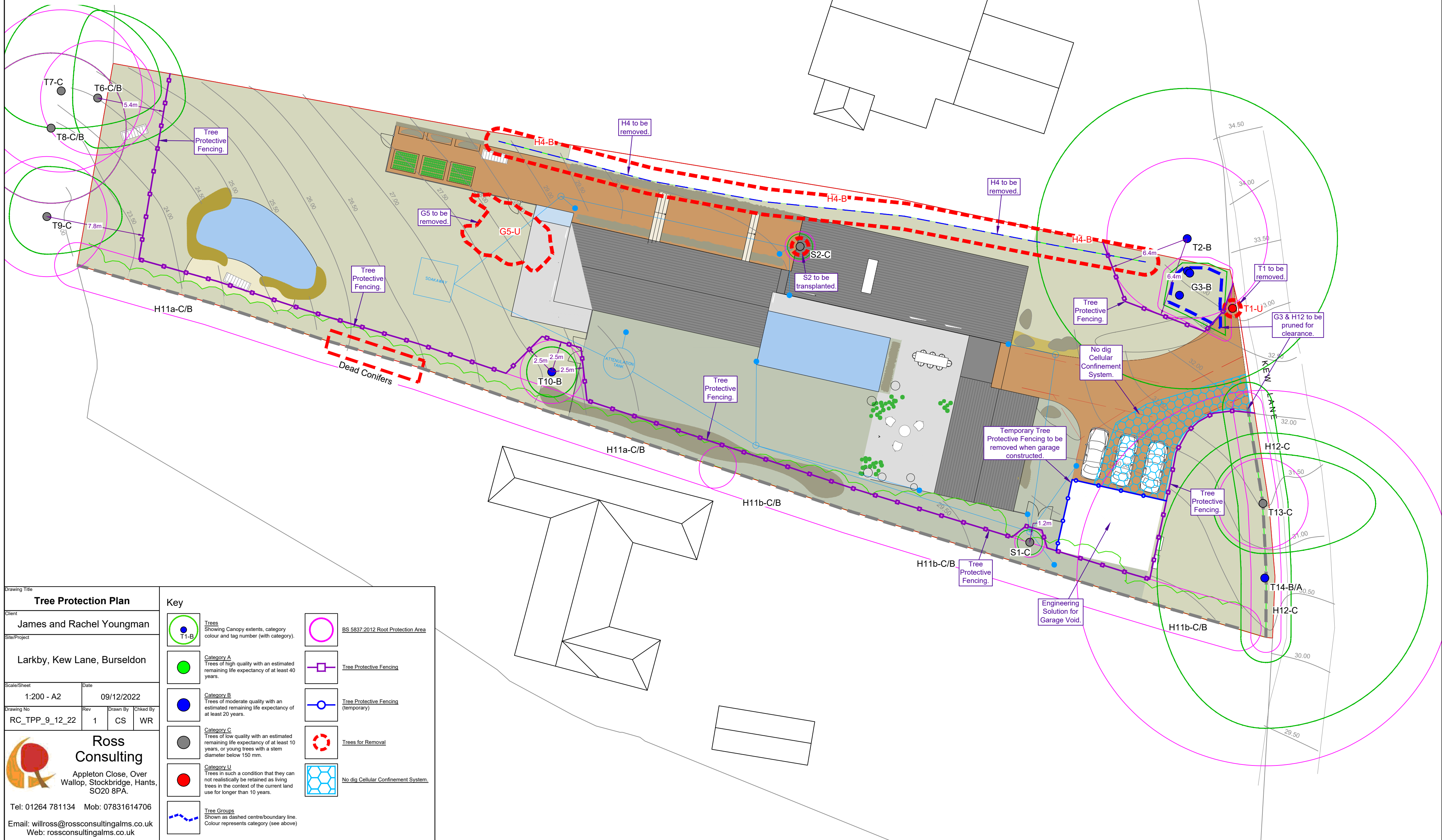
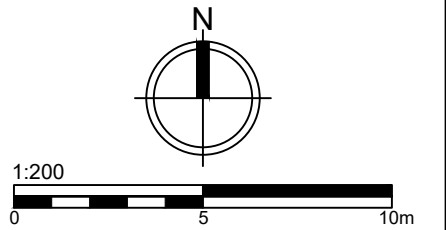
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.

Depictions of tree canopies are based on measurements taken to four cardinal compass points.

No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.

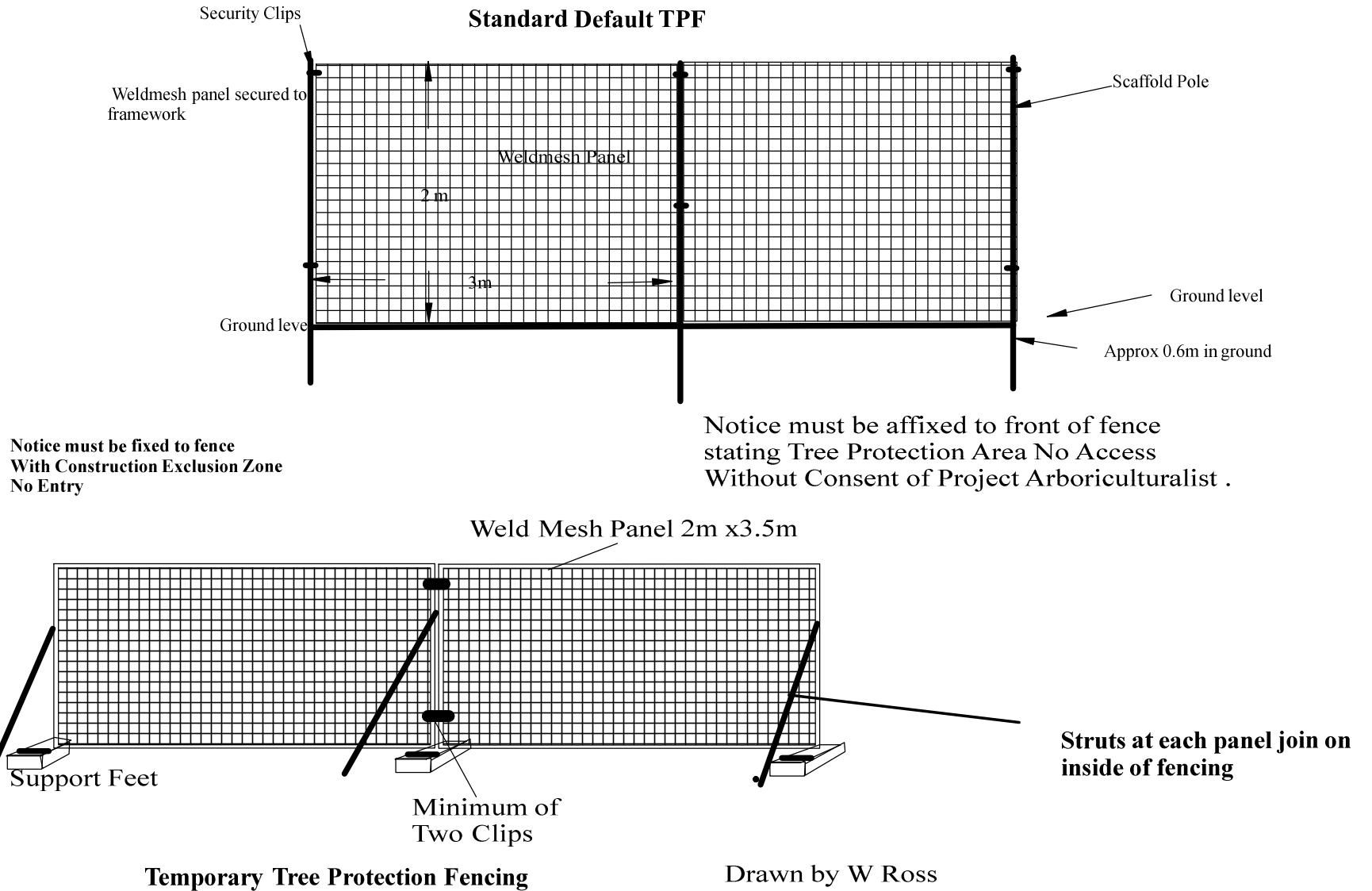
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.

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APPENDIX SIX

Tree Protection Fencing Specifications



SOIL DECOMPACTION METHOD STATEMENT

1.0 INTRODUCTION

1.1 Reasoning – This document has been created following a request from an LPA Tree Officer to provide a method statement to detail a decompaction strategy in the case that soil within the RPA of a tree becomes compacted.

1.2 Contributing Factors – There are many actions that can cause soil compaction such as:

- Continual human traffic
- Animal traffic e.g. sheep/cattle
- Storage of equipment and materials within an RPA
- Pooling of water/flooding
- Machinery traffic, in particular wheeled machines, tracked machinery exerts less pressure per square inch or cm than a human being
- Raising of soil levels

1.3 Soil Compaction – The compression of soil by external/mechanical actions resulting in the reduction of pore space and increase of soil density

1.3.1 Impact and Cost of Compaction – The most obvious symptoms are impeded drainage due to reduction of pore space, this has a knock on effect reducing the ingress of air and water into the soil meaning roots do not get the oxygen and water they require to grow and support the plant. In many cases the poor conditions will result in anaerobic respiration which occurs when there is a lack of oxygen to support aerobic respiration, the anaerobic process produces harmful products which result in death of or lack of root growth.

The lack of oxygen/water or flooding will also have a detrimental effect on the beneficial soil community such as invertebrates, fungi, mycorrhiza, and other organisms, which help provide a soil profile conducive to healthy root growth.

1.4 Assessment of compaction within and outside the calculated RPA – To be carried out by the Arboricultural consultant.

2.0 DECOMPACTION

2.01 Soil Decompaction - *Treatments which relieve soil compaction by introducing air space into the soil, decreasing soil bulk density. The treatments improve soil drainage and soil aeration, reduce root impedance, and otherwise promote soil fertility. (AZ of Tree Terms, A companion to British Arboriculture 2018)*

2.1 Methods of Mechanical Decompaction – Several options are available to the Arboriculturalist to remediate soil compaction:

- a) **Prevention** – The easiest and most cost effective, observe the Construction Exclusion Zone and use Temporary Ground Protection where appropriate if access is required to the CEZ
- b) **Remedial Options**
 - Garden Fork
 - Compressed Air Injection with ameliorants
 - Radial trenching by air spade incorporating biochar and graded topsoil
 - Mulching with composted woodchip in conjunction with above treatments methods

2.2 Garden Fork – For small areas in particular edges of RPA's or footprints in wet ground

- Insert fork in ground to full depth and gently move front to back and side to side
- Pull fork up so approx. 100-150mm of tines remain in ground ease fork towards operator until surface of ground cracks and then remove fork, repeat as necessary ensuring leaving between 100mm – 200 between each fork insertion dependant on severity of compaction/soil damage
- Spread layer of coarse grit (not sand) over holes and brush in to fill holes to prevent them from closing allowing ingress of air and water.
- Mulch surface with composted woodchip to a minimum depth of 50mm

2.3 Compressed Air Injection – For Larger areas, this should be carried by an experienced operative using a machine such as a Vogt Air Injector, the contractor will be able to advise on the type of ameliorants to used dependant on soil conditions and requirements. The following is a general guide:

- Agree on ameliorants e.g. enriched Biochar or tree Fertilizer such as carbon gold products plus a granular material to prevent holes filling up
- Select area to be treated, inject area at 1 to 1.5 m centres dependant on severity of compaction
- Depth dependent on specifications – Initial compressed air shot to be made at maximum depth, secondary and subsequent shots to made as lance is withdrawn at various depths
- On completion mulch with composted woodchip as per **2.1.1**

2.4 Air Spade Remedial Works – For relieving compaction or reducing artificially raised levels surrounding the root collar and within the calculated or modified RPA of a tree. This method avoids physical mechanical contact with roots, therefore when the air space is used by an experienced & skilled operative potential damage to the tree and roots is kept to a minimum in comparison to the use of a mechanical excavator.

2.4.1 Root & Root Collar Excavation – Has several Uses

- Reducing soil levels where material has been built up beyond the original ground level
- Decompaction
- To expose root collar/roots to enable inspection of root conditions especially where root damage is suspected whether this be abiotic (mechanical etc) or biotic (Decay caused by fungal pathogens etc)

2.4.2 Excavation Operation – Dependant on objectives:

- Identify area to be excavated such as root collar and distance from stem or in the cases of fungi such as *Meripilus* where the fruiting bodies are or have been visible
- Loosen soil in layers, in some cases this will be easily blown out of the trench, in other cases it may need to be removed with a shovel or vacuum excavator
- Do not use the air spade too vigorously as this will strip off the epidermis and cortex (equivalent to the human skin) of the roots
- Clear around areas of interest for further inspection
- See **5.2.1** for backfilling methods

2.4.3 Radial Trenching – Used to alleviate compaction in all or part of a calculated RPA and outside if deemed appropriate by an Arboricultural Consultant, the severity of the compaction will be assessed by a consultant taking into consideration:

- **Soil type** – In the case of heavy clay it is difficult to use an air spade effectively
- Soil Bulk density
- Severity and area of compaction
- Radius of calculated RPA
- Soil contaminants e.g. cement, chemicals, diesel etc

This list is not exhaustive as there may be other pressures such as regular foot traffic etc for which other measures may have to be taken such as fencing off the trees with Tree Protection Fencing.

2.4.4Preparation – Confirm exact work specifications to include :

- Competent experienced operator
- Equipment and soil ameliorants to be used to include a fuel spill kit for the compressor, ensure sufficient air hose is available
- Radius of the RPA, depth, width and spacing of trenches
- Mark out area of operation and position of trenches
- Confirm position of compressor and associated equipment/materials , this must kept be outside the area to be decompacted
- Mark out area of operation and position of trenches

2.4.5Excavation Operation – In many cases root collar excavations will be required as per **5.1**

- Start from tree working towards furthest point of trench
- Loosen soil in layers, in some cases this will be easily blown out of the trench, in other cases it may need to be removed with a shovel or vacuum excavator
- Inspect for roots whether they be small fibrous, fibrous root mass or singular roots
- Do not use the air spade too vigorously as this will strip off the epidermis and cortex (equivalent to the human skin) of the roots
- Ensure that when using the shovel that any damage to roots is minimized, ideally suing a plastic shovel
- In the case roots are going to left exposed cover with damp hessian and polythene to prevent drying out
- Do not walk on decompacted trench as this will cause further compaction defeating the object of works

2.4.6Backfilling – In most cases the trenches can be filled with a mix of the native soil and a suitable imported topsoil, in the case of polluted soil a replacement graded soil to BS 3882 will be required, refer to the Arboricultural consultant for exact specifications.

- Remove hessian/polytene from roots, fill trenches back in layers of between 50-100mm in depth mixing enriched Biochar etc with the air spade ensure
- level out each layer and repeat above process
- Following completion mulch remediated area with a layer of composted woodchip at least 50mm in depth

3.0 OTHER USES FOR AIR SPADES RELATED TO TREES

3.1 Services and Utilities

- Excavation of services adjacent to trees to confirm root presence and avoid root damage
- Excavation of new trenches/routes for installation of services/ducting to avoid root damage
-

3.2 Construction

- Test pits for foundations and infrastructure
- Excavations for foundations and infrastructure
- Various uses as required

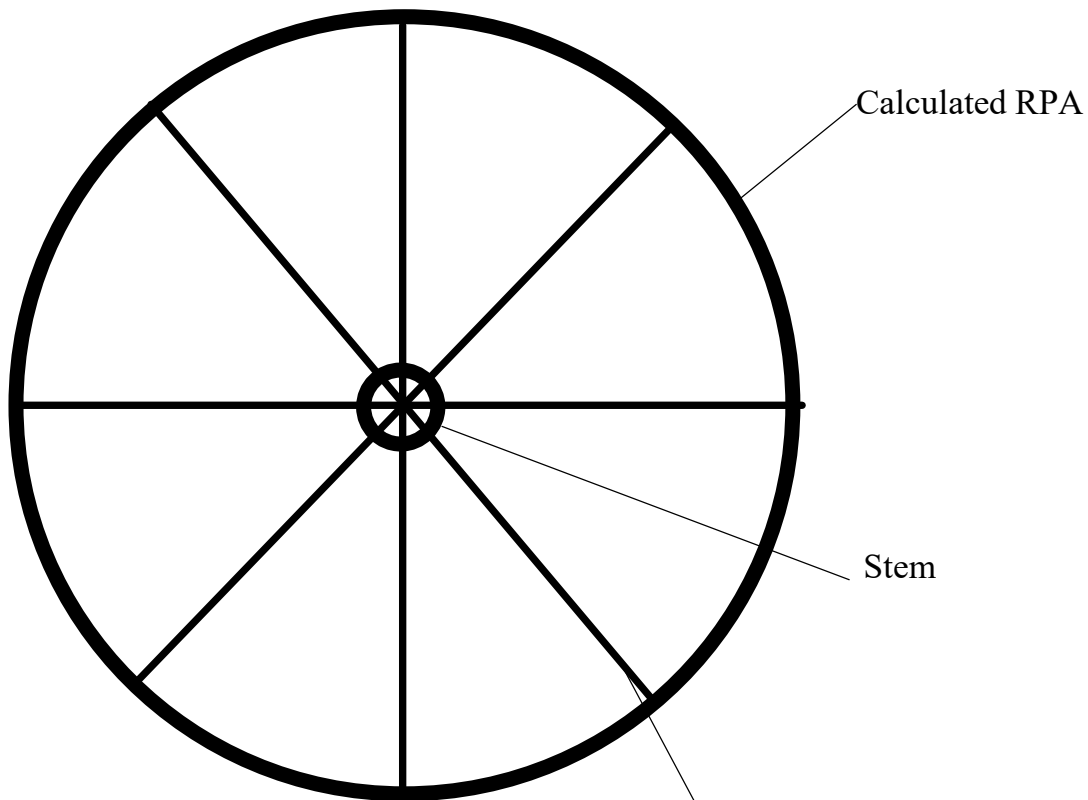
Attachment – Please see attached indicative drawing

William Ross 18th May 2020

Compressed Air Decompression Methods

Indicative Examples

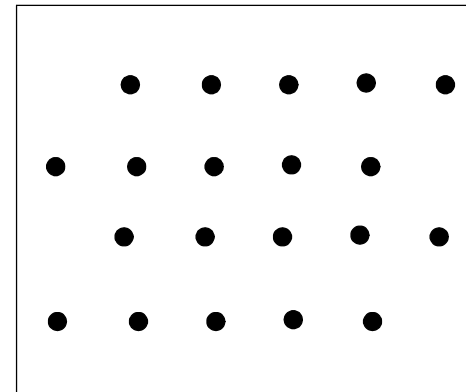
Radial Trenching



Indicative Trenches

Number and Positions Depend
on Tree and Severity of
Compaction

Air Injection



Injection Points

Spacing dependant on
Specification, varies
between 1 - 2m

Note - The drawings are for illustrative
purposes, please refer to individual
specifications

Drawn By W.Ross

APPENDIX EIGHT

DRIVEWAY NO-DIG SOLUTION

1.0 INTRODUCTION

1.1 Reasoning – Installation of drives requires a number of operations (as below) which disturb the existing surface and when carried out in an RPA are likely to impact on the health of the tree:

- Stripping of turf more than 25mm in depth -must be agreed with the consultant
- Excavations
- Compacting of soil and any sub-base etc

These operations result in soil compaction reducing or preventing the ingress of moisture and oxygen which are vital to the growth of roots.

1.2 Cellular Confinement Solution – A proven alternative to traditional hard surfacing for use in areas adjacent to or within RPA's, this consists of a 3d webbing laid on a non-woven Geotextile, pinned in place and filled with no fines stone and topped with a permeable surfacing such as gravel, block paviour or Asphalt. An example of such a product is shown below with a generic method statement and stone specification.

2.0 NO DIG SOLUTION FOR PROJECT

2.1 Ground Preparation – In the first instance random test digs must be carried out by hand to ascertain the presence of roots, in the case the PA is satisfied that no significant roots are present in the first 50mm the turf can be stripped using an excavator based outside the RPA with a toothless bucket. In the case that stripping is not possible the no-dig solution will be laid directly on the grass.

2.2 Installation – Using a 150 mm deep web solution, in the area marked on the TPP (Appendix Five), for ease of installation this can be extended to a regular than a curved shape.

2.3 Supervision – The installation of the no-dig solution must be supervised by the PA and the final design agreed with the structural engineer and project team.

PRESTO



INSTALLATION GUIDE

■ **simplified**



GEOWEB® Tree Root Protection



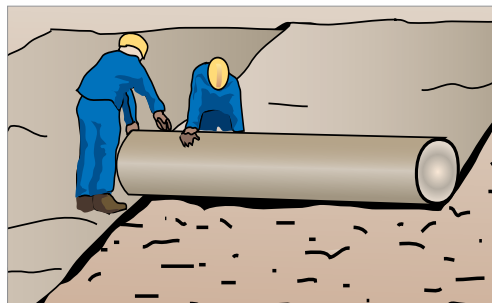


GEOWEB® Tree Root Protection

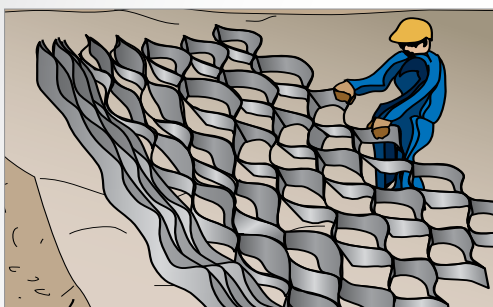
- 1 Prepare subgrade. Remove debris, rocks.



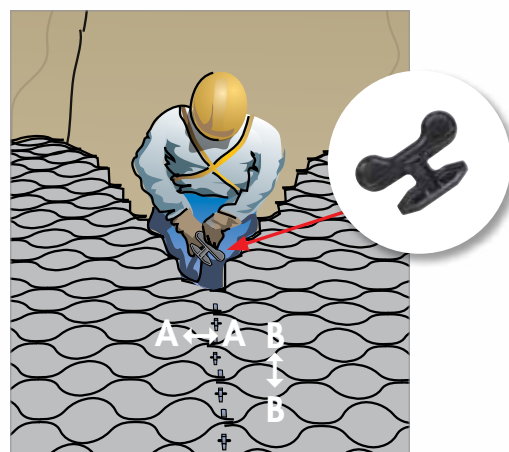
- 2 Install TRP4000 geotextile.
Overlaps by minimum 300 mm.



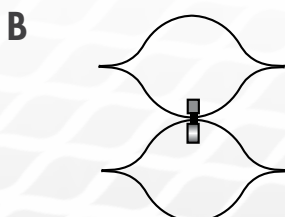
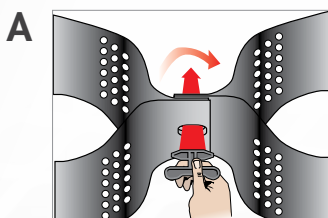
- 3 Partially expand GEOWEB® sections.



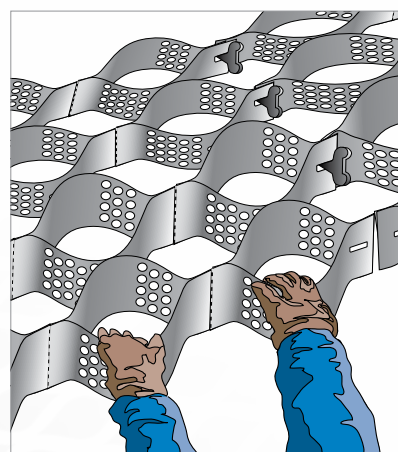
- 4 Connect GEOWEB® sections with ATRA® keys.



- 5 Connect side to side (A) and end to end (B).



- 6 Fully expand GEOWEB® sections.



IMPORTANT NOTE:

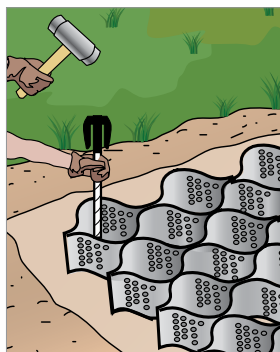
The simplified installation guide provided by Presto GEOSYSTEMS® is intended as a general guideline only. The contractor should follow contract plans and specifications and refer to detailed installation guidelines for more information.

- 7** Hold sections open. Use Options A, B, C or D.

A T-Bars



B ATRA® anchors



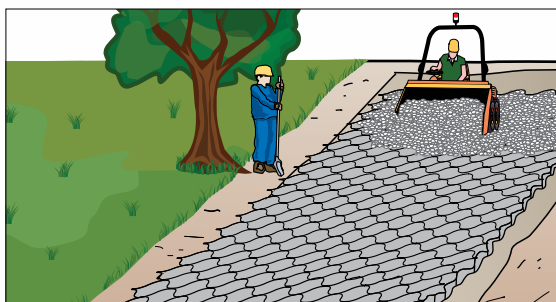
C Wood Stakes



D Infill Select Cells



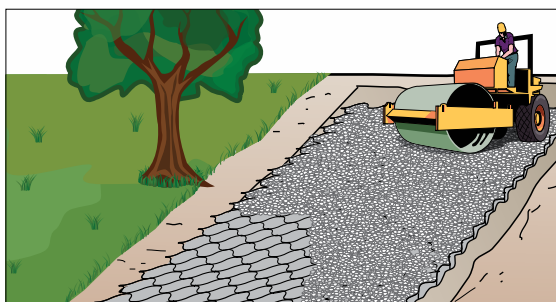
- 8** Infill GEOWEB® cells.



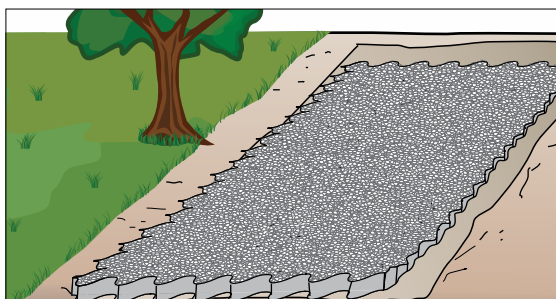
- 9** Spread Infill ensuring a 25 mm overfill at all times.



- 10** If required, use a 4t smooth, non-vibrating roller on overfilled GEOWEB® system. Refill as needed to ensure a 25 mm overfill.



- 11** Surface option ready to install according to specification.



Greenfix
Soil Stabilisation and Erosion Control Specialists

info@greenfix.co.uk
tel: 01608 666027
www.greenfix.co.uk

Geoweb infill material for Tree Root Protection
Clean Angular Stone 4-20mm

Specification for open graded infill material for Geoweb cellular confinement within tree root protection applications. The no fines material is to ensure high ratio void space which corresponds with ideal soil void ratios for tree root health.

Material to BS EN1342 or BS EN12620. Crushed gravel is not permitted.

Properties of material	Test	Value
Grading of particle size	BS EN 13242	Grading 4-20mm
Fines Content	BS EN 13242	f ₄
Shape flakiness index	BS EN 13242	F ₁₀
Resistance to fragmentation	BS EN 13242	LA ₁₀
Resistance to wear	BS EN 13242	M ₁₀ 20
Water absorption rate BS EN 1097-6:2000 clause 7	BS EN 13242	WA ₂ 2
For typical WA > 2% magnesium sulphate soundness	BS EN 13242	MS ₁₈
Acid soluble sulphate content air-cooled blast furnace slag	BS EN 13242	ASo ₁
Acid soluble sulphate content non air cooled blast furnace slag	BS EN 13242	ASo ₂
Total sulphur aggregates other than air cooled blast furnace slag	BS EN 13242	<1% by mass
Total sulphur air cooled blast furnace slag	BS EN 13242	<2% by mass

Sieve Size mm	Percentage of 4-20mm passing
40	100
31.5	98 - 100
20	90 - 99
10	25 - 70
4	0 - 15
2	0 - 5
1	-

Air cooled blast furnace and steel slag should be free from Dicalcium silicate and iron disintegration in accordance with BS EN 13242:2002, 6.4.2.2 v5

Leaching of materials for blast furnace slag and other recycled materials should meet requirements of the Environmental waste acceptance criteria for inert waste when tested in accordance with BS EN 12457-3

On poor site conditions which require compaction, this should be minimum 4 passes of a smooth wheeled roller at max weight 1000kg/m width without vibration.

For assistance on correct 4–20mm clean angular stone infill specification, please contact Greenfix technical team.

MATERIALS SUPPLIED BY **Greenfix**

GEOWEB®



TRP4000
Non-woven Geotextile



ANCHORS



ATRA® KEY



ADDITIONAL MATERIALS REQUIRED

4–20mm clean, angular stone



LIMITED WARRANTY

Presto GEOSYSTEMS® warrants each GEOWEB® section which it ships to be free from defects in materials and workmanship at the time of manufacture. Presto's exclusive liability under this warranty or otherwise will be to furnish without charge to Presto's customer at the original f.o.b. point a replacement for any section which proves to be defective under normal use and service during the 10-year period which begins on the date of shipment by Presto. Presto reserves the right to inspect any allegedly defective section in order to verify the defect and ascertain its cause.

This warranty does not cover defects attributable to causes or occurrences beyond Presto's control and unrelated to the manufacturing process, including, but not limited to, abuse, misuse, mishandling, neglect, improper storage, improper installation, improper alteration or improper application.

PRESTO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, IN CONNECTION WITH THE GEOWEB® SYSTEM. IN NO EVENT SHALL PRESTO BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OR FOR ANY OTHER REASON, INCLUDING NEGLIGENCE, IN CONNECTION WITH THE GEOWEB® SYSTEM.

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www.greenfix.co.uk
01608666027

APPENDIX NINE EXCAVATIONS METHOD STATEMENT

1.0 INTRODUCTION

1.1 Why? – Section One of this document has been produced as a generic guide to carrying out excavations adjacent to trees and for **Section Two** agreed works within RPA's, in order for site operatives to understand why precautions and control measures are required to prevent damage to trees (both above and below ground) and soil.

1.2 Limitations – This Method Statement (M/S) is not a substitute for arboricultural supervision or individual task specific M/S that are required for works adjacent to TPO'd trees or those of particular merit/importance. A tree/task specific M/S and supervision schedule will be produced and referenced in the AIS and AMS in the case that the Project Arboriculturalist/Tree Officer deems it appropriate.

1.3 Reasoning – Trees are a living organism that amongst other things require water, oxygen and nutrients to survive to achieve this they require a rooting environment which means soil suffering from little or no compaction which supports a healthy soil community to include invertebrates, bacteria and mycorrhizae etc. A healthy uncompacted soil enables ingress of Oxygen and Water which supports aerobic respiration (with Oxygen – Good) and not anaerobic respiration (without Oxygen – Bad).

1.4 Roots – For the purpose of **BS5837** – Trees in relation to construction, design, demolition and construction. Recommendations, the standard refers to as Root Protection Area (RPA) which is based on a circle with a radius of 12 x the diameter of the tree at 1.5m above ground.

- The RPA is a circle which no work shall take place without a method statement and supervision from the PA
- Roots exist outside this area and there is no formula to the actual area of rooting as this depends on ground conditions etc
- Roots will be present from the soil surface to what ever depth the conditions allow but are usually present in significant numbers to the depth of 0.5 to 1m and in some cases deeper than 3m

1.4.1 Types and Function – There are various types and they have many functions in simple terms these are

- **Main Roots** – Act as anchors and transport water and nutrients to the tree, all other roots grow from these
- **Secondary Roots** – Grow from the above, similar function
- **Fine/absorption Roots** – Absorb water and nutrients
- **Root Mass** – Consists of Secondary and fine roots

APPENDIX NINE

Roots are vital to the function of a healthy tree, apart from breaking/cutting damage is not immediately visible, it can take up to a couple of years before the effect is visible, these can include

- Crown dieback/thinning
- Loss in vitality of leaves
- Lack in stability resulting in failure of the tree

2.0 EXCAVATIONS

2.1 Larkby

2.2 Foundations – Traditional type poured foundations to an Architects or Structural Engineers specification the AIA, AMS and all control measures must be followed in addition to the procedure outlined below:

2.2.1 Excavations – These will be outside the RPA although **section 3.0 must still be observed.**

2.2.2 Footings/Slab – Continue as per Architects/SE specifications.

2.3 Drive – See Appendix Eight.

2.4 Garage – See Appendix Ten

3.0 PROCEDURE FOR TREATMENT OF ROOTS –

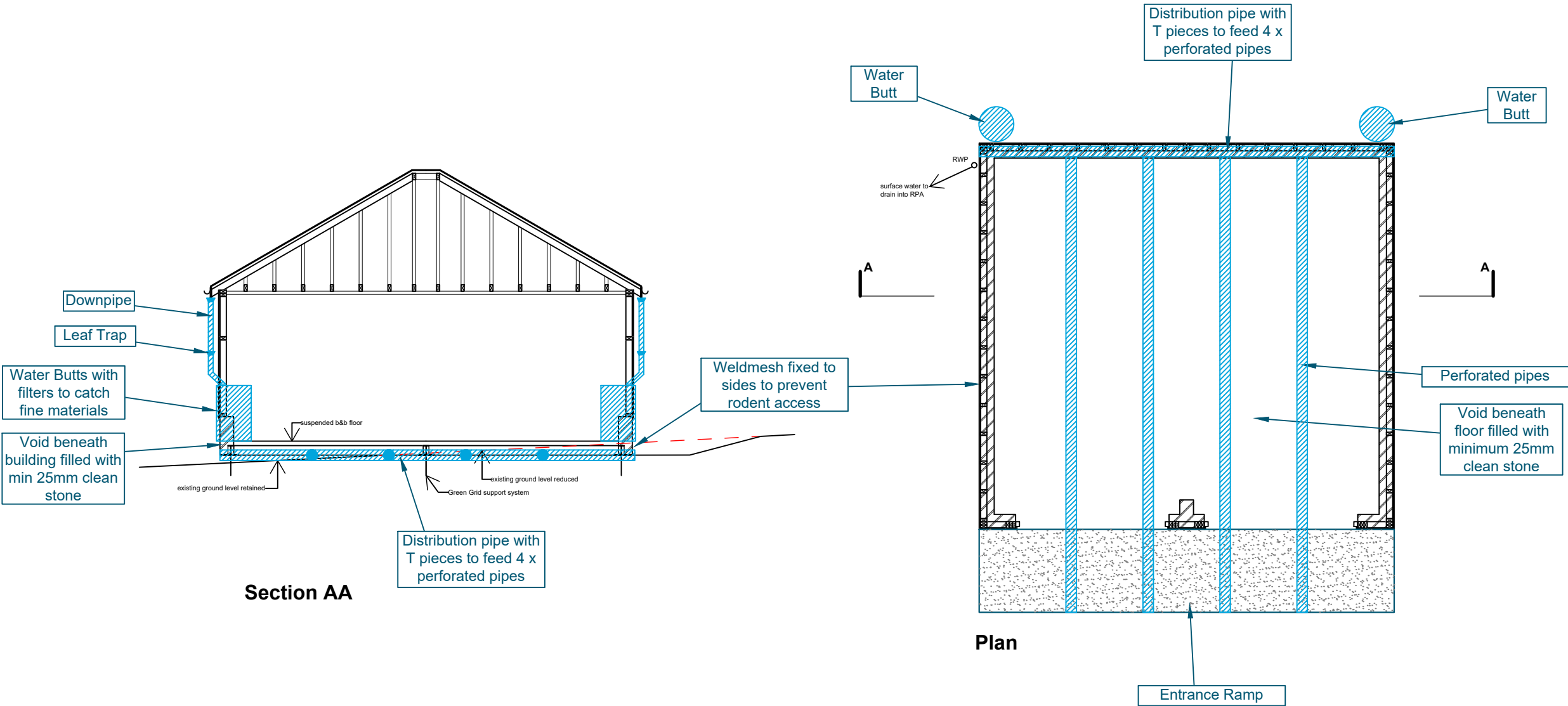
The following points must be observed on discovery of roots within the excavations:

Following identification of living roots or fibrous root mass the PA will inspect to confirm size and potential importance.

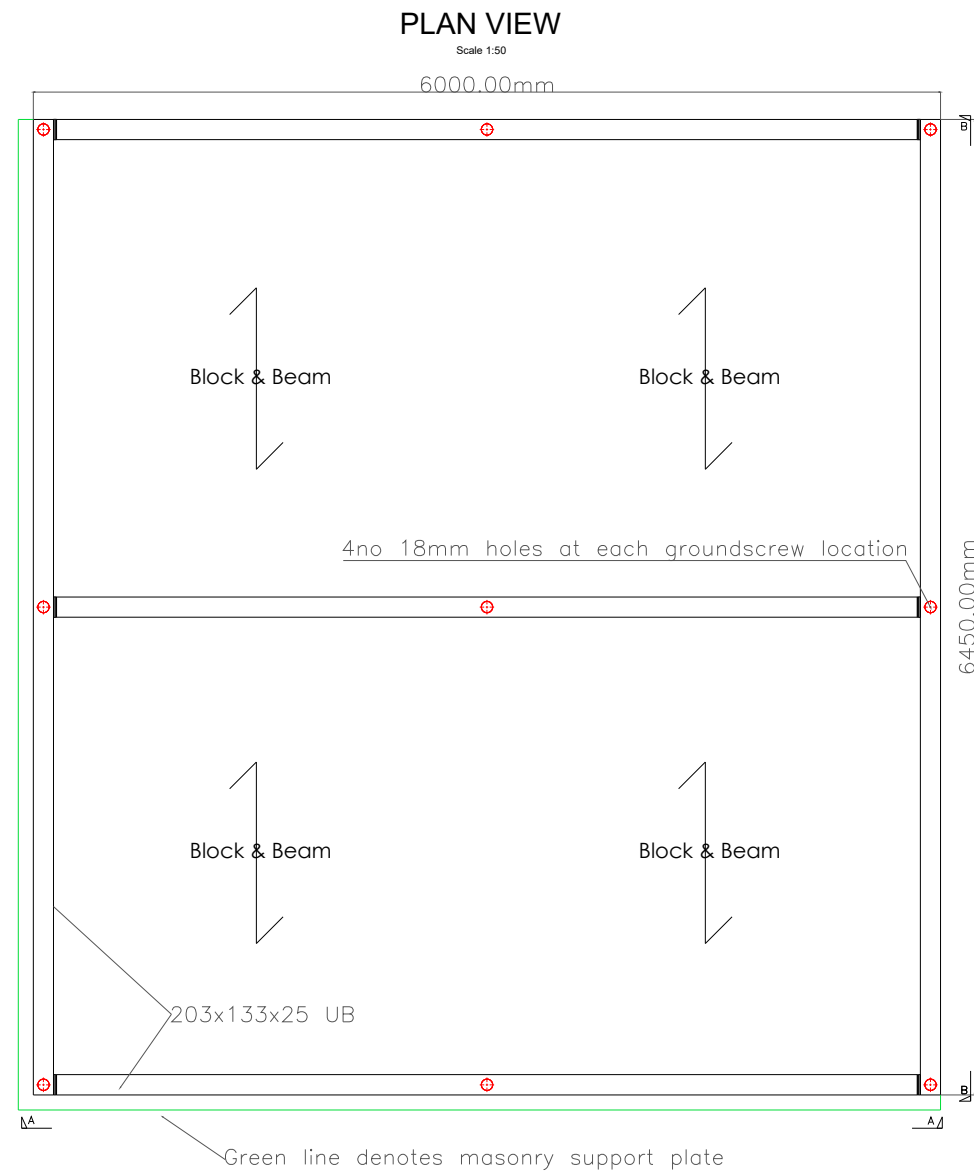
- **Roots less than 30mm in diameter** – In the case that these cross the trench they will be cut with a pair of sharp secateurs and the tree side of the exposed root will be protected with a damp cloth or soil if possible. The material must be kept damp by spraying water on to the surface at regular intervals.
- **Fibrous Root Mass** – On discovery of a root mass the size must be identified by the PA and excavated around either by machine if this is practical or by hand digging. The exposed root mass must be covered with damp hessian/material as exposed roots.
- **Roots larger than 30mm in diameter** – These must not to be severed unless express permission is given by the PA In the case of such work taking place the root must be cut using a sharp pruning saw, this will be carried out by PA or under his supervision. All exposed roots must be protected with damp hessian during the period of works unless covered by soil or the trench is backfilled.

Example specification for under floor Root Protection Area irrigation system. Building design is an example and not representative of this development scheme.

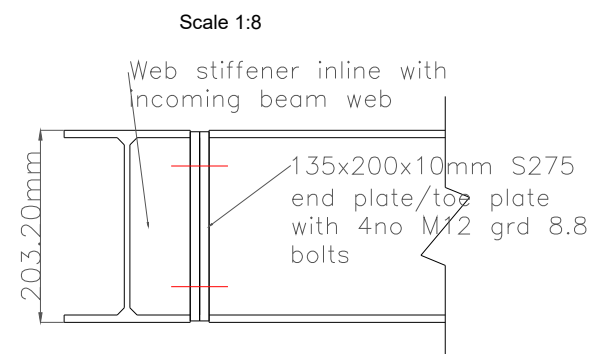
APPENDIX TEN



Drawing Title			
Under Floor RPA Irrigation System			
Client			
James and Rachel Youngman			
Site/Project			
Larkby, Kew Lane, Burseldon.			
Scale/Sheet	Date		
1:75 - A3	10/12/2022		
Drawing No	Rev	Drawn By	Checked By
	1	CS	WR
			
Ross Consulting			
Appleton Close, Over Wallop, Stockbridge, Hants, SO20 8PA.			
Tel: 01264 781134 Mob: 07831614706			
Email: willross@rossconsultingalms.co.uk Web: rossconsultingalms.co.uk			



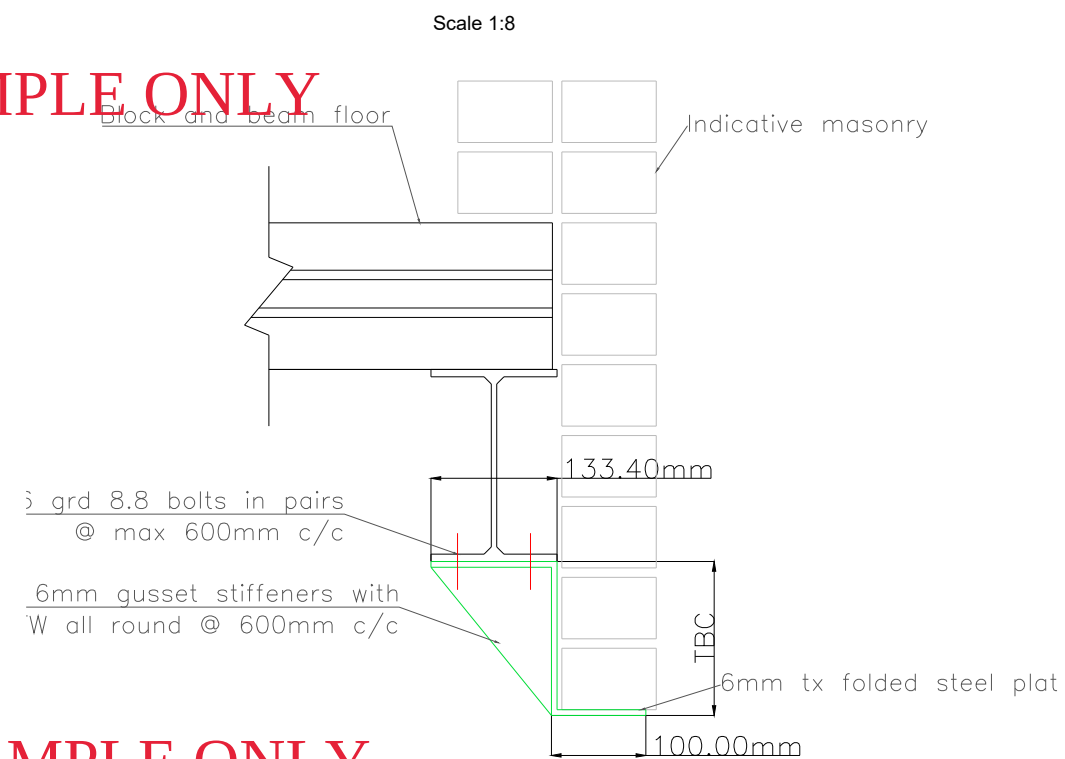
203x133x25 UB BEAM TO BEAM CONNECTION



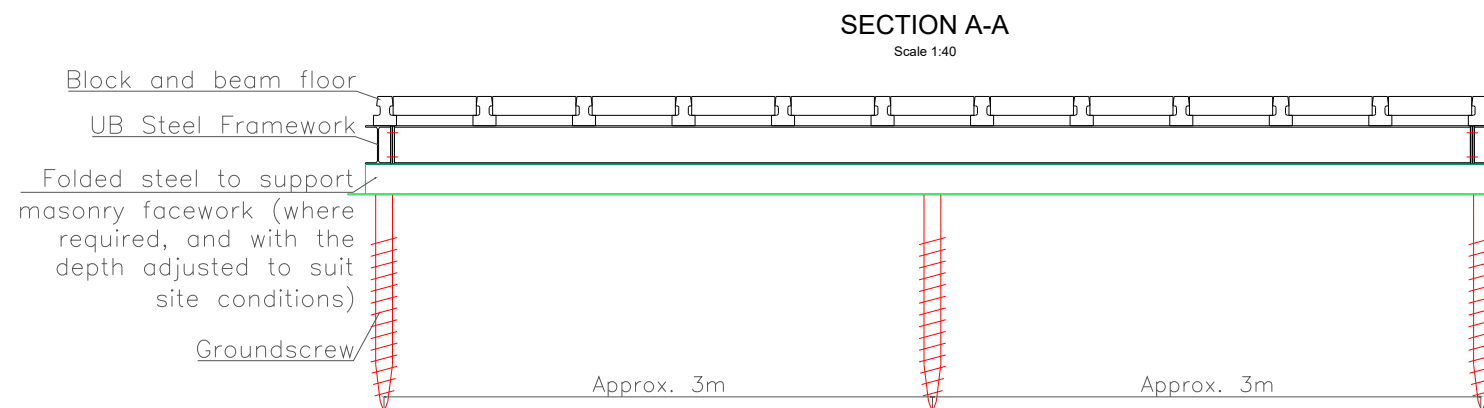
APPENDIX TEN

TYPICAL SECTION

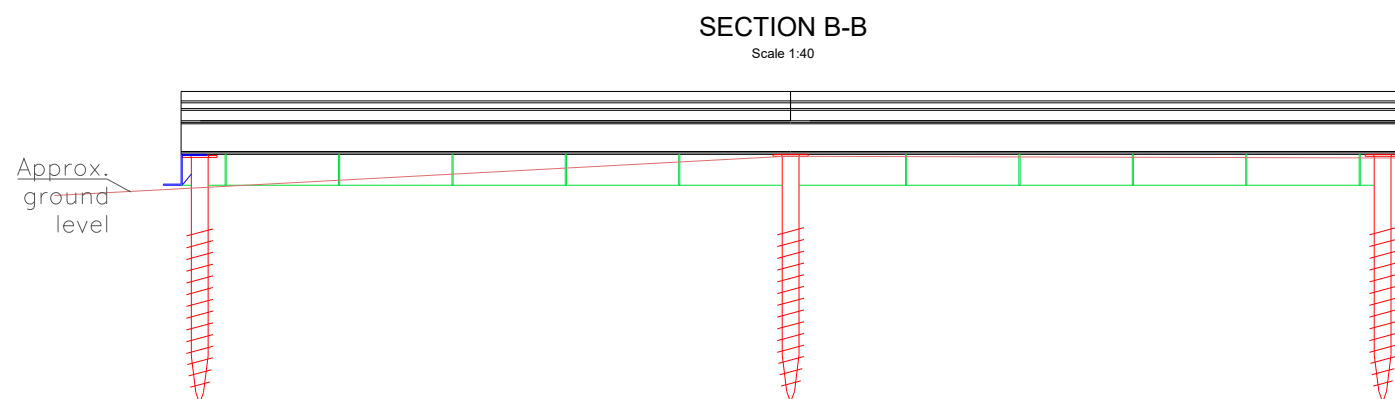
EXAMPLE ONLY



EXAMPLE ONLY



EXAMPLE ONLY



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C	-	-	-
B	BEAMS UPDATED TO 203X133x25 UB	LH	14/06/21
A	INITIAL DRAWING	-	-
REV:	DESCRIPTION:	BY:	DATE:

STATUS: CONSTRUCTION ISSUE

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www.greengridsystems.com

CLIENT:

ARCHITECT:

SITE:

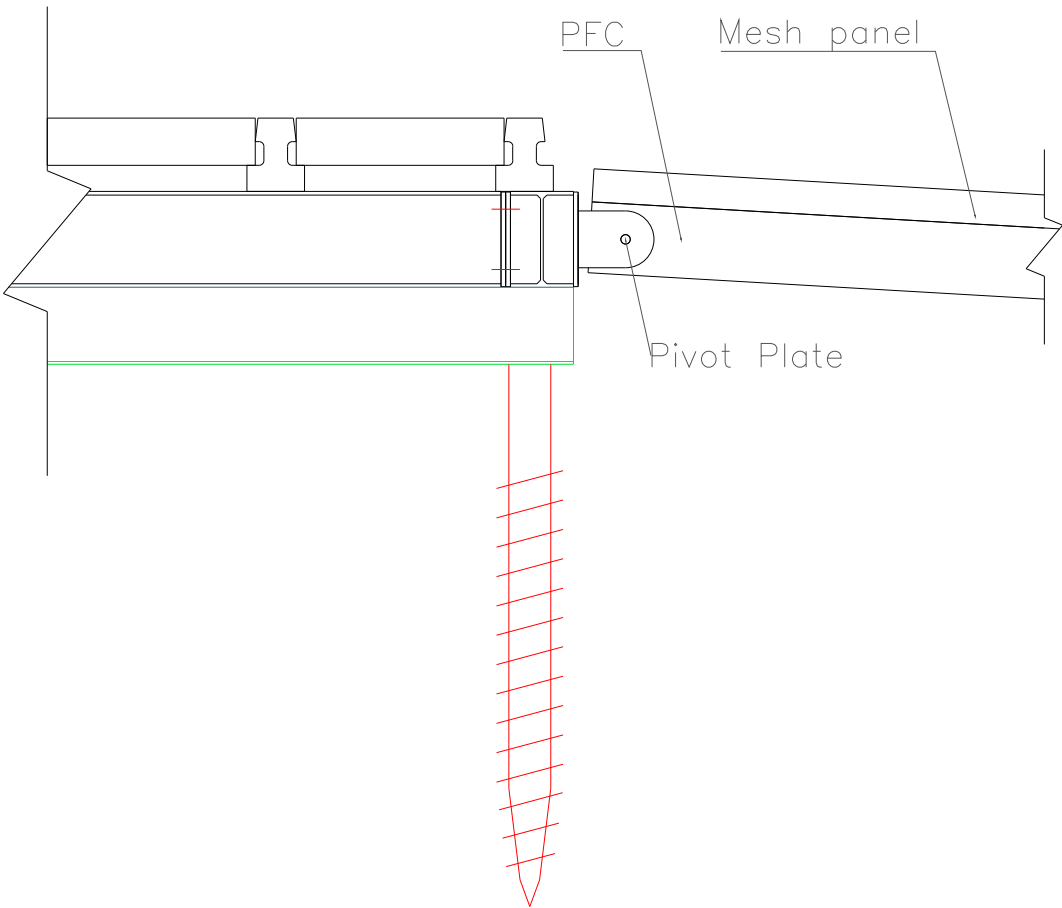
TITLE: PROPOSED LAYOUT FOR BLOCK AND BEAM GARAGE

SCALE AT A3: 1:40, 1:5	DATE: 08/06/21	DRAWN: LH	CHECKED: LH
PROJECT NO: 24800	DRAWING NO: GGS-24800	REVISION:	B

EXAMPLE ONLY

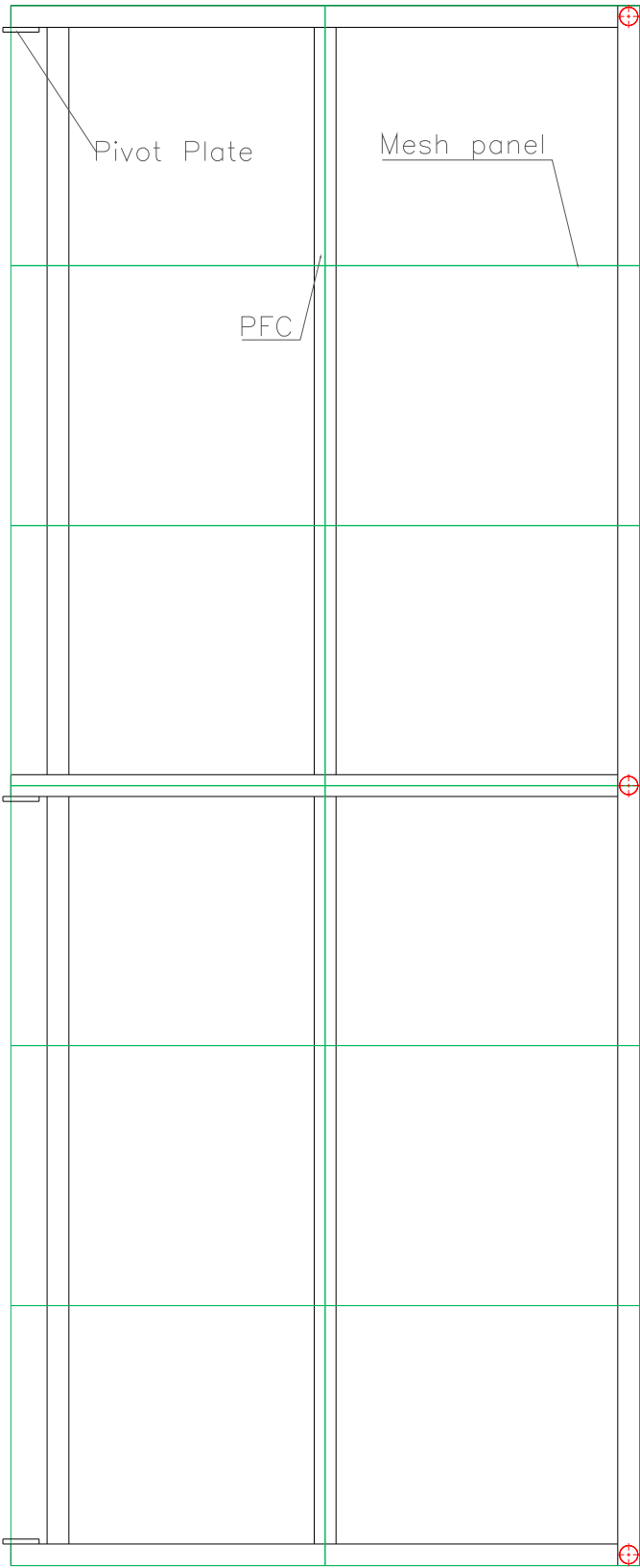
Section

Scale: 1:16



Plan View

Scale: 1:30



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C	-	-	-
B	BEAMS UPDATED TO 203X133x25 UB	LH	14/06/21
A	INITIAL DRAWING	-	-
REV:	DESCRIPTION:	BY:	DATE:

STATUS: CONSTRUCTION ISSUE



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www.greengridsystems.com

CLIENT:

ARCHITECT:

SITE:

TITLE: PROPOSED LAYOUT FOR GARAGE RAMP

SCALE AT A3: 1:40, 1:5	DATE: 08/06/21	DRAWN: LH	CHECKED: LH
PROJECT NO: 24800	DRAWING NO: GGS-25800	REVISION: B	

APPENDIX ELEVEN

ARBORICULTURAL TOOLBOX TALK

- 1.0 All staff** working on the **Larkby** site must attend this Toolbox Talk and those based on other task specific method statements and must sign the Toolbox Talk Log to acknowledge they have understood the contents and will abide by the control measures.
- 1.2** The Project Arboriculturalist is on site to advise and help find solutions to tree related problems and not to hinder work.
- 1.3 Tree Related Constraints –**
- **Root Protection Areas (RPA)** used to calculate the **Construction Exclusion Zone (CEZ)** which is enforced by the **Tree Protection Fencing (TPF)**
 - Any tree roots unearthed outside the **CEZ**
 - Branches overhanging the site road restricting the movement of excavator booms whilst carrying out all works
- 1.4 CEZ –** Access is **strictly prohibited** to these areas unless the **PA gives consent** and a method statement is in place, no chemicals or fuel will be taken into the CEZ in the case that access is given. All stationary machinery such as water pumps if deemed essential must have drip trays.
- 1.5 TPF –** This must be kept in **place** at **all times unless agreed** with the **PA** and in the **case of temporary removal** the TPF must be **replaced and secured** immediately.
- 1.5.1 Tree Roots –** In the case that live tree roots are discovered during excavations photographs must be taken and the PA consulted, no live roots over 20 mm in diameter will be severed without the PA's consent/Knowledge.
- 1.5.2 Accidental damage to trees or fencing** must be **reported** to the **Site Manager** and PA immediately and remedial action taken.
- 1.6 Fuel –** No fuel will be stored within 5m of any tree, all fuel must be kept on drip trays or Bunded tanks with a spill kit present, all spills must be reported to the site manager.
- 1.7** A record of all **works** adjacent to trees will be made by the EMG supervisor and the PA this will include photographic evidence where appropriate.
- 1.8 Method Statements –** These will be issued as and when required each method statement will be accompanied with a toolbox talk

General – This talk is intended as a refresher, in the case you require more information **Please Ask, I am here to Help, give advice and not Hinder.** All **staff** must **sign into this Toolbox Talk** to **acknowledge attendance.**

IMPORTANT INFORMATION

The above toolbox talk has been compiled on **behalf of the client.** The project Arboriculturalist can only be held responsible for work carried out in his presence or following and adhering to his express instructions.

William Ross, Tec Cert (Arbor A), Tec Arbor A Hnd(rm), Nd(np) 12 December 2022

All Attendees must sign into the accompanying record sheet

Client – _____ **Principal Contractor –** _____
Groundworks Contractor – _____

This is an acknowledgement that you have been present at and understood the Arboricultural Toolbox talk given by the Site Manager or William Ross

Toolbox Talk Providers Name..... Signature Date.....

[illegible]