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Arboricultural Method Statement

Blue Forest on Behalf of Mr and Mrs Middleton

Laverick Cottage and the Bothy,
Fourstones,
Hexham,
NE47 5DX

16 March 2023

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Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 09 November 2022 from Blue Forest on Behalf of Mr and Mrs Middleton to attend Laverick Cottage and the Bothy, Fourstones, Hexham, NE47 5DX; grid reference NY 90107 68185 (site) to undertake an arboricultural survey a to BS5837:2012 guidance to assess trees, hedges and major shrub groups growing on and within influencing distance of the site and to produce a Schedule of trees, Tree Constraints Plan, Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan.

Executive Summary

This report describes the extent and effect of the proposed development at Laverick Cottage and the Bothy, Fourstones, Hexham, NE47 5DX on individual trees and groups of trees within and adjacent to the site.

Trees within the site were surveyed; using a methodology guided by British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' ("BS5837").

Subsequently, this report has been produced, balancing the layout of the proposed development against the competing needs of trees. This report comprises all of the requisite elements of an arboricultural implications assessment, method statement and supporting plans.

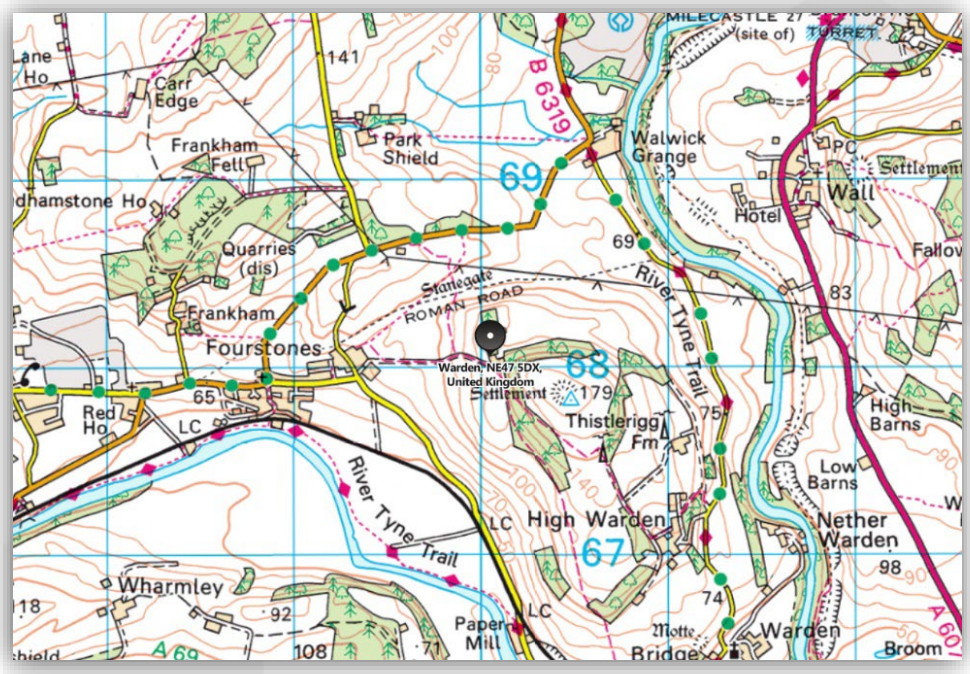

Figure 1: OS Map centred on site (Bing Maps)

Figure 2: Aerial Image of site with approximate red line boundary (Bing maps)

Proposed scheme

The proposed installation of a one bedroom accommodation treehouse and exterior deck within the confines of an existing stone wall. The treehouse has been designed to sit within the existing trees on site so as to blend with the landscape. Walls and roof are to be timber clad and the substructure and deck is also timber.

Figure 3: Proposed scheme, drawing number 1044/090 (Blue Forest)

It is likely that arboricultural impacts can be addressed with arboricultural methodology or minor amendments to the proposal.

Checklist for Submission to Local Planning Authority

Tree survey	✓
Tree constraints plan	✓
Arboricultural impact assessment	✓
Arboricultural method statement	✓
Tree protection plan	✓

This report and its appendices precisely follow the strategy for arboricultural appraisal intended to provide local planning authorities with evidence that trees have been properly considered throughout the development process.

It is the conclusion of this report that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the site will not be adversely affected as a result of the local planning authority consenting to the proposed development. It is considered that any issues raised in this report, or beyond the scope of it can be dealt with by planning conditions.

General Information

Client: Blue Forest on Behalf of Mr and Mrs Middleton.

Site: Laverick Cottage and the Bothy, Fourstones, Hexham, NE47 5DX.

Brief proposal description: Installation of a timber clad, one bedroom accommodation treehouse and exterior deck. The treehouse has been designed to sit within the existing trees on site.

Planning application reference: N/A

Table 1: Documents referred to.

Document	Reference No.
Survey base drawing	P10947/amr/1
Survey base drawing (as amended)	P10947/amr/1
Proposed layout drawing	1044-090-C
Proposed services plan	1044-180-C
Landscape master plan drawing	N/A
LPA pre-app comments	N/A
British Standard 5837:2012	"BS5837"
Arboricultural Impact Assessment	Arbtech AIA 01
Tree Protection Plan	Arbtech TPP 01

Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Charlie Moore on 10 January 2023.

A total of 5No. individual trees and 4No. groups of trees were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appendix 1).

Table 2: Documents upon which this tree survey has been based.

Document	Originator	Reference Number	Title
Survey base drawing	AmrGeomatics	P10947/amr/1	Topographical Survey

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and decay detection equipment were not employed, though may form part of the survey's management recommendations. Measurements were taken using specialist tapes, laser, and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

Legal Status: No statutory protection check has been performed. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without, stating at Annex B:

*The potential effect of development on trees, **whether statutorily protected** (e.g. by a tree preservation order or by their inclusion within a conservation area) **or not**, is a material consideration that is taken into account in dealing with planning applications.*

Consequently, we do not seek to offer any comparison between or infer any difference in the quality or importance of TPO trees and other trees.

For more information on the surveyed trees please see Arbtech Consulting Ltd, Tree Survey Schedule (**Appendix 1**), Tree Survey Report and Tree Constraints Plan.

Arboricultural Impact Assessment

Table 3: Documents upon which this assessment has been based.

Document	Originator	Reference Number	Title
Survey base drawing	AmrGeomatics	P10947/amr/1	Topographical Survey
Survey base drawing (as amended)	Blue Forest	P10947/amr/1	Topographical Survey
Proposed layout drawing	Blue Forest	1044-090-C	Full Site Layout
Proposed services plan	Blue Forest	1044-180-C	Services Layout

Several issues may need to be addressed in an arboricultural impact assessment between the trees and the proposed development, these are as follows:

- The effect and extent of the proposed development within the root protection areas (RPAs) of retained trees.
- The potential conflicts of the proposed development with canopies of retained trees.
- The likelihood of any future remedial works to retained trees beyond which would have been scheduled as a part of usual management.

Table 4: Impacts upon the RPAs of retained trees.

Tree Number	Species	Structure	RPA (m^2)	Incursion (m^2)	Incursion (%)
G01	Various	Hard surface	382.9	143.7	37.5
G02	Sycamore	Services	122.3	6.6	5.4
G03	Various	Footpath	221.7	52.8	23.8
T04	Common Oak	Structure	382.9	94.7	24.7
T05	Common Oak	Services	117.7	11.2	9.5

These impacts can be seen on the Arboricultural Impact Assessment drawing number Arbtech AIA 01.

Trees to be removed.

The total number of trees to be removed for this scheme in 2No individual and the partial removal of 1No groups as a part of this development.

A breakdown of all tree removals and pruning works can be seen in Table 8: Summary of Tree Works

Table 5: Number of individual trees to be removed.

U	A	B	C
2	0	0	0

Table 6: Number of groups to be removed.

U	A	B	C
0 (0)	0 (0)	0 (1)	0 (0)

() = partial removal of a group

Canopy cover is ecologically important and the loss of canopy cover by this tree will be mitigated with planting within the development.

Arboricultural Method Statement

The purpose of this method statement is to demonstrate how any aspect of the development that has potential to result in loss or damage to a tree may be implemented and provide an adequate level of protection for those trees that are to be retained during the proposed works.

Details of key site personnel, including site/project manager will be submitted to the Council's Tree Officer before the commencement of site works.

This method statement is to be approved and agreed to in writing by all key personnel before the commencement of site works.

No site personnel are to be present and no demolition, site clearance, building work or delivery of materials is to occur until the protective measures are in accordance with this method statement and the Tree Protection Plan drawing number Arbtech TPP 01.

Protective measures will be in accordance with this method statement and the Tree Protection Plan; drawing number Arbtech TPP 01 will remain unaltered and in situ, unless otherwise specified, for the entire duration of the construction.

Table 7: Documents upon which this assessment has been based.

Document	Originator	Reference Number	Title
Survey base drawing	AmrGeomatics	P10947/amr/1	Topographical Survey
Survey base drawing (as amended)	Blue Forest	P10947/amr/1	Topographical Survey
Proposed site plan	Blue Forest	1044-090-C	Full Site Layout
Proposed Services plan	Blue Forest	1044-180-C	Services Layout

Tree Works

For reasons of public safety, all tree works referred to herein must be carried out before any site personnel commencing works or any building materials being delivered.

Table 8: Summary of Tree Works.

No.	Species	Works	Category
G01	Various	Prune - Raise crown as required to give a ground clearance of 5m, to facilitate vehicle access over proposed track	B2
G03	Various	Partial removal of group - Fell tree to ground level	B2
T02	Common Ash	Fell to ground level	U
T03	Sycamore	Fell to ground level	U
T04	Common Oak	Prune - Raise crown as required to give a ground clearance of 7m over the proposed structure location. Remove major (>25mm diameter and/ or longer than 2m) deadwood and hung up stem.	C1
T05	Common Oak	Prune - Raise crown as required to give a ground clearance of 5m, to facilitate vehicle access over proposed track	C1

Notes

All tree work is to be undertaken in accordance with British Standard BS 3998:2010, Recommendations for tree work. All arising's are to be removed and the site is to be left as found. Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber Lorries, tractors, excavators, or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

Tree removal

A tree should be felled in one piece only when there is no significant risk of damage to people, property, or protected species (see Annex A).

Where restrictions (e.g. lack of space, buildings, other features, land ownership or use, or other trees which are to be retained) cannot be overcome, trees should be dismantled in sections.

This also applies where a tall stump is being retained but where branches are to be removed/pruned.

Extensively decayed trees can be unpredictable when they are being felled, and special precautions should, therefore, be taken, such as the use of a winch to guide the direction of fall.

Stump removal – stump grinding

Stump grinding will be to a minimum of 300mm deep or to extend through the base of the stump leaving the major roots disconnected if the intention is to reduce the potential for the spread of Honey fungus.

The grinding residue will be treated as arising's and removed from site.

NOTE: Mechanical destruction of a stump by stump grinding is less disruptive to the site than digging out.

The hole left by stump removal will be filled with soil or other material. The filling should be appropriate for future site usage, and for any surface treatment that is to be installed.

Where future plant growth is desired, the backfill material will be firmed in 150 mm layers by treading, avoiding excessive compaction and destruction of the soil structure.

After stump removal

The hole left by stump removal, whether by digging out or grinding, will be filled with soil or other material. The filling will be appropriate for future site usage and for any surface treatment that is to be installed.

Where future plant growth is desired, the back-fill material will be firmed in 150mm layers by treading, avoiding excessive compaction and destruction of the soil structure.

Protected Species (general informative for tree works)

Conservation Status of British Bats

The consensus in Britain and Europe is that virtually all bat species are declining and vulnerable. Our understanding of population status is poor as there is very little historical data for most bat species. Certain species, such as the horseshoe bats, are better understood and have well-documented contractions in range and population size.

Given this general picture of decline in UK Government within the UK Biodiversity Action Plan has designated five species of bats as priority species (greater and lesser horseshoe bats, barbastelle, Bechstein's and pipistrelle). These plans provide an action pathway whereby the maintenance and restoration of the former populations' levels are investigated.

Legal Status of British Bats

Given the above position, all British bats, as well as their breeding sites and resting places, enjoy national and international protection.

All bat species in the UK are fully protected under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Schedule 5. All bats are also listed on Annex IV (and some on Annex II) of the EC Habitats Directive giving further, European protection. Taken together, the Act and Conservation of Habitats and Species Regulations 2012 (as amended) * make it an offence to; intentionally or deliberately kill, injure or capture (take) bats;

- Deliberately disturb bats (whether in a roost or not)
- Damage, destroy or obstruct access to bat roosts
- Possess or transport a bat or any part of a bat, unless acquired legally
- Sell, barter or exchange bats, or parts of bats

The legislation although not strictly affording protection to foraging grounds does protect roost sites. Bat roosts are protected at all times of the year whether or not bats are present. Any disturbance of a roost due to development must be licenced.

**the regulations that delivered by the UK's commitments to the Habitats Directive.*

Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore, several birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate "no-go" buffer zones around such nests – typically out to 100m.

Planning policy guidance on the treatment of species identified as priorities under the biodiversity action programme suggests that local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents and should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations. The conservation of these species should be promoted through the incorporation of beneficial biodiversity designs within developments.

Sequencing of works

A logical sequence of events is to be observed and shall be phased as follows.

Table 9: Sequence of Events

Stage	Event
Stage 1	Pre-construction stage, detailed design and pre-commencement meetings
Stage 2	Undertake tree pruning in accordance with the schedule of work
Stage 3	Installation of protective measures in accordance with approved tree protection plan.
Stage 4	Implement 'no-dig' zones
Stage 5	Establish foundations for accommodation units (screw piles)
Stage 6	Erect scaffolding
Stage 7	Construct tree house platforms and ramp boardwalk access
Stage 8	Erect treehouse wall panels and form roofs
Stage 9	Complete all other site works.
Stage 10	Take down protective barriers, uplift ground protection and complete soft landscape works

Protective Measures

Protective measures are to be installed immediately following the completion of the tree works and are to be sited and aligned in accordance with the tree protection plan (Arbtech TPP 01) before the commencement of any works or the introduction of any machinery or material to Site.

Upon installation of the protective measures around the retained trees, the Project Arboriculturist will visit the site to inspect and document the position and specifications of the protective measures.

If the protective measures and their positions do not comply with this arboricultural method statement document number Arbtech AMS 01 (16 March 2023) and tree protection plan drawing number Arbtech TPP 01, the Project Arboriculturist shall inform the client and fencing contractor so adjustments can be made.

When the protective measures comply with document number Arbtech AMS 01 (16 March 2023) and tree protection plan drawing number Arbtech TPP 01, the Project Arboriculturist will sign off the protective measures in writing to the client and will send a copy to the fencing contractor, site agent and local authority tree officer.

If the protective measures become damaged or there is any accident or emergencies involving trees, these areas are to be cordoned off immediately with high visibility plastic mesh fencing. The site agent is to photograph and document the damage and inform the Project Arboriculturist immediately after the incident and all work within this area is to cease until the Project Arboriculturist has visited the site. Any damaged sections of protective measures shall be replaced within 48 hours of the initial incident.

The protected area is sacrosanct and will not be invaded by the storage of materials, mixing of concrete or other products, accessed by machinery, equipment, or pedestrians or in any other way disturbed by construction activity.

The protective measures will remain in place until the completion of stage 7 (see Sequencing of Works), thereafter they will be carefully dismantled only with the agreement of the Project Arboriculturist and or the local authority tree officer.

The existing site boundary measures are to be retained for the duration of the development. If for any reason the existing boundary measures are not to be used protective barrier fencing is to be installed along the line of the boundaries and is only to be removed upon the written permission of the Project Arboriculturist upon the

completion of the development or immediately before the installation of the permanent boundary measures.

The proposed hard surfacing is to be installed immediately to act as ground protection, where it is decided that this is not a viable option for these areas are to be covered by ground boarding as designed by the project engineer to cope with any likely loading.

No equipment, vehicles or plant shall operate beyond the tree protection fencing. Booms, hoists, and rigs should be kept as far away from the canopies of retained trees at all times. Where it is necessary to operate within 5m of a tree canopy, it will be done with the utmost caution and under the control of a banks man. Damage to trees will be considered a breach of this tree protection plan, which in turn could be a breach of planning permission.

Construction Exclusion Zone

A construction exclusion zone (CEZ) as designated by the protective barrier fencing, is an area where there is to be no construction activity. Access to the area for construction personnel or machinery is strictly prohibited, unless detailed in the tree protection plan, and there is no scope for materials or waste storage; welfare facilities etc. There may be some construction activities planned for these areas (e.g. the installation of service trenches) these activities will be undertaken under direct, on-site arboricultural supervision.

Protective Barrier Fencing

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development activity is nearby.

Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffold framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On to this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold framework with wire.

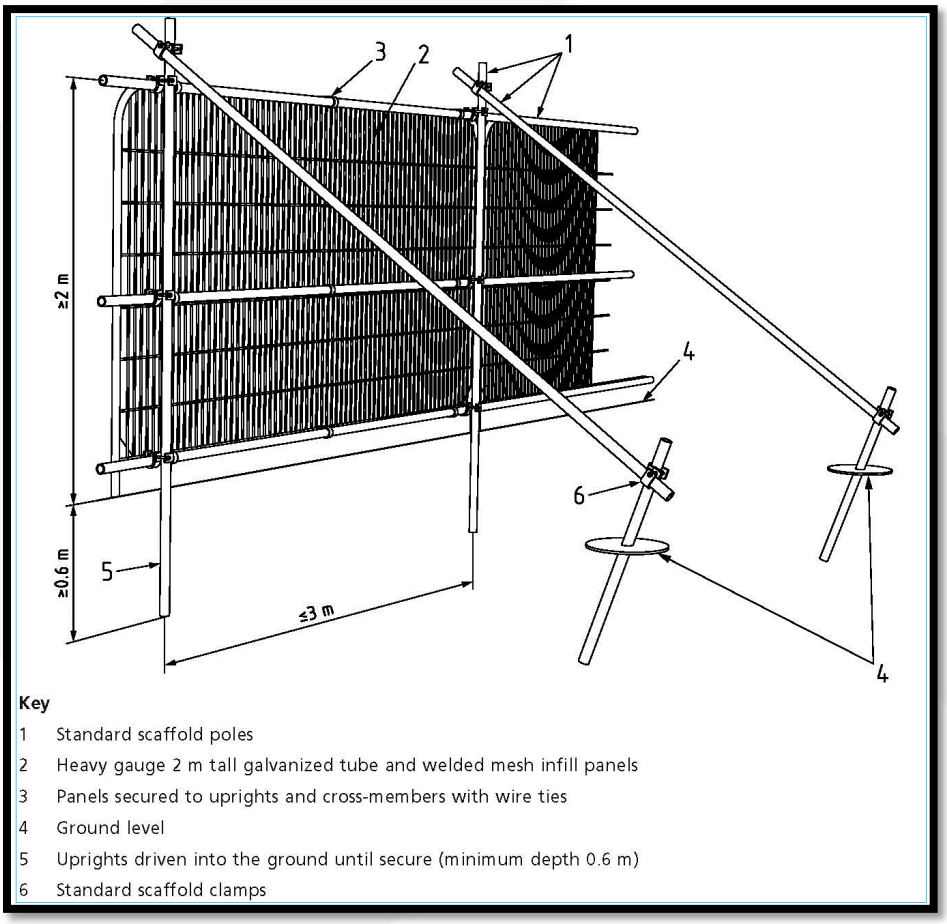

Figure 4: Default specification for protective barrier fencing (BS5837).

Secondary specification: To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels will be supported on the inner side by stabiliser struts, which will be attached to a base plate and secured with ground pins.

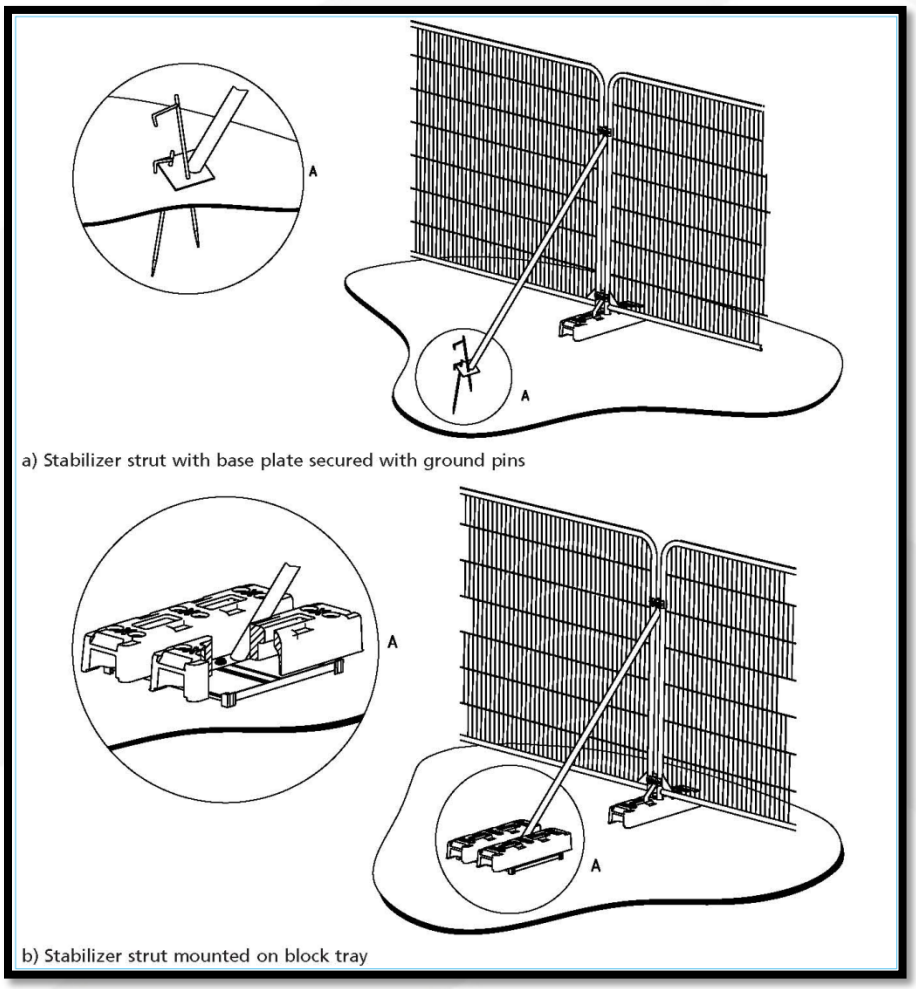

Figure 5: Examples of protective barrier fencing with above-ground stabilising systems (BS5837).

Signage denoting the words "*tree protection area*" at 5.0m intervals will be fixed to the protective barrier fencing (See Appendix 2).

Protective fencing and or Trunk protection is to be removed ONLY with the written permission of the Project Arboriculturist.

Trunk Protection

Protective trunk wrapping:

Protective trunk wrapping is to comprise of a minimum of three wrappings of clean dry hessian around the trunk from ground level up to 2.4m high and held in place with sisal. Onto the hessian there is to be a minimum of three wraps of chestnut paling around the trunk; the chestnut paling is to be held in place by 2.50mm galvanized mild steel wire at the top, middle and bottom of each wrap of chestnut paling. The wire is to be secured to the chestnut paling by fencing staples.

Or

Signage denoting the words "*tree protection area*" at 5.0m intervals will be fixed to the protective barrier fencing (See Appendix 2).

Protective fencing and or Tree Boxes are to be removed ONLY with the written permission of the Project Arboriculturist.

Ground boarding

The proposed no dig sub base will be installed to act as ground protection. If the proposed no dig sub base is not to be installed until later in the schedule of works, new temporary ground protection will be installed in the interim.

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Note The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g.150mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary system or pre-cast reinforced concrete slabs) to an engineering

specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

For situations other than those described in a) or b), the ground boarding is to be designed by a suitably qualified person to an engineering specification in conjunction with arboricultural advice, to be able to support the expected loading to be placed upon it.

In all cases, the objective of the ground boarding is to avoid compaction of the soil beneath, so that tree root function remains unimpaired.

Demolition

Before the demolition of any existing site features, all tree works are to have been completed, tree protection measures are to be in place as per Arbtech Consulting Ltd. tree protection plan document number Arbtech TPP 01 and have been signed off and a copy of the demolition method statement has been submitted and approved by the Project Arboriculturist to ensure that there is no conflict with this method statement.

All demolition work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Existing Underground Services

Existing services within the site should be retained wherever possible. Where existing services within RPAs require upgrading, the utmost care must be taken to minimise disturbance, and where feasible trenchless techniques are to be employed, and only where necessary should open excavations be considered.

Construction

Before the construction of the proposed development, a copy of the construction method statement will have been submitted and approved by the Project Arboriculturist to ensure that there is no conflict with this method statement.

All excavations and construction work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Foundations design

New foundations for buildings, structures and hard surfacing situated within the RPAs of retained trees are to be designed in conjunction with arboricultural advice to accommodate the likely loading of the structure. The foundations will be been designed to limit the amount of excavation required within RPAs to retain significant roots as identified during the site investigations.

As per the Blue Forest construction method statement (dated March 2022) the use of strip foundations within RPAs of retained trees can cause extensive root loss and as such will be avoided. Screw piles are the preferred method which, if installed as per manufacturer's instructions, can be installed without arboricultural supervision. Should soil investigations reveal screw piles to be unsuitable then alternative low impact foundation methodologies will be utilised, such as Rapid Root Piles. Any foundation type other than screw piles must be installed under arboricultural supervision.

All and any excavations that may be required within the RPAs of retained trees will initially be undertaken manually under arboricultural supervision (see Manual excavation).

Hard Surfacing

New hard surfacing to be situated within the RPAs of retained trees is to be designed in conjunction with arboricultural advice to accommodate the likely loading. The design will not require excavation however the removal of the turf layer or other surface vegetation may be acceptable, if necessary, but ideally, the construction will be situated entirely above the existing ground level.

Before the installation of the hard surfacing within the RPAs vegetation may be removed using hand tools or sprayed with an approved non-residual herbicide such as 'Glyphosate'.

Note: The use of a multi-dimensional confinement system will affect the finished level of the hard surfacing by raising the levels and needs to be taken into consideration when designing foundations and setting the finished floor level of adjacent buildings.

Multi-dimensional confinement system

A multi-dimensional confinement system (such as CellWeb™ or similar) is to be used. It is to be laid entirely above the existing soil surface over a geotextile membrane and or a bi-axel geo-grid (such as Tensar TriAx). Prior to this any small hollows on the surface may be filled with clean sharp sand (not builders' sand) to a maximum depth of 150mm. The 'CellWeb' is to be backfilled by hand with a no-fines aggregate of 20mm – 30mm. The use of an excavator/machinery to fill the confinement system may be possible at the discretion of the Project Arboriculturist.

The area of 'CellWeb' shall be covered with permeable geotextile fabric and the finished wearing course laid on top. The wearing course shall be permeable to both water and air to comply with 'SUDS' regulations.

Edge supports of an appropriate size and strength will be set above ground level and will be secured with either haunching or steel pins driven into the ground. The outer edge of the supports may be banked up with clean topsoil.

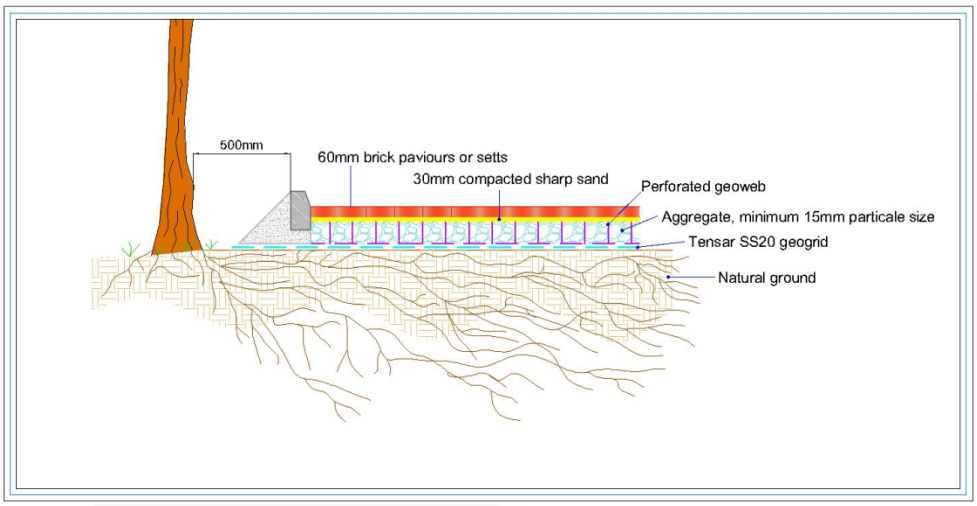

Figure 6: Typical cross-section for multi-dimensional confinement system using kerb edging.

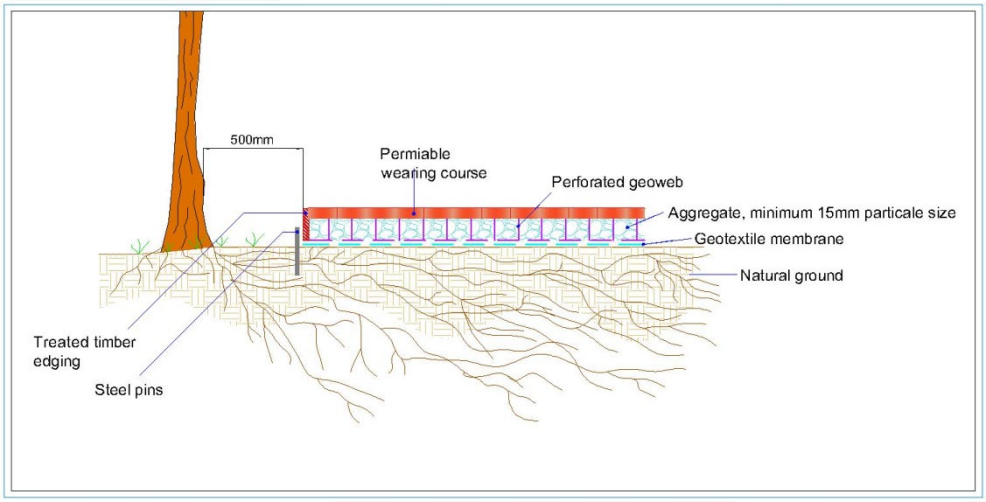

Figure 7: Typical cross-section for multi-dimensional confinement system using timber edging.

Installation of a multi-dimensional confinement system

a) Prepare the surface
   - Remove any surface rocks and debris.
   - Create a level surface by filling in any hollows with clean angular stone or sharp sand.
   - Do not level off any high spots or compact the soil through rolling.

b) Layout Geotextile membrane
   - Layout the permeable Geotextile membrane, overlaying edges of the required area by 300mm.
   - Overlap any joints by 300m or more.

c) Layout multi-dimensional confinement system (MDC)
   - Layout the collapsed MDC system on-top of the Geotextile membrane.
   - Place one steel pin into the centre cell at one end of the panel and secure it into the ground.
   - Pull out the MDC to its full length (see manufacturers specifications), place a steel pin in the centre at the opposite end and secure it into the ground.
   - Pull out the MDC to its full width (see manufacturers specifications) and secure each corner into the ground with steel pins.
   - Create a panel to the correct size using the required number of steel pins (as per the manufacture specifications).
   - Makes sure all cells are fully extended (as per manufactures specifications).
   - Staple adjacent panels together (as per manufacturers specifications).
   - If a curved shape is required, the panels are to be cut down to the required size and shape once the MDC is pinned out. Do not curve or bend panels into place.

d) Infill with clean angular stone
   - The infill material must be a clean (no fines) angular stone (as per manufactures specifications).
   - Do not use M.O.T type 1 or crushed stone with fines within or adjacent to RPAs.
   - Infill the MDC cells with clean angular stone, working towards the tree using the infilled panels as a platform.
   - No compaction is required of the infill. Do not use a whacker plate, roller, or any other means of compaction.

e) Edge restraints
- All kerb edging will be situated on top of the MDC within RPAs, do not excavate within RPAs to install kerb edging.
- Where edging is required for light structures, a peg and treated timber board edging is normally acceptable.
- Other options include wooden sleepers, plastic, or metal edging.
- The outer edges of the supports may be banked up with clean topsoil and or mulch.

f) Wearing course
- Install a permeable geotextile membrane, overlapping any joints by 300mm before laying the wearing course.
- Surfaces can include block paving, asphalt, loose gravel, resin-bound gravel, concrete etc..
- Within RPAs the wearing course shall be permeable to both water and air.

Decking

The decking framework and posts are to be designed so that all the framework is situated entirely above the existing soil level and individual posts may be movable to prevent damage of roots 25mm or greater in diameter.

Manual excavation

Excavation within RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundation; or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground services. The total depth of the manual excavation will be determined by the arboriculturist whilst on site.

The soil is to be loosened with the aid of a fork or pickaxe and then cleared with the aid of an Air-spade, Air-vac and or shovel. Any roots found will be cleanly severed by the Project Arboriculturist with either a hand saw or secateurs.

Any roots found with a diameter of less than 25mm shall be cleanly severed by the Project Arboriculturist. Any roots of 25mm and above shall be excavated around without damaging them; the Project Arboriculturist shall decide if it is feasible or necessary to retain the root, if not it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

The soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this providing that it is situated outside of the RPA or has appropriate ground protection in place to move around on and work upon.

Prohibition

- Mechanical digging or scraping is not permitted within a defined root protection area or areas cordoned off by protective barrier fencing.
- No access will be permitted within the protected areas.
- No materials, equipment or debris will be stored within any of the fenced areas, or against the fencing.
- Fires are not permitted within 10m of any vegetation.
- Leaning objects against or attaching of objects to a tree is not permitted.
- Machinery, plant, and vehicles are not permitted to be washed down within 10m of vegetation.
- Chemicals and materials are not to be transported, stored, used, or mixed within a root protection area or areas cordoned off by protective barrier fencing.
- Cement silos, mixing site to be situated within a bunded area to prevent spillage/leaking of chemicals harmful to trees. These areas are to be sited well clear of protected trees.
- Refuelling of plant or machinery is prohibited within 10m of the construction exclusion zones.
- Allowance must be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Where machinery is to be used within 5m of retained tree canopies a banks man will be required at all times whilst setting up, moving, or operating within this distance of retained trees canopies.
- Storage of all caustic material and chemicals are to be situated well clear of protected areas and preferably on lower ground if slopes are present, or to be situated within a bonded area to prevent any spills or leaks entering the ground.

Site Management

The site manager will be responsible for briefing and inducting all personnel who will be working on any stage of this development and especially those who will be working within or adjacent to the canopies or RPAs of retained trees, and will make them aware of, and provide a copy of this method statement and tree protection plan drawing number Arbtech TPP 01; this is to include but not exclusively the movement and or operation of plant, excavations, unloading deliveries, mixing and or pouring of cement and concrete.

The site manager will be responsible for the day to day running and protection of all retained trees and for liaising with the project arborist about any tree-related matters and before any works that may or will affect the RPAs or canopies of retained trees; this is to include but not exclusively the movement and or operation of plant, excavations, unloading deliveries, mixing, pouring and storage of all caustic materials that may cause harm to retained trees.

Any incidents of damage to retained trees or tree protection measures will be documented by the site manager who will then report these incidents to the Project Arboriculturist immediately and make sure that works within this area cease until the project arborist has had an opportunity to inspect the damage and where appropriate, agree on a mitigation plan with the local planning authority tree officer.

The site manager may designate another person to take charge of briefing and inducting process of new site personnel or visitors in his absence.

If the site manager is replaced or is absent from the site for more than three consecutive working days, the project arborist will be informed, and a prestart meeting will be held with the new or acting site manager.

It is the responsibility of the site manager to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime and supervision of any works within or adjacent to the RPAs are adopted.

If at any time pruning works are required other than those previously approved, permission must be sought from the LPA tree officer and once permission is granted, they are to be carried out by a suitably qualified person in accordance with BS3998:2010 Tree work – Recommendations.

Services

Detailed drawings of proposed underground services have been provided. Where possible, new services will be installed as part of the no dig sub-base hard surfacing.

Existing services within the site will be retained wherever possible. Where existing services within RPAs require upgrading, the utmost care must be taken to minimise disturbance, and where feasible trenchless techniques are to be employed, and only where necessary should open excavations be considered.

Where new services are to be introduced into the site they will be located outside of RPAs, where they will not interfere with tree roots. If any excavations are required within the RPAs all trenches are to be excavated by hand and radially to the tree trunks under direct on-site arboricultural supervision and are to be carried out under NJUG guidelines.

Final positions of any proposed services will be verified and approved by the Project Arboriculturist and local authority tree officer before implementation.

New Underground services

Trenching for installation of underground services and drainage routes could sever any roots that may be present and as such adversely affects the health of the tree. For this reason, particular care will be taken in routing and methods of installation of all underground services. All underground services and drainage routes will be located so that no excavations are required within RPAs.

Where it has been impossible to keep underground services from passing through RPAs or within proximity to trees, these sections are to be installed in one of three ways in accordance with the guidance set out in National Joint Utilities Group guidelines (NJUG 4), under on-site arboricultural supervision.

Trenchless Techniques

There are three main types of trenchless techniques, these include, guided and unguided boring and pipe replacement by lining or bursting. These allow for the installation, maintenance, or renewal of underground services, without the disturbance of soil in which roots are likely to be growing. Starting and receiving pits for the boring machinery are to be located outside of the RPAs of any retained trees, with the bore depth being maintained at a minimum depth of 600mm below the existing ground level.

Techniques involving external lubrication of the equipment shall use no material other than water as other lubricants could contaminate the soil (e.g. oil, bentonite, etc.).

Manual Excavation

Excavation within RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundation; Or to a minimum of 600mm deep of any excavation, whether for proposed foundations, hard surfacing, or underground services. The total depth of the manual excavation will be determined by the arboriculturist whilst on site.

The soil is to be loosened with the aid of a fork or pickaxe and then cleared with the aid of an Air-spade, Air-vac and or shovel. Any roots found will be cleanly severed by the Project Arboriculturist with either a hand saw or secateurs.

Any roots found with a diameter of less than 25mm shall be cleanly severed by the Project Arboriculturist. Any roots of 25mm and above shall be excavated around without damaging them; the Project Arboriculturist shall decide if it is feasible or necessary to retain the root, if not it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

The soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this providing that it is situated outside of the RPA or has appropriate ground protection in place to move around on and work upon.

Broken Trench – Hand Dug

This technique combines both trenchless techniques and manual excavation where excavation is unavoidable. Excavations will be limited to where there is clear access around and below the roots. All trenches shall be excavated by hand with the same precautions taken as for manual excavation. The open section of the trench will only be large enough to allow access for linking to the next section.

Landscaping

Landscaping around retained trees may only be carried out once all tree protection measures have been removed (planting, turfing, fencing etc.).

All excavations within the Root Protection Areas shall be undertaken by hand and without reducing current ground levels unless it is agreed in writing with the LPA. At no time is the use of a rotavator permitted within the RPAs of retained trees.

Any tree roots discovered will be left in-situ and shall not be cut or otherwise damaged. Where possible, the soil structure within the Root Protection area shall be preserved.

No works will be carried out within the RPAs of any trees if the soil moisture is of such a level that soil compaction may be likely. Should the soil become compacted or has a poor structure which would hinder the development of the existing trees and plants or any new plantings the arboriculturist will be consulted about soil decompaction techniques.

Monitoring and Supervision

Where trees have been identified within this method statement and tree protection plan drawing number Arbtech TPP 01 for retention, there will be an auditable system of arboricultural monitoring. This is to extend to arboricultural supervision whenever demolition or construction activity is to take place within or adjacent to any canopy or RPA.

The development's tree protection measures are to be monitored and all demolition and construction works are to be undertaken within or adjacent to the RPAs of retained trees are to be supervised by Project Arboriculturist, who will be retained to record and report observations to the council at appropriate intervals.

Pre-commencement site meeting

Before the commencement of any works or machinery and materials arriving on site a pre-commencement site meeting involving the project arborist, landowner or agent, site manager, contractors and engineer (as appropriate) and the relevant LPA officers will be held to ensure that all aspects of the arboricultural method statement and tree protection are understood and for all parties to swap contact details (see Appendix 3).

Monitoring and supervision schedule

The initial monitoring visit will be to check that the tree protection measures are in the correct location and as specified within the approved method statement, if so to sign off their installation.

Thereafter, monitoring visits are to take place at regular intervals, to ensure that tree protection measures are in place and are functioning as designed or whenever necessary to undertake works to be carried out under arboricultural supervision. The frequency of the monitoring visits is to be agreed with the LPA tree officer at the pre-commencement site meeting.

A record of all arboricultural monitoring and supervision visits will be kept, and any faults will be logged, this will then be copied to the site agent, developer, and local planning authority in a digital format.

If during the development areas must be re-designed so that they would require changes to the approved arboricultural method statement or tree protection plan and so affecting retained trees the project arborist and LPA tree officer will be invited to

attend a site meeting with all relevant parties. Before any changes being implemented these must have been approved in writing by the LPA tree officer.

Supervision

The Project Arboriculturist will be required to attend site to directly supervise all demolition and construction works that are to be undertaken within or adjacent to the RPAs of all retained trees and will be advised a minimum of 72 hours before the commencement of any works that require his attendance, these will include:

1. Pre-commencement site meeting.
2. Location of protective measures.
3. Supervised excavation of foundations (both structure and decking)
4. Installation 'No Dig' hard surfacing within and immediately adjacent to the RPAs of retained trees.
5. Any excavations within and immediately adjacent to RPAs, including foundations, hard surfacing, or underground services.
6. Removal of protective measures and sign off.

Completion meeting

Once all construction works have been completed all materials and machinery has been removed from site the project arborist shall be informed and will invite the LPA tree officer to meet on site to discuss the process and discuss any final remedial works that may be required and to sign the development off so that the protective measures may be removed.

Arboricultural Monitoring and Supervision Sign Off Checklist:
Laverick Cottage and the Bothy, Fourstones, Hexham, NE47 5DX

Tree Number	Task	Date Completed	Signed (Project Arboriculturist)	Signed (Site Manager)
All	Pre-commencement site meeting			
All	Sign off of the location and specification of the protective measures			
T04 & G03	Manual excavation of pile locations if not using screw piles			
T05 & G01	Installation of no dig hard surfaces			
	Additional excavations (if required)			
All	Completion of groundworks			
All	Completion of construction			
All	Removal of machinery and materials from Site			
All	Dismantle & removal of protective measures			
All	Completion of Landscaping			
All	Sign off from Project Arboriculturist			

Appendix 1: Tree Survey Schedule

BS5837:2012 Tree Survey

Arbtech Consulting Ltd

Unit 3, Well House Barns
Chester Road
Chester
Cheshire
CH4 0DH
Phone: 01244661170

Client: Blue Forest
Project: Laverick Cottage and the Bothy, Fourstones, Hexham, NE47 5DX
Survey Date: 10/01/2023
Surveyor: Charlie Moore

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
G01										Estimated Measurements	
Various	20	1	920	N 5.3	1	M	A: 383	Good	C: Good		B.2
See comments for details				E 9	2.5		R: 11.04		S: Not visible	Offsite group comprised of several mature trees; species include sycamore, horse chestnut; recorded dimensions denote the maximum measurements for the group - stems between 920mm and 800mm; missing bark around the base of several individual trees.	40+ yrs
				S 6.5	2				B: Not visible		
				W 9	5						
G02										Estimated Measurements	
Sycamore	16	1	520	N 63	6	M	A: 122.3	Good	C: Good		B.2
Acer pseudoplatanus				E 3	1		R: 6.23		S: Not visible	Onsite group located in a dense herb group, comprised of two individual trees; unable to thoroughly inspect the stem and base due to dense growth; naturally occurring deadwood within the crowns approximately between 30mm and 120mm diameter.	40+ yrs
				S 3	2				B: Not visible		
				W 3	2						
G03										Estimated Measurements	
Various	18	1	700	N 4	0	M	A: 221.7	Good	C: Good		B.2
See comments for details				E 4	0		R: 8.4		S: Not visible	Onsite group comprised of several single and multiple stemmed mature trees with a dense shrub group; species include oak, birch, sycamore, rhododendron and rowan; recorded dimensions denote the maximum measurements for the group - stems approximately between 700mm and 180mm.	40+ yrs
				S 4	0				B: Not visible		
				W 4	0						
G04										Estimated Measurements	
Various	16	1	370	N 3	2	M	A: 61.9	Good	C: Good		B.2
See comments for details				E 3	2		R: 4.43		S: Not visible	Onsite group comprised of several trees; recorded dimensions denote the average measurements for the group; species include sycamore.	40+ yrs
				S 3	2				B: Not visible		
				W 3	2						

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T01										Estimated Measurements	
Sycamore *Acer pseudoplatanus*	8	1	380	N 3.5 2 E 4 2 S 2.5 2 W 3 2		EM	A: 65.3 R: 4.55	Good	C: Good S: Not visible B: Not visible	Offsite tree; unable to thoroughly inspect the stem and base due to the location.	**B.1** 20+ yrs
T02										Estimated Measurements	
Common Ash *Fraxinus excelsior*	18	1	370	N 7 2 E 8 1 S 2.5 1 W 1 1		M	A: 61.9 R: 4.43	Decline	C: Poor S: Not visible B: Not visible	Offsite tree; unable to thoroughly inspect the stem and base due to the location; significant epicormic growth around the main stem indicating decline; asymmetrical crown distribution due to neighbouring trees now removed.	**U** <10 yrs
T03										Estimated Measurements	
Sycamore *Acer pseudoplatanus*	5	1	250	N 5 2 E 1.5 1 S 1 1 W 1 1		EM	A: 28.3 R: 3	Decline	C: Poor S: Not visible B: Not visible	Offsite tree; unable to thoroughly inspect the stem and base due to the location; main stem has recently failed at a height of approximately 5m; asymmetrical crown distribution due to stem failure.	**U** <10 yrs
T04											
Common Oak *Quercus robur*	16	1	920	N 5 2 E 6.5 2 S 8 2 W 4.5 3		M	A: 383 R: 11.04	Good	C: Poor S: Good B: Not visible	Onsite tree located in a dense herb group p; unable to thoroughly inspect the base due to the group; historic stem failure at approximately 13m - stem has become hung up within the canopy; significant deadwood within the crown approximately between 25mm and 300mm diameter.	**C.1** 10+ yrs
T05										Estimated Measurements	
Common Oak *Quercus robur*	14	1	510	N 1 1 E 2.5 1 S 11 1 W 3.5 2		M	A: 117.7 R: 6.12	Good	C: Fair S: Good B: Not visible	Located in grassland; unable to thoroughly inspect the base due to dense growth; asymmetrical crown distribution due to neighbouring trees now removed; historic main stem failure at 11m.	**C.1** 20+ yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Appendix 2: Tree Protection Notice

(To be printed at A3 or larger)

Tree Protection Area

KEEP OUT

Do **not** move this fence

(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECT OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

arbtech

Unit 3, Well House Barn, Chester Road, Chester, CH4 0DH
https://arbtech.co.uk - 01244 661170

Appendix 3: Contact Details

Name	Position	Company	Contact
	Client		
	Agent / Project Manager		
	Tree Officer		
	Project Arboriculturist	Arbtech Consulting Ltd.	01244 661170 https://arbtech.co.uk
	Site Manager		
	Main contractor		

Document Production Record

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