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ENVIRONMENT

Homes by Honey Land at Barnburgh Lane, Goldthorpe

Arboricultural Method Statement & Tree Protection Plan

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Homes By Honey
Land at Barnburgh Lane, Goldthorpe

Arboricultural Method Statement & Tree Protection Plan

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Notice

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APPENDICES

1. INTRODUCTION

Introduction and Background

1.1 This report contains an Arboricultural Method Statement and Tree Protection Plan in support of development on land at Barnburgh Lane, Goldthorpe(hereafter referred to as 'the Site').

1.2 This report has been produced to provide supporting information in order to satisfactorily discharge condition 4 associated with the approved planning application 2023/0195. The condition reads as follows:

'No development or other operations being undertaken on site shall take place until the following documents in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations have been submitted to and approved in writing by the Local Planning Authority:

Tree protective barrier details

Tree protection plan

Arboricultural method statement

No development or other operations shall take place except in complete accordance with the approved details and the tree protection fencing shall be installed in accordance with the approved plans and particulars before any equipment, machinery or materials are brought on to the site for the purposes of the development, and shall be maintained until all equipment, machinery and surplus materials have been removed from the site. Nothing shall be stored or placed in any area fenced off in accordance with this condition and the ground levels within those areas shall not be altered, nor shall any excavation be made, without the written consent of the Local Planning Authority.

Reason: To ensure the continued wellbeing of the trees in the interests of the amenity of the locality in accordance with Local Plan Policy BIO1'.

1.3 The proposed development comprises a residential development of 95no. dwellings and associated access, services, hard and soft landscaping.

1.4 The proposed development plan is shown in the Tree Protection Plan (TPP) at **Appendix 1**.

1.5 The baseline BS5837:2012 tree survey for this Site and the Arboricultural Impact Assessment Report for the proposals, submitted to support the planning application were carried out in February 2023.

1.6 The results of the survey and any necessary works to facilitate the development are outlined within **Appendix 2** Tree Survey and works Schedule.

Trees Within the Site

1.7 Trees included within the tree survey comprised of eleven individual trees, three hedgerows and four tree groups, details of which are included in the tree survey schedule at **Appendix 2** and the Tree Protection Plan (TPP) at **Appendix 1**. The trees and groups are as follows:

- No individual trees, groups or hedgerows were classified as BS5837:2012 Category A.
- One individual tree was classified as BS5837:2012 Category B.
- No tree groups were classified as BS5837:2012 Category B.
- Seven individual trees were classified as BS5837:2012 Category C.
- Six tree groups and/or hedgerows were classified as BS5837:2012 Category C.
- Three individual trees and one group were classified as BS5837:2012 Category U.

Objectives

1.8 The objectives of the report are to provide practical guidance and information required to protect the retained trees on site. The method statement has been produced in accordance with BS 5837:2012 and current industry best practise.

1.9 A copy of this method statement and the accompanying tree protection plan must be made available to all contractors on site during the development stage to ensure all parties comply with protection measures outlined within.

1.10 This method statement has been produced specifically for this site and therefore cannot be used for any other site.

2. ARBORICULTURAL METHOD STATEMENT

Introduction

2.1 The following Method Statement will outline the procedures and requirements needed to protect the retained trees on site and complete the development without undue detrimental effect on retained trees.

Sequence of Events

2.2 For the purposes of protection for the retained trees, the development works on site should be completed in line with the following sequence of events:

- Pre-commencement tree works
- Installation of tree protection
- Construction phase
- Landscaping phase
- Removal of tree protection

Tree Works

Tree Removal

2.3 Tree removals and pruning works consented as part of this scheme; either facilitative or those made on arboricultural grounds should be carried out prior to commencement of any and all site clearance or construction works. Trees in direct conflict with the development have been identified on the tree impact plan as part of the BWB report ref: 'Barnburgh Lane, Goldthorpe - AIA Report_RG_230222'.

2.4 The only notable vegetation identified for removal to facilitate this scheme is a linear corridor of small diameter self-set stems within the tree group G7; to allow for the installation of a new pedestrian access route in the eastern corner of the plot. Group G7 is a category C2, self-sown collective which comprises ash, goat willow, hawthorn and sycamore. The individuals within said group are poorly formed in arboricultural terms and pose no great significance in their landscape and/or habitat value be it as individuals or as a collective.

2.5 Other than this, only T8 and T9 goat willow were identified for removal as part of the development. These are particularly poor examples of their species due to their historical management.

Tree Pruning

2.6 Some areas of offsite vegetation along the northern boundary which will eventually adjoin new properties within the development will require very minor lateral reduction pruning operations to allow the installation of boundary fencing.

2.7 Aside from the above, minor localised pruning of G15 will be required to provide working room for the erection of the garage blocks on plots 36 and 37.

2.8 Minor crown lifting of retained specimens within the group G7; trees that will eventually line the proposed pedestrian walkway. Crown lifts of trees lining the pathway to 3.00m above ground level is proposed. Crown lifting and lateral reduction pruning operations will be required to trees in W1, G5 and G7, and to T3 to provide suitable clearance over the proposed footpath.

2.9 It is not anticipated from the proposed designs that additional tree pruning will be required.

2.10 Construction operations must be tailored to avoid additional pruning of trees as the work progresses. Should additional tree works be identified as being required during construction activities, the project arboriculturist and LPA must be notified in writing and this method statement must be amended to cover any additional works once permission has been granted from the LPA.

2.11 **Under no circumstances must construction workers carry out pruning to retained trees.**

2.12 All tree works must be completed in accordance with BS3998:2010 Tree Work Recommendations and be completed by appropriately qualified, experienced, and insured arboricultural contractors.

Root Protection Areas (RPA)

2.13 Based on the tree survey data contained within the tree survey report, root protection areas (RPAs) have been determined for trees on site.

2.14 A topographical survey was undertaken to detail the location of trees within the site. The location of individual trees is shown in **Appendix 1**; it should be noted however that topographical surveys are not always comprehensive, and it is recommended that the root protection zones and therefore the location of the Protective Fencing is measured on site during installation (using collected data for RPAs and canopy spreads). Any deviation from the location of the proposed Protective Fencing should be confirmed with the project arboriculturist and tree officer at the Local Planning Authority.

2.15 The RPA is designed to protect, at least, a functional minimum of tree root mass to ensure that the trees survive the construction process.

2.16 It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

Tree Protection Fencing

Standard Fencing

2.17 Tree Protection Fencing (TPF), shall be installed across the site in accordance with the default BS5837:2012 specification (see Figure 1) prior to any construction vehicles entering and the commencement of any construction works on site.

2.18 The Tree Protection Plan (TPP), shown in **Appendix 1**, details the position of the default specification TPF.

2.19 Once erected, all TPF must be regarded as sacrosanct, and must not be removed or altered without prior agreement of an arboriculturist and approval of the local planning authority.

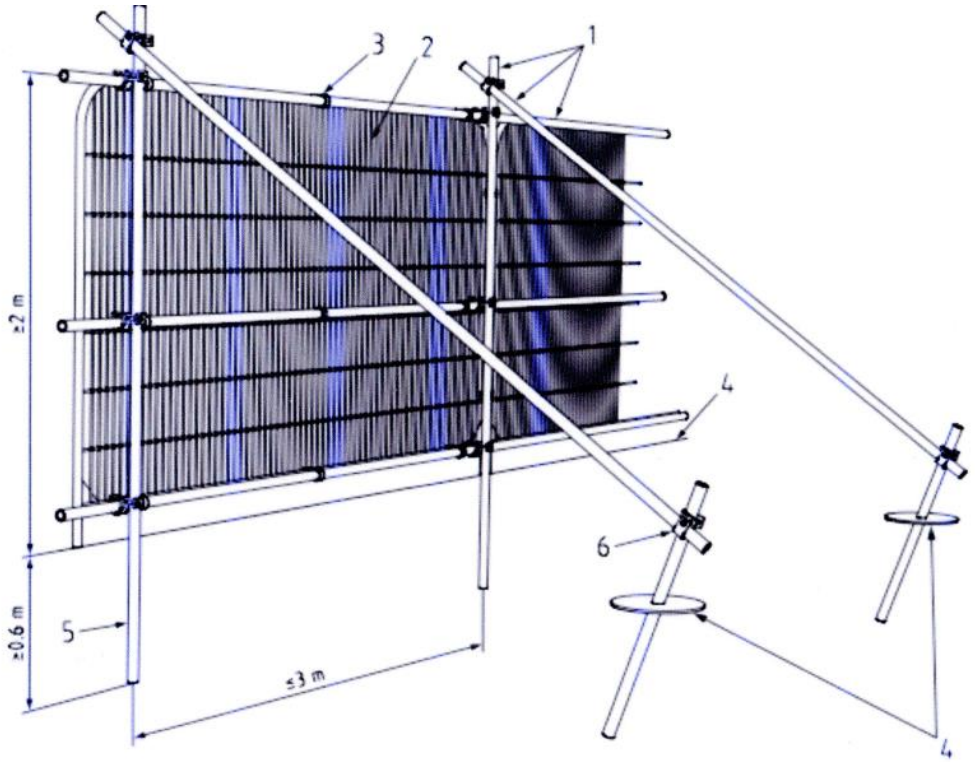
2.20 Barriers should be fit for the purpose of excluding constructive activity, and appropriate to the degree and proximity of work taking place around the retained trees. Special attention should be paid to ensuring that barriers remain rigid and complete. Once the barrier fencing has been installed, construction work can commence. All-weather notices should be erected on the barrier with words such as: "Construction Exclusion Zone – Keep Out".

2.21 The default TPF specification (**Figure 1**) is a vertical and horizontal scaffold framework, braced to resist impacts. The vertical poles are driven securely into the ground with horizontal poles connected securely to the vertical sections. Bracing bars must then be securely attached to prevent movement of the structure if struck by machinery. Welded mesh panels are then securely attached to the scaffold framework. During installation it is important to consider the position of below ground services and structural roots, which must not be damaged.

2.22 Refer to **Figure 1** for the specification of the default Tree Protection Fencing.

2.23 It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them. In the event of any panel or support becoming damaged, this must be immediately reinforced by adding panels with the designs below as appropriate.

2.24 **Figure 1**. Default Specification for Protective Barrier (Tree Protection Fencing – TPF) (Taken from Figure 2 of Section 6 BS5837:2012)



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Restrictions within Tree Protection Areas

2.25 Inside the exclusion area of the Tree Protective Fencing (TPF), the following shall apply:

2.26 No mechanical excavation and no excavation by any other means without prior agreement and stipulation on ground protection requirements from the LPA.

2.27 No ground level changes whatsoever, no storage of plant or materials and no vehicular access.

2.28 No storage or handling of any chemicals, oils or fuels

2.29 No spoil or construction materials will be stored within the RPA of any tree on, or adjacent to the site, even if the proposed development is to be within the RPA. This is to reduce to a minimum the compaction of the roots of the trees. Any encroachment

within this protected area will only be with the prior agreement of the Local Planning Authority.

Excavation within the RPA

2.30 No service runs are planned to run through any retained vegetations RPAs as there is adequate space on site to avoid. If in the event that services have to breach an RPA, trenchless installation should be the preferred option for service installation. they will be constructed in accordance with the guidance provided in the National Joint Utilities Guidance document NJUG 4. No service shall be positioned within 1 m of the tree stem.

Hard Surface Installation

2.31 The installation of a new footpath will be required within the RPA of trees within G7. It is currently a north to south hard surfaced walkway which can have the upper wearing surface removed in order that it be replaced but the sub base must not be removed and no digging down into the soil below must occur. Neither is any heavy machinery permitted to use the walkway so that soil compaction be avoided.

2.32 The existing footpath is to be fenced off with protective barrier for the construction phase of the development and only once all heavy machinery has been removed from site can the fencing be removed, and the landscaping phase be completed with the sub base being lifted and replaced with the final wearing layer.

2.33 Excavation operations for the construction of a subbase must not occur within the RPA of retained trees and therefore specialist engineering methods must be employed for the construction of hard surfaces within the RPA.

2.34 Other than this, new hard surfacing is proposed within the southern extent of the RPA of T17 for the installation of a shared driveway and parking bays. This new hard surface construction within the RPA must be constructed utilising no dig construction methods as described in sections 2.36 – 2.45.

2.35 No Dig construction methods for the subbase will be required for the footpath subbase utilising 3D cellular confinement systems to prevent the need for compaction of the ground beneath.

2.36 Any surface vegetation should be removed prior to installation of the required subbase structure. This can be achieved through removal of the top 25-50mm of vegetation. The use of mini diggers with a flat edged bucket are acceptable for removal of the surface vegetation. A banks man must be present to guide the operator and maintain a maximum 50mm depth.

2.37 Any hollows within the exposed ground should be filled with sharp sand. Where a 3D geoweb cellular confinement system is to be used a geotextile membrane should be installed onto the exposed surface first to prevent aggregate material pressing down into the soil surface below.

2.38 The geoweb should be pinned in place and edge supports installed and pinned in place to prevent lateral spread of the aggregate material. Edge supports should be pinned through the load spreader so that as pressure is applied to the surface and the edge supports are forced outwards, the load spreader is forced under better tension.

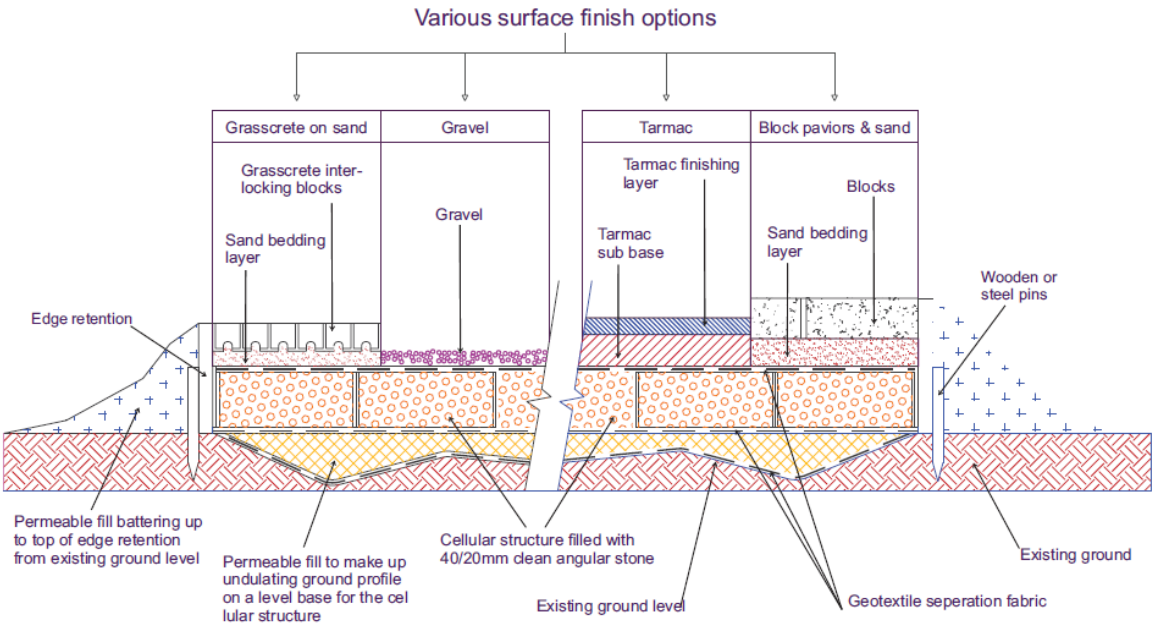
2.39 Conventional edging with concrete kerbs in excavated trenches should not occur within the RPA of retained trees. Suitable edge supports can be wooden boards pinned in place with wooden or steel pegs. Where a more robust edging is required, railway sleepers can be pinned in place to provide suitable edging. Where space is limited, metal edging can be used. Where the new surface requires battering down to surrounding levels, a permeable soil fill can be used, though this must not be compacted down as this will reduce water and air movement through the fill.

2.40 The geoweb should then be filled with a minimum of 100mm of 20-40mm no fines aggregate. The aggregate will lock into the geoweb but not be allowed to pass through into the surface below. This will allow for compaction of the aggregate subbase to prevent rutting without leading to compaction of the soil below. The aggregate should be installed by wheelbarrow or by small dumper applying from the outside of the RPA in towards the stem. The aggregate should be tipped and spread out across the geogrid with the movement of staff and equipment over the installed subbase and not over exposed ground.

2.41 The final surface must be permeable to allow the continued movement of air and water into and from the soil the volume below. Permeable Tarmac can be applied directly on top of the aggregate or permeable paving slabs/block paving can be dry bedded on the subbase with the joints left unsealed. Gravel surfacing is acceptable for informal linking footpaths.

2.42 Any new surfacing should be set back from the stem and surface buttresses of the trees by a minimum of 500mm to allow for future growth.

2.43 **Figure 2**: Example specification of cellular confinement system for no dig construction of surfaces (Source – Site Guidance Note 9, Barrell Tree Consultancy 2018)



Fencing/ Gate Installation within the RPA

2.44 Ideally excavation for fence/ gate posts should not occur within the RPA of retained trees. However, where this is necessary special construction measures should be adopted.

2.45 It is anticipated that boundary fencing will be installed within the RPA of trees within G15 for the properties along the north of the site.

2.46 Where there is a requirement for excavation for fence posts within the RPA, this should be carried out by hand or handheld mechanical auger. This will limit the damage caused to existing roots.

2.47 No fence post should be positioned within a 1m radius of the main stem. Fence lines should be micro-sited to avoid tree stems.

2.48 Where required, guidance for root pruning given in section 2.21-2.24 and 2.49-2.51 should be followed. Where roots >25mm diameter are encountered, post positions should be relocated.

2.49 Post holes within the RPA should be lined with an impermeable material to avoid leaching of chemicals from uncured concrete into the surrounding soil volume.

Avoiding Crown and Stem Damage

2.50 Great care must be exercised when working close to retained trees. Plant and machinery with booms, jibs and counterweights and the passage of tall or wide loads should be controlled by a banksman to maintain adequate clearance.

2.51 **Under no circumstance shall construction personnel undertake any tree pruning operations.**

Installation of Underground Services

2.52 The default position is that the installation of underground services will avoid the RPA of retained trees.

2.53 If, for whatever reason, installation within RPA is required, the developers arboriculturist and local authority must be notified prior to any tree protection barrier removal and the following details adhered to.

2.54 The preferable method for installing services within the RPA is through trenchless methods, utilising entry and retrieval pits that are excavated outside of the RPA and protection areas. The depth required for drainage installation is often at significant depth and trenchless methods will allow the service to be installed beneath the rooting depth of the tree without the need for excavation of a trench. Appropriate trenchless solutions are outlined in Table 3 of Section 7.7 in BS5837:2012

2.55 Trenching for the installation of underground services severs any roots present and may change the local soil hydrology in a way that adversely affected the health of the tree. For this reason, particular care will be taken in the routeing and methods of excavation used. At all times where services are to pass within the Root Protection Area, detailed plans showing the proposed routeing must be drawn up in conjunction with an arboriculturist. Such plans will also show the levels and access space needed for installing the services.

2.56 The preferable method for trenching within RPAs to avoid damage is via excavation using 'air- spade' or similar. This tool utilises compressed air to remove soil from around tree roots causing minimal damage. This approach should be utilised whenever possible.

2.57 Reference can be made to National Joint Utilities Group Volume 4, Issue 2 for guidance, but any approach must be approved by the developers arboriculturist and brought to the attention of the local authority.

Landscaping

2.58 Landscaping requirements are likely to be required to construct rear gardens for dwellings located along the north boundary of the site which are within the RPA of the retained trees. It is possible as part of the construction that ground level changes may need to occur within the outer extents of the RPA of retained trees along the boundary. Should this become a requirement, then the project arboriculturalist will be consulted and appropriate action taken with prior agreement with the LPA.

2.59 Generally ground level changes within the RPA of retained trees should not occur. However, with careful consideration to construction methods, changes may occur providing the following guidelines are followed.

2.60 Lowering of the ground level should only occur after assessment of rooting extent has been carried out. The use of an air spade to expose roots should occur or alternatively hand digging to determine the level of rooting in the area that lowering is required. Lowering of the ground level must not occur if there is a high content of roots >25mm. Guidance of an arboriculturist should be sought when carrying out this process.

2.61 Raising the ground level in the RPA up to 150mm is not likely to have a significant effect on the trees. However, any addition of fill to the RPA must not be compacted and should be of coarse textured soils with a higher sand content to allow good aeration and water movement through the soil.

2.62 Mechanical rotavation must not occur within the RPA of retained trees.

2.63 Tree protection fencing must remain in place at all times during the construction phase and may only be removed for the landscaping phase with the authority of the LPA tree officer and the supervising arboriculturist.

Location of Site Buildings/Compounds

2.64 The site compound are to be all located outside of the RPA of retained trees. TPF around the site compound will be in accordance with the default specification in BS5837:2012.

2.65 Under no circumstances must any materials or debris be stored within the RPA of retained trees and stems must remain clear of any material.

2.66 Covering of tree stems with materials or debris can block lenticels and prevent gaseous exchanges, killing the living cambium beneath the bark and leading to the eventual death of trees.

2.67 All storage areas, cement mixing and washing points must be located outside of the tree canopy and RPAs unless otherwise agreed with the Local Planning Authority.

2.68 The storage of oils, fuels or chemicals within the compound shall be sited on impervious bases

2.69 All material storage facilities and work areas must consider the effects of sloping ground on the movement of potentially harmful liquid spillages towards or into protected areas.

New Tree Planting

2.70 All trees are to be procured, planted and receive aftercare in accordance with British Standards BS 8545:2014 'Trees: from nursery to independence in the landscape – Recommendations'.

2.71 Great care must be taken to prevent any damage to trees during handling and transportation. The contractor(s) charged with supplying the trees shall ensure that the trees are handled in accordance with the Plant Handling Code, from selection at the

nursery to planting on site. The trees will be well packed and secured onto the vehicle during transit, so as to avoid any damage.

2.72 The contractor shall replace any trees that are damaged on site or during transportation from the nursery to the site.

2.73 The planting pits shall be twice the diameter and depth of the tree roots. Care will be taken to ensure the tree is planted at an appropriate depth so that the root collar is just below ground level. The soil removed from the planting pit shall be well broken before backfilling, and an appropriate slow-release fertiliser will be mixed into the backfill soil in accordance with the manufacturer's instructions. The trees will be well firmed with the ball of the foot.

2.74 It is advisable that any tree planting takes place during the winter months of November- March. This will allow for the development of sufficient fibrous roots ready for the subsequent growing season.

2.75 Should winter planting not be achievable, it is recommended that root balled or containerised trees are planted and are watered sufficiently at the time of planting. Subsequent watering regimes will be required throughout the remaining growing season to ensure successful establishment.

2.76 If within a period of five years from the date of planting of any tree, that tree, or any tree planted in replacement for it, is removed, uprooted, destroyed or dies, (or becomes in the opinion of the LPA, seriously damaged or defective), another tree of the same species and size originally planted shall be planted at the same place within 12 months, unless otherwise agreed in writing with the LPA.

APPENDICES

APPENDIX 1: Tree Protection Plan

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.

Key

- Application Boundary
- Trees — Showing Canopy extents, category colour and tag number (with category). (T1)
- 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.
- BS 5837:2012 Root Protection Area
- Tree Protection Barrier (TPB) To be erected in line with specification set out at BS 5837:2012 Figure 2
- Pruning through crown lift and lateral reduction required for clearance
- Proposed Area of Works within RPA - Working methods to be carried out in line with AMS and under the advice of project arboriculturalist.

Drawing Title	Tree Protection Plan
Client	Homes By Honey
Site/Project	Land at Barnburgh Lane, Goldthorpe
Scale/Sheet	1:500 - A0
Date	31/10/2023
Drawing No	4344_TPP_v1
Rev	0
Drawn By	RG
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APPENDIX 2: Tree Survey Schedule

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				N	S	E	W									
INDIVIDUAL TREES																
T3	Hawthorn	SM	2	0.5	0	0.5	1	0	100	Norm	Fair	>10	Historically topped @2m. Growing up behind lamp, limited long term potential. Not on topo	Remove	U	1.2
T5	English Elm	SM	5	1.5	1.5	1.5	1.5	1	180, 100,100	Dead	De ad	>10	Self-set dead tree behind lamp post	Remove	U	N/A
T6	Common Ash	SM	9	1.5	2	1.5	1.5	1.5	170,150 ,120,10 0	Poor	Fair	>10	Multi stemmed, in decline & showing symptoms of advanced ash dieback. Not on topo.	Remove	U	N/A
T8	Goat Willow	SM	4	2	2.5	1	2	0	170ARF	Fair	Po or	10+	Bifurcated @0.3m, Flailed on north side of crown, poor resulting form	Retain	C2	2
T9	Goat Willow	SM	4	1.5	1.5	1.5	1.5	0.5	100,110 ,70 ARF	Fair	Fair	10+	3 stems from base, flailed on north side and topped at 1.75m, poor form	Retain	C2	1.97
T10	Goat Willow	SM	11	2.5	3.5	4	4	1	190av	Norm	Fair	20+	Multi stemmed at base, congested habit, flailed on north side, minor deadwood & included bark	Retain	C1	5

T11	Common Ash	EM	14	5	5.5	5	3.5	1	330, 320	Fair	Fair	10+	Bifurcated @ base. Forming joint crown with adjacent ash. Not on topo. Small ash with ash dieback @ base growing up through crown. Infrequent deadwood	**Retain.** Monitor condition annually, fell small ash stem at base	C1	5.5
T12	Common Ash	EM	14	5.5	3.5	0	3.5	1	180,170	Fair	Fair	10+	Forming joint crown with adjacent ash. Not on topo. Sporadic deadwood. Small ash with ash dieback @ base growing up through crown.	**Retain.** Monitor condition annually, fell small ash stem at base	C1	2.97
T13	Common Ash	EM	14	5	5	5	5	2	300,300 ,190,18 0,400	Fair	Fair	10+	Old coppice regen. Multi stemmed with included bark @0.5m. Symptomatic of early ash dieback, sporadic deadwood, poorly formed	**Retain.** Monitor condition annually	C1	7.67
T16	Common Oak	SM	8	3	1	3	3	1	290	Norm	Go od	40+	Single standing young self-set specimen, flailed on south side. Good future potential	Retain	C1	3.48
T17	Common Oak	EM	12	4.5	4.5	4.5	4.5	2.5	300av	Norm	Fair	40+	Multi-stemmed habit, of middling and squat form. Lining old railway bridge and behind palisade fence. Not on topo	Retain	B2	7.05
GROUPS OF TREES																
H1	Hawthorn, Elder	EM	4	1	1	1	1	0	150av	Norm	Fair	20+	Linear screening hedge, historically topped @2m. Now grown out to 4m. Infrequent elder within	Retain	C2	1.8a v
H2	Hawthorn, Ash, Elder, Blackthorn	EM	1.75	0.5	0.5	0.5	0.5	0	100av	Fair	Fair	10+	Linear boundary hedge, under management and cyclically flailed	Retain	C2	1.2a v

H4	Hawthorn, Blackthorn	EM	1.5	0.5	0.5	0.5	0.5	0	100av	Fair	Fair	10+	Linear boundary hedge, under management and cyclically flailed. Some individuals ivy clad.	None	C2	1.2av
G7	Common Ash, Hawthorn, Sycamore, wild rose	SM; EM	12av	1.5	1.5	1.5	1.5	1	200av	Fair	Fair	20+	Stand of relatively young and poor-quality self-set individuals lining wetland area. Some semi mature ash trees at east of stand showing symptoms of ash dieback. Most other individuals drawn up in form and of similar dimensions	Retain. Monitor condition of ash trees annually and remove reactively as and when condition dictates	C2	2.4av
G14	Common Ash	EM	14	5	5	5	5	1.5	290av	Fair	Poor	>10	Linear stand of erratically formed ash, stem in middle of group is decayed out and hollow@1.6m. All other stems poorly formed. Symptoms of ash dieback noted prolific deadwood especially on west side	Remove	U	3.48
G15	Hawthorn, Common Oak, goat willow, sycamore	SM	14	4	4	4	4	3	150av				Dense thicket of boundary vegetation behind earth bank. Rooted offsite but some crowns overhang application site modestly, flailed on south side. Infrequent self-set individual oaks within	Retain	C2	1.8av
G18	Hawthorn	M	7	1.5	1.5	2	3	2.5	200av	Fair	Fair	10+	Linear grown out hedgerow of early mature to mature specimens. Decay present at bases of some individuals and old pruning wounds beginning to degrade. General crown bias to W. Prolific deadwood. Single moribund tree in middle of group	Retain. Remove any dead stems and static deadwood >25mm dia	C2	2.4

Key

- No. – Tree/group reference number, to be recorded on tree survey plan where necessary.
- Species – Common Names.
- Age Class – Young (Y), Young Mature (YM), Middle Mature (MM), Mature (M), Over Mature (OM).
- Height – Overall height of tree in metres.
- Crown Spread – In meters taken at the four cardinal points to derive an accurate representation of the crown (to be recorded on the tree survey plan where necessary).
- Crown Clearance – in meters above adjacent ground level to inform on ground clearance, crown stem ratio and shading.
- Stem Diameter – In millimetres at 1.5m above adjacent ground level (on sloping ground to the taken on the upslope of the tree base) or immediately above the roof flare for multi-stemmed trees. * Denotes estimated measurement where access to stem was restricted.
- Physiological Condition – e.g. Good (G), Fair (F), Poor (P) and Dead (D).
- Structural Condition – e.g. collapsing, the presence of decay and any physical defect.
- Estimated remaining contribution – in years e.g. less than 10, 10-20, 20-40, more than 40.
- Recommendations – Including further investigations of suspected defects that require more detailed assessment and potential wildlife habitat. All tree work is based on current tree condition and the existing land use and will include work such as hazard abatement, encroachment pruning, thinning of groups/woods and good arboricultural practice.
- Retention Category (Sub Category) – U or A to C, to be recorded in plan on the tree survey plan where possible.
- RPA – Root Protection Area calculated from BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations, in sqm. Where indicated, dimensions of radius of circle or sides of square based around centre point of trunk calculated for design purposes.

Cascade Chart for the Quality Assessment (Taken from BS5837:2012 Table 1, Page 9)				
Category and Definition	**Criteria (Including Subcategories Where Appropriate)**			**Identification on Plan**
	1 Mainly Arboricultural Qualities	**2 Mainly Landscape Qualities**	**3 Mainly Cultural Values, Including Conservation**	
TREES UNSUITABLE FOR RETENTION				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	Trees that have serious, irremediable, structural defect, such that their early loss is expected due to collapse including those that will become unviable after removal of other category U trees (e.g., where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate or irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low-quality trees supressing adjacent trees of better quality. *Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve.*			See Appendix 3
TREES TO BE CONSIDERED FOR RETENTION				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g., the dominant and/or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance as arboricultual and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g., veteran or trees or wood pasture).	See Appendix 3

Cascade Chart for the Quality Assessment (Taken from BS5837:2012 Table 1, Page 9)				
Category and Definition	**Criteria (Including Subcategories Where Appropriate)**			**Identification on Plan**
	1 Mainly Arboricultural Qualities	**2 Mainly Landscape Qualities**	**3 Mainly Cultural Values, Including Conservation**	
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in Category A, but were downgraded because of impaired condition (e.g., presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing groups or woodlands, such that they attract a higher collective rating than they might attract as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	See Appendix 3
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter of <150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	See Appendix 3

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