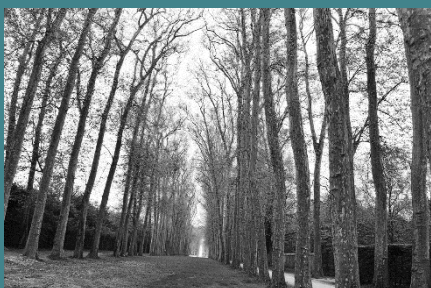


FPCR | environment
& design



CONSTRUCTION & ENVIRONMENTAL MANAGEMENT PLAN (Biodiversity)

Client

Avant Homes Yorkshire

Project

**Thurnscoe Bridge Lane,
Thurnscoe**

Date

March 2026

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Rev	Issue Status	Prepared/Date	Approved/Date
-	Draft	TC/ 01.12.25	JD / 07.01.2026
A	Final	TC / 24.02.26	JD / 10.03.2026

1.0 INTRODUCTION

- 1.1 This Construction and Environmental Management Plan (CEMP) has been prepared by FPCR Environment & Design Ltd. on behalf of Avant Homes Yorkshire and provides the working methods to be adopted during construction with respect to ecology and biodiversity at the proposed development on the land off Thurnscoe Bridge Lane ('the Site').
- 1.2 Proposals for the Site entail the construction of a residential development comprising 289 dwellings with associated gardens, car parking, access roads and footpaths. Green infrastructure proposed includes the creation of a sustainable urban drainage systems (SuDS), public open space (POS) comprising semi-natural habitats, native tree planting and hedgerow planting.
- 1.3 This document has been prepared in order to discharge the relevant condition of the planning application (2024/1004) which states:
- 1.4 *"No development shall take place (including demolition, ground works and vegetation clearance) until a Construction Environmental Management Plan - Biodiversity (CEMP-B) has been submitted to and approved in writing by the local planning authority. The CEMP-B shall include, but not necessarily be limited to, the following:*
- *A risk assessment of potentially damaging construction activities;*
 - *The identification of 'biodiversity protection zones';*
 - *Practical measures (both physical measures and precautionary working practices) to avoid or reduce impacts during construction to habitats and species (which may be provided as a set of method statements, which may include soft felling measures);*
 - *The location and timing of sensitive works to avoid harm to retained biodiversity features (including trees) (e.g. daylight working hours only starting one hour after sunrise and ceasing one hour before sunset);*
 - *The use of protective fences, exclusion barriers and warning signs, including advanced installation and maintenance during the construction period;*
 - *The times during construction when specialist ecologists need to be present on site to oversee works;*
 - *Responsible persons and lines of communication;*
 - *The role and responsibilities on site of an Ecological Clerk of Works (ECow) or similarly competent person(s).*
- The approved CEMP-B shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details."*
- 1.5 Full details of the Site, its ecological value and an outline of the recommended mitigation measures can be found within the Ecological Appraisal¹ and other supporting reports submitted as part of the planning application, with relevant summaries provided below.

¹ Ecological Appraisal, FPCR, November 2024

Site Location and Context

- 1.6 The Site is approximately 11.24ha and located on land off Thurnscoe Bridge Lane to the south of Thurnscoe and north-west of Goldthorpe, Barnsley. The Site is surrounded by residential development to the north and south; a railway line, industrial buildings and Phoenix Park to the east; and arable land to the west. Further afield, 1.9km to the southeast, lies RSPB Dearne Valley and 2.5km to the south-west is RSPB Old Moor.
- 1.7 The Site consists predominantly of arable land with a large parcel of modified grassland in the west of the Site, whilst tall forbs, mixed scrub and modified grassland are present within the Site along the north and eastern Site boundaries, associated with adjacent hedgerows and trees.

Objectives of CEMP

- 1.8 The objective of this CEMP is to minimise any potential risks to the species and habitats that are, or are likely to be, present within the Site during the construction process.
- 1.9 This document lists the relevant legislation associated with the species considered likely to be present on Site and those for which best practice measures are recommended. The subsequent sections detail the recommended working practises to be carried out prior to, or during development.
- 1.10 The CEMP will be reviewed jointly by the Principal Contractor and Ecological Clerk of Works (ECoW) every six months until completion of all construction and landscaping works, to ensure that it remains suitable and that environmental commitments are being met. Any significant changes to the CEMP will be submitted to the Local Authority for review prior to the relevant construction activity commencing.

2.0 ROLES AND RESPONSIBILITIES

Ecological Clerk of Works

- 2.1 A suitably qualified and experienced Ecological Clerk of Works (ECoW) should be appointed to supervise the undertaking of works associated with this CEMP, where required. The ECoW will be determined before the commencement of works and their name and contact details kept in the site office at all times.
- 2.2 Further duties of the ECoW include, (i) acting as the Developer's/Principal Contractor's main point of contact in relation to environmental issues and (ii) liaison officer with relevant statutory bodies as necessary.

Principal Contractor

- 2.3 For the pre-commencement and construction phases of the scheme, the Principal Contractor will be responsible for the protection, creation and initial establishment of the areas of green space within the Site, in addition to construction areas.
- 2.4 All works at all stages are the responsibility of the Principal Contractor who will:
- Appoint as necessary, and liaise with the ECoW;
 - Ensure that practical arrangements are in place to comply with the CEMP;
 - Arrange ecological surveys and monitoring as required during construction;

- Oversee the agreed programme of habitat and species protection as described in this document;
- Ensure that protective fencing and other Site protection measures are implemented and adequately maintained throughout all construction stages;
- Contribute to communication on environmental matters with stakeholders and statutory bodies, as required;
- Keep records to demonstrate implementation of and compliance with the CEMP;
- Ensure that an appropriately qualified/experienced ecologist undertakes the required on-site surveys, supervision etc. in the event that the ECoW cannot attend site and works cannot be delayed;
- Monitor the ecological and environmental performance of any sub-contractors and provide correction or direction as necessary;
- Ensure Site staff are given environmental awareness/protected species identification training by the ECoW, as necessary;
- Ensure that ecological survey reports, CEMP and contact details for the ECoW are available at the site offices at all times;
- Ensure that any required corrective ecological actions are taken in line with the relevant procedures as directed by the ECoW;
- Co-ordinate and undertake periodic reviews of the CEMP with the ECoW;

2.5 The Principal Contractor shall be responsible for ensuring an appropriate ECoW is present on-site as required to ensure the measures as recommended within this CEMP (and any other relevant ecological documents) are followed.

3.0 ECOLOGICAL FEATURES, RISK ASSESSMENT AND RELEVANT LEGISLATION

Habitats

3.1 Habitats to be lost partially or in their entirety either by land-take or through over-seeding comprise:

- Cereal cropland
- Modified grassland
- Mixed scrub
- Ruderal/ephemeral
- Tall forbs
- Bare ground
- Individual trees
- Native hedgerow

3.2 Table 1 below considers the retained habitats that are sensitive to construction activities and identifies the potential risks to them as a result of construction works. Measures to manage these risks will be discussed in the appropriate section.

Table 1: Existing Habitats

Retained Habitat	Relevant Legislation/Policy	Assessment of Risk
Hedgerow, Individual Trees, and Ecologically Valuable Line of Trees	Hedgerows (comprising over 80% native species) are recognised as a Habitat of Principal Importance (HPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Hedgerows are listed as a Priority Habitat within the Rotherham Biodiversity Action Plan (RBAP) ² .	There is a risk of: Root compaction. Damage to roots through pollution or incorrect storage of materials. Damage to branches during site clearance. Accidental removal of excessive length of hedgerow or trees.
Mixed scrub	Does not meet relevant legislation/policy	There is a risk of: Root compaction. Damage to roots through pollution or incorrect storage of materials. Damage to branches during site clearance. Accidental removal of scrub.

Fauna

- 3.3 Table 2 below considers the notable and protected faunal species which are known to be present within the Site or may potentially be present and could be affected by development activities including clearance of habitats and during ongoing construction.

Table 2 – Assessment of Risk to Fauna

Species	Relevant Legislation/Policy	Assessment of Risk
Badgers No badgers setts were noted during the site walkover carried out in January 2024. However, suitable sett building habitat exists onsite along the eastern boundary (scrub, hedgerow) and offsite (within the adjoining woodland).	Animals and their setts are protected under the Protection of Badgers Act (1992) making it an offence to wilfully kill, injure or take a badger (or attempt to do so), cruelly ill-treat a badger, dig for a badger and intentionally or recklessly damage or destroy a badger sett, or obstruct access to it, cause a dog to enter a sett and disturb a badger when it is occupying a sett.	There is a risk of: Killing/ injury of badger and sett disturbance during site clearance and construction. Killing and injury of badger due to improper storage of materials, presence of open excavations and uncapped pipework.
Hedgehog Hedgehogs are a mobile species, suitable habitats are present within the Site, and as such their presence cannot be discounted.	Hedgehogs are listed as a Species of Principal Importance (SPI) under Section 41 of the NERC Act 2006.	There is a risk of: Killing and injury of hedgehogs during Site clearance. Killing and injury of hedgehogs due to improper storage of materials, presence of open excavations and uncapped pipework.
Bats The Site offers some foraging, potential roosting, and commuting habitat for bats.	Bats and their roosts are listed on the Conservation of Habitats and Species Regulations 2017 making it illegal to deliberately disturb any such animal or damage / destroy a breeding site or roosting place of any such animal.	There is a risk of: Killing or injury of bats roosting if present in trees to subsequently proposed be removed.

² Rotherham Biodiversity Action Plan (RBAP) available at: <https://www.rotherham.gov.uk/downloads/file/651/biodiversity-action-plan-bap-2012-non-technical-summary>

Species	Relevant Legislation/Policy	Assessment of Risk
	Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection. Some bat species are considered to be Species of Principal Importance (SPI) under the NERC Act (2006).	Disturbance of roosting bats, if present. Disturbance to foraging and commuting bats.
Birds Potential for nesting birds within suitable habitat to be lost (hedgerows, scrub, trees).	Under the Wildlife and Countryside Act 1981 (amended) it is an offence to kill, injure or take a bird. It is also an offence to take damage or destroy a nest in use or being built, take or destroy an egg, or to be in possession or control of a wild bird or any part or object derived from, or egg or part of one.	There is a risk of: Killing and injury of birds and damage to nests during site clearance.

4.0 STAGE 1 – PRE-COMMENCEMENT

- 4.1 The following details the necessary avoidance and mitigation measures that will be implemented prior to commencement of site clearance and construction. For a timetable of implementation see Table 3.

Biodiversity Protection Zones

- 4.2 Biodiversity Protection Zones are areas of retained land which include habitats that may be at risk from damage, or habitats which have been identified to be of importance to faunal species which may be harmed or disturbed by construction activities.
- 4.3 The locations of these zones are illustrated in Figure 1.

Root Protection Areas

- 4.4 An appropriate buffer zone will be created along the length of all retained hedgerows and trees, incorporating the Root Protection Areas (RPAs) of the hedgerows and their associated trees, as detailed in the Arboricultural Assessment (FPCR, 2024; Appendix A). Protective fencing will be installed to demarcate these buffer zones. The buffer zone will protect the roots of the trees and hedgerows and protect the ground flora at the base of the hedgerow and will also ensure a continuous foraging and commuting resource remains available for fauna.
- 4.5 Within the buffer zone behind the protective fencing the following is to be adhered to:
- No soil stripping, excavations or any vegetation clearance is to take place;
 - No site workers or vehicles are permitted; and
 - No machinery or materials are to be stored.

Habitats

Mixed Scrub

- 4.6 A buffer, demarcated by Heras (or similar) fencing, will be established around the retained area of scrub. This will be situated no less than 1m from the retained scrub edge marked in Figure 1.

General Good Practice Measures

- Where possible material will be stored centrally within a fenced compound rather than at the edge of the Site or near to retained habitats;
- Materials should be raised from the ground by storing on pallets to prevent fauna using these stockpiles for shelter.

Badger

- 4.7 The site walkover (January 2024) did not identify any active or inactive badger setts within the Site boundary. No records of badgers or badger setts were returned from the Sheffield Biological Records Centre (SBRC) and Doncaster Local Records Centre (DLRC) from within 1km of the site boundary. However badgers are a highly mobile species and their future movement onsite cannot be ruled out.
- 4.8 A pre-commencement check will be undertaken to ascertain whether any new setts have been created on or within 30m of the Site in the intervening period. This should be undertaken no more than three months prior to the commencement of works.
- 4.9 Any active setts identified will be protected by a 30m buffer zone from the entrances; fenced off with suitable fencing (i.e. Heras fencing) to prevent ingress and disturbance for the duration of works. Warning signs should be affixed to the fencing; denoting the area as a further Biodiversity Protection Zone and indicating that access is prohibited. Fencing should be positioned such that it does not prevent badgers from accessing off-site habitats, retaining a semi-natural corridor where necessary. Fencing should provide sufficient gaps at ground level that any badgers which do enter the site have a means of egress and do not become trapped within it.
- 4.10 If works must be carried out within 30m of any active sett then a Natural England disturbance licence may be required.

Bats

- 4.11 T1, 2, 3, 14 and 3 are to be retained, although have potential for bat roosting. In order to avoid indirect impacts that may lead to potential roost abandonment or adversely affect foraging and commuting, no construction site artificial lighting, such as flood lighting for evening work (if required), will be directed at retained trees or hedgerows.
- 4.12 The establishment of buffer zones around retained hedgerows will also ensure a continuous foraging and commuting resource for bats throughout the construction phase.
- 4.13 Should these trees require removal further survey will be necessary.

Nesting Birds

- 4.14 Any removal of woody vegetation, including sections of hedgerow, trees and areas of scrub should be undertaken outside of the bird nesting season (March to September, inclusive). Where this is not possible, the habitats will be checked by the ECoW or a suitably experienced ecologist to confirm the likely absence of nesting birds. Where nesting birds are present, a suitable exclusion zone should be set around the nest (as determined by the supervising

ecologist) and cordoned off with high visibility tape or mesh fencing. Works must not occur within this until the ecologist confirms that birds have fully fledged.

Hedgehogs

- 4.15 There is the potential for the presence of hedgehogs onsite, due to high species mobility, the presence of suitable habitat onsite, and nearby species records returned from the SBRC and DLRC.
- 4.16 Clearance of habitat and features suitable for hedgehogs to nest/hibernate (scrub and any debris or log piles) should be avoided during winter months (generally considered to be November to March inclusive). Where this is not possible, the habitats will be checked by the ECoW or a suitably experienced ecologist to confirm the likely absence of hedgehogs.
- 4.17 Prior to clearance in summer/spring months, any habitats or features with the potential to support hedgehogs taking refuge (e.g. hedgerow bases or dense scrub areas) should be subject to inspection by the ECoW. Should any hedgehogs be encountered, the ECoW will move the animal to suitable retained habitat.
- 4.18 Any open excavations deep enough to potentially entrap hedgehogs should be provided with a means of egress if left open overnight. All open excavations should be checked each morning prior to works commencing to ensure no animals are trapped and any hedgehogs found moved to an area of retained habitat.

Table 3: Timetable for Stage 1 – Pre-commencement

Habitat or Feature	Activity	Mitigation	Recommended Timing	Responsibility
Habitats				
Retained habitats: Trees, hedgerows and associated ground flora	Protective fencing to be installed	Fencing shall be erected as per the specifications and to the Root protection Areas shown within the Appendix A Tree Protection Plan (FPCR, 2024) and with consideration to <i>BS5837 Trees in Relation to Construction</i>. Fencing shall also be erected at a minimum distance of 1m from hedgerows. No machinery, vehicles or materials are to enter these protected zones.	All year round as appropriate	Principal Contractor
Fauna				
Badger	Pre-works inspection of the site area and accessible off-site areas within 30m	To be undertaken by an appropriately experienced ecologist. The site and an area of 30m around the site will be assessed for the presence of new badger setts and note any changes in use of the existing setts. A 30m buffer zone is to be implemented around any on-site active badger setts. No construction works are to be undertaken within the buffer. Any deviation from the above may require a Licence from Natural England. Under a Licence any works considered to potentially disturb any sett identified can only be undertaken between July and November (inclusive). Further advice would be provided as necessary should new setts be discovered.	All year round as appropriate. The check should be undertaken no more than three months prior to the commencement of works.	ECoW and Principal Contractor
Hedgehogs	Clearance of habitats	Avoid clearing suitable habitat in winter months. If hedgehog is encountered ECoW can move but must provide suitable habitat/hedgehog house to shelter outside work area. Clearance of suitable habitats in spring/summer months after a check by ECoW. Any hedgehogs encountered to be moved to suitable habitat outside working area.	November to March inclusive April – October	

	Excavations	Open excavations will be provided with a means of egress and checked for animals before the start of works each day and any animals moved to an area of suitable habitat outside of works areas	All year round as appropriate	ECoW and Principal Contractor
Nesting birds	Site setup and pre-commencement nesting bird check	The removal of woody vegetation or grassland suitable for ground-nesting birds to avoid the bird nesting season (March – August, inclusive), where possible. Clearance of woody vegetation or suitable grassland within the nesting season must be preceded by a nesting bird check completed by the ECoW or suitably experienced ecologist. Removal works must be undertaken with the subsequent 48 hours or further checks required. If nesting birds are present an exclusion zone to be determined by the ECoW should be set around the nest (suitable for the species nesting) within which no works can occur until the birds have fully fledged.	October to February March to August inclusive	ECoW and Principal Contractor

5.0 STAGE 2 – CONSTRUCTION

- 5.1 Table 5 below provides a summary of the works to be undertaken once construction has commenced.
- 5.2 A copy of this CEMP will be held at the site office for reference.
- 5.3 The Principal Contractor will monitor the ecological issues during the course of Site clearance and construction.
- 5.4 Throughout construction all workers should work with due care and attention with respect to the potential presence of fauna and protected species on Site. Any observations of protected species must be reported immediately to the Principal Contractor, who will contact the ECoW for further advice.
- 5.5 Weekly checks of the fencing demarcating the buffer zones and Root Protection Areas will be made by the Principal Contractor, or an appointed site worker and this will ensure:
- The integrity and correct positioning of protective fencing;
 - Repairs are made to the fencing as necessary.

Protection of Retained Habitats

- 5.6 The potential for impacts on retained habitats (hedgerows, trees, and areas of mixed scrub) outside of the immediate working areas during construction activities will be minimised through the erection of protective fencing and creation of Biodiversity Protection Zones at the pre-construction stage.
- 5.7 The fencing will be located so that it prevents any inadvertent damage to retained or created habitats throughout the construction, particularly in locations where vegetation is to be removed or during works close to retained habitat.
- 5.8 No temporary storage of materials, construction of haul routes, or site machinery would be sited within retained habitats, their buffer zones or outside of the site boundary and unnecessary or informal access to these areas by construction site personnel would be prevented.

Hedgerows and Trees

- 5.9 It is the responsibility of the Principal Contractor to ensure that fencing is maintained, remains in the correct location, and is fit for purpose – enforcing the root protection areas as stipulated on the Appendix A Tree Retention Plan (FPCR, 2024) and additionally a minimum of 1m from all retained hedgerows.
- 5.10 The Principal Contractor will monitor the fencing and buffer zones to ensure that there have been no vehicle incursions and no materials are being stored within the Biodiversity Protection Zones.

Pollution / Runoff

- 5.11 No temporary storage of materials, construction of unapproved haul routes, or site machinery will be sited within 30m of the Biodiversity Protection Zones or outside of the Site boundary and unnecessary or informal access to these areas by construction site personnel will be prevented.

5.12 Good practice in line with Guidance for Pollution Prevention³ should be followed at all times. Materials and fuel should all be stored away from Biodiversity Protection Zones. Methods to avoid accidental pollution or contamination of retained habitats on or off Site, including from surface runoff includes but is not limited to the following:

- Any environmentally hazardous material will be kept in dedicated stores, and storage tanks should have appropriate bunding to prevent run-off into retained habitats.
- Fuel stored on Site will be stored in double bunded fuel tanks. Spill kits will be readily available if required.
- There should be no uncontrolled run-off of water or mud from the Site.
- If hard surfaces are constructed, silt run-off preventative measures in the form of metal plates secured to gulley frames with Terram are to be utilised throughout the construction period.
- All machinery will be regularly checked for oil leaks or similar, which, if found, must be immediately repaired or addressed with the use of a drip tray/spill kit or similar.
- Any spillages (e.g. diesel) should be cleaned up immediately. Efforts will be made to stop a spill at the source. If the primary container or secondary containment have been breached or failed for any reason, the spill will be contained where it is happening. This will reduce the quantity of material released, reducing the amount of spilt material that can cause pollution.
- If it is not possible to stop the spill at source, significant attempts will be made to stop it as close to the source as possible. If possible, the spilling material will be safely moved into another container to limit the size of the spill. A suitable container and pump should be kept on Site.
- In the event of a spillage on Site, the material should be contained (using an absorbent material such as sand or soil or commercially available booms). Sorbents will be used to soak up a spill and stop it spreading on hard surfaces. Using sorbents generates waste and this method will only be used on small spills, or where a spill has been contained to stop any further spread. All used sorbents will be disposed of at an accredited site for disposal.

Dust

5.13 All works will be planned to minimise dust generating activities. Where this is unavoidable the following precautions should be considered, as relevant:

- Stockpiles of materials likely to generate dust will be maintained away from retained habitats, or covered, seeded, or fenced with solid fencing to stockpile height.
- Haul routes will avoid retained habitats and include a speed limit suitable for surfaced or unsurfaced roads in accordance with best practice.
- Wheel washing and damping down of surfaces will be undertaken during dry periods to suppress dust.
- Open loads which may create dust will be covered.

³ Pollution Prevention for Businesses [Online] Accessed 04.12.25 Available at: [Pollution prevention for businesses - GOV.UK](https://www.gov.uk/guidance/pollution-prevention-for-businesses)

- Avoidance of bonfires and burning of materials.
- An adequate water supply for dust suppression will be made available, including mobile water bowser.

Fauna

General Good Practice Measures

- 5.14 The following precautionary measures will be adopted to avoid any potential for harm to habitats or protected species:
- Where possible material will be stored centrally within the site within a fenced compound;
 - Where stored onsite, materials will be raised on pallets;
 - All excavations left overnight should be left with one sloping end or other mean of egress to allow any animals that may fall in to escape;
 - All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling.
- 5.15 In the event that protected species are discovered during construction, the Principal Contractor is to contact the ECoW for further advice.

Badgers

- 5.16 No setts are currently present. Should any active setts be identified during subsequent pre-commencement checks, a 30m protective buffer zone will remain around any active setts for the duration of works or, where this is not possible, until such a time as a licence from Natural England and they have been closed under licence. Advice would be provided as necessary.
- 5.17 The following precautionary measures will be adopted during construction works to minimise the risk of accidental harm to badgers:
- During construction any pipes greater than 150mm in diameter will be capped if they are left open overnight, thereby preventing badgers (or other fauna) from becoming trapped;
 - Any pits or trenches will be similarly covered overnight, or left with a suitable means of escape, e.g. wooden plank;
 - Any soil piles must be covered over or compacted down to minimise the risk of badgers digging in to create setts.

Hedgehogs

- 5.18 There is potential for hedgehog to be present on Site.
- 5.19 Clearance of habitat and features suitable for hedgehogs to nest/hibernate (dense scrub – particularly bramble scrub, debris piles and log piles, compost heaps) should be avoided during winter months (generally considered to be November to March inclusive). Where this is not possible, the habitats will be checked by the ECoW or a suitably experienced ecologist to confirm the likely absence of hedgehogs.
- 5.20 Prior to clearance in summer/spring months, any habitats or features with the potential to support hedgehogs taking refuge (e.g. thick tussocky grassland, hedgerow bases, dense scrub)

should be subject to inspection by the ECoW.. Should any hedgehogs be encountered the ECoW will move the animal to suitable retained habitat .

- 5.21 Any open excavations deep enough to potentially entrap hedgehogs should be provided with a means of egress if left open overnight. All open excavations should be checked each morning prior to works commencing to ensure no animals are trapped and any animals found moved to an area of retained habitat. Bats
- 5.22 Trees T4-8, T33, and tree group G2 are to be felled under licence. Should any additional arboricultural works to other trees be necessary during construction, the ECoW must be contacted and informed of the necessary tree works to assess the relevant tree/s and ensure that no suitable roosting features are present and that there is no risk to roosting bats and to enable appropriate mitigation. Including the need for any Natural England licence, to be put in place as required
- 5.23 To prevent adversely affecting foraging and commuting habitats utilised by bats, no unnecessary light spill should occur onto the Biodiversity Protection Zones. Lighting must also be turned off when construction is not active.

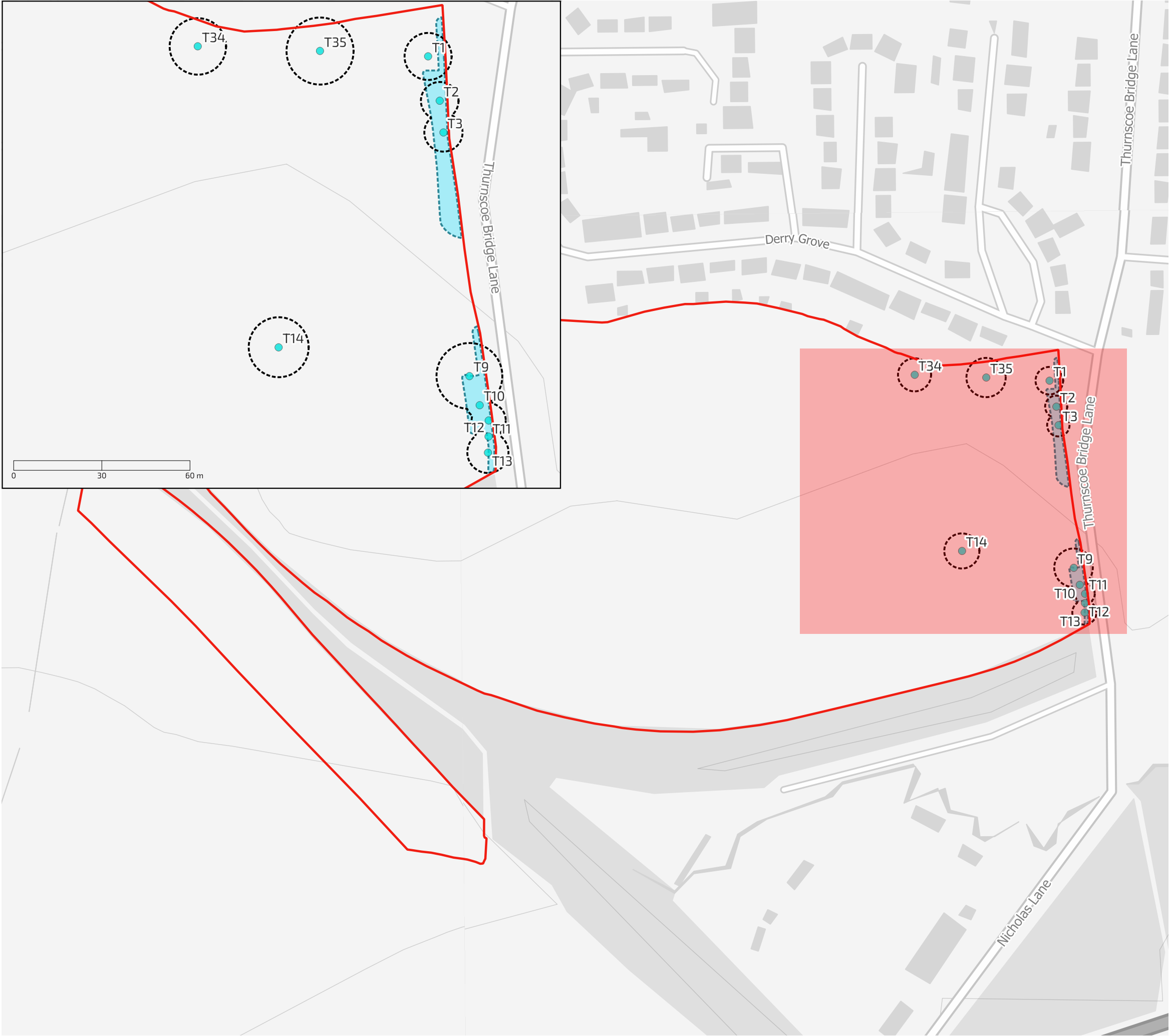
Birds

- 5.24 During construction, the risk to nesting birds is minimal, as suitable habitat will have been removed during site clearance or protected within the buffer zones of the hedgerows and trees. However, should any additional clearance works be necessary during the period March to August inclusive, the affected habitat will be checked by the ECoW to confirm the absence of nesting birds prior to removal as above.
- 5.25 Where nesting birds are present works must cease in the vicinity of the nest and an exclusion zone will be set around the nest (as determined by the supervising ecologist and suitable for the species nesting) within which no works can occur until the birds have fully fledged.

Table 4: Timetable for Stage 2 - Construction

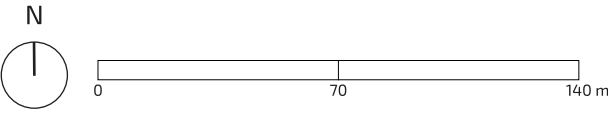
Habitat Feature or	Activity	Mitigation	Recommended timing	Responsibility
Biodiversity Protection Zones (retained hedgerows, trees and scrub)	Protective fencing to be checked weekly and maintained	Heras-style fencing positioned around the Biodiversity Protection Zones is to be retained in situ and well maintained throughout construction. No machinery or vehicles to enter these zones or materials to be stored at any time, except during the installation of the surface water outflow pipe.	All year round as appropriate for the duration of Stage 2	Principal Contractor
General measures	Passive observation	Any observations of protected species must be reported immediately to the Principal Contractor, who will contact the ECoW for further advice.	All year round as appropriate for the duration of Stage 2.	All site staff
	Materials storage	Materials and chemicals will be stored centrally within the site and raised on pallets; where necessary, protective bunds will be created to contain any spillage events. The attenuation pond should be created as soon as possible to assist with site run-off and drainage.	All year round as appropriate for the duration of Stage 2.	Principal Contractor
	Weekly checks	A walkover of the site will be undertaken weekly to confirm the absence of protected species (particularly badgers).	All year round as appropriate for the duration of Stage 2.	Principal Contractor
Badgers	Protection of badgers on site	Ensure 30m protection zone around any active setts identified during pre-commencement survey are maintained for the duration of construction. Pipes greater than 150mm should be capped overnight to prevent access from badger. Any pits or holes should include a means of escape for mammals e.g. wooden plank. Any soil piles must be covered over or compacted down to discourage sett building.	All year round as appropriate for the duration of Stage 2.	Principal Contractor

Habitat Feature or	Activity	Mitigation	Recommended timing	Responsibility
Hedgehog	Clearance of habitats	Avoid clearing suitable habitat in winter months. If hedgehog is encountered ECoW can move but must provide suitable habitat/hedgehog house to shelter outside work area. Clearance of suitable habitats in spring/summer months after a check by ECoW. Any hedgehogs encountered to be moved to suitable habitat outside working area.	November to March inclusive April to October inclusive	ECoW and Principal Contractor
	Excavations	Open excavations will be provided with a means of egress and checked for animals before the start of works each day. Any animals found may be carefully moved to an area of suitable habitat outside of works areas.	All year round as appropriate for the duration of Stage 2	
Bats	Check of any additional trees (if present) requiring works for roosting bats	Any trees requiring arboricultural works are to be assessed by a licensed bat worker for features and suitability for roosting bats. Suitable trees that may be affected will be surveyed for the presence of roosting bats. Avoidance or mitigation measures if required will be advised by a licensed bat worker.	As required prior to all additional tree works.	ECoW and Principal Contractor
	Construction lighting	Avoid lighting / light spill on to Biodiversity Protection Zones. Turn off site lighting when the Site is not in use.	All year round as appropriate for the duration of Stage 2.	Principal Contractor
Birds	Site works preparation and pre-commencement nesting bird check	The removal of woody vegetation to avoid the bird nesting season (March – September, inclusive), where possible. Additional clearance of woody vegetation within the nesting season (where necessary) must be preceded by nesting bird check completed by the ECoW or suitably qualified ecologist. If nesting birds are present an exclusion zone to be determined by the ECoW should be set around the nest (suitable for the species nesting) within which no works can occur until the birds have fully fledged.	September to February March to August	ECoW and Principal Contractor



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- Red Line Boundary
- Biodiversity Protection Zones
- Retained Trees
- Tree Root Protection Areas

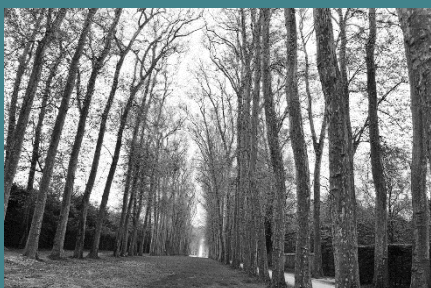
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client	Avant Homes Yorkshire		
project	Thurnscoe Bridge Lane, Thurnscoe		

title	Construction & Environmental Management Plan	scale	1:2,200 @ A3
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number	FIGURE 1	rev	A
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Appendix A - ARBORICULTURAL ASSESSMENT

Client

Avant Homes

Project

**Thurnscoe Bridge Lane,
Thurnscoe**

Date

November 2024

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Rev	Issue Status	Prepared/Date	Approved/Date
-	Draft	EC/24/10/24	AW/24/10/24
A	Final	EC / 01/11/24	AW / 01/11/24

1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Avant Homes to present the findings of an Arboricultural Assessment and survey of trees located at land off Thurnscoe Bridge Lane, Thurnscoe (hereafter referred to as the site), OS Grid Ref SE 453 049.

Site Description

- 1.2 Situated to the south of the village of Thurnscoe in the metropolitan borough of Barnsley, the site comprises a single agricultural field parcel which abuts Thurnscoe Bridge Lane along its eastern edge, and the rear gardens of residential dwellings on Derry Grove to the north. A tree lined watercourse forms the western boundary beyond which lies a residential development, and the site is separated from an adjoining field parcel to the south by a bridleway along a former railway line.
- 1.3 An additional field agricultural parcel to the southwest of the bridleway was included as part of the tree survey, but now falls outside of the site boundary and is not discussed further.

Planning History

- 1.4 The site is identified within the Local Plan for Barnsley Metropolitan Borough Council under Policy H552 (Land west of Thurnscoe Bridge Lane and south of Derry Grove) for 308 dwellings and is afforded significant weight. `

Scope of Assessment

- 1.5 A tree survey and assessment of existing trees was carried out by FPCR Environment and Design on 19th January 2024 in accordance with guidance contained within British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' (hereafter referred to as BS5837).
- 1.6 This report has been produced to accompany a detailed planning application for 296 dwellings. The purpose of this report is therefore to firstly, present the results of this assessment of the existing trees' arboricultural value, based on their current condition and quality and to secondly, provide an assessment of impact arising from the proposed development of the site.

2.0 PLANNING POLICY

National Planning Policy Framework December 2023

- 2.1 National Planning Policy is defined by the National Planning Policy Framework (NPPF). This sets out the Government's most current and up to date planning policies for England and how these should be applied. The current NPPF is dated December 2023.
- 2.2 Paragraphs 10 and 11 of the NPPF state that there is a presumption in favour of sustainable development and states that for decision making, the LPA should be 'c) approving development proposals that accord with an up-to-date development plan without delay'.
- 2.3 In relation to arboriculture, the NPPF states that:
- 136 'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined (footnote 53), that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users'. (footnote 53: unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate)
 - 186 (c) 'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons (footnote 67) and a suitable compensation strategy exists'.
and provides specific guidance that:
 - 186 (d) 'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.
- 2.4 With reference to paragraph 186 (c), examples of what is deemed to be 'wholly exceptional' are included within Footnote 67 and provides the examples of 'infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat'.

Local Planning Policy

- 2.5 Local planning decisions regarding all future developments are assessed against a framework to ensure that the district or county in question is developed in a well-informed and coherently systematic manner, this may include decisions to ensure that the right number and types of houses are built and incorporating the correct type of shopping and recreation facilities, whilst protecting the local ecological resources, landscape context and intrinsic heritage value of an area.

- 2.6 Within the context of the adopted Barnsley Local Plan 2019 there are several policies relating to trees. The following lists the most relevant.

Policy GD1 General Development

Proposals for development will be approved if:

Existing trees that are to remain on site are considered in the layout in order to avoid overshadowing.

Policy BIO1 Biodiversity and Geodiversity

Development will be expected to conserve and enhance the biodiversity and geological features of the borough by:

Protecting ancient and veteran trees where identified

Development which may harm a biodiversity or geological feature or habitat, including ancient woodland and aged or veteran trees found outside ancient woodland, will not be permitted unless effective mitigation and/or compensatory measures can be ensured.

- 2.7 The adopted Barnsley Local Plan 2019 also provides specific guidance under the site allocation (HS52) that:

The development will be expected to:

Ensure that the trees and hedgerows around the periphery of the site, in particular on the southern boundary are retained.

3.0 SURVEY METHODOLOGY

- 3.1 The survey of trees has been carried out in accordance with the criteria set out in Chapter 4 of BS5837. The survey has been undertaken by a suitably qualified and experienced arboriculturist and has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence to any proposals. Trees were assessed for their arboricultural quality and benefits within the context of the proposed development in a transparent, understandable, and systematic way.
- 3.2 Trees have been assessed as groups and hedgerows where it has been determined appropriate.
- The term group has been applied where trees form cohesive arboricultural features either aerodynamically, visually or culturally including biodiversity or habitat potential for example parkland or wood pasture.
 - For the purposes of this assessment, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base and are managed under a regular pruning regime.
- 3.3 An assessment of individual trees within groups and hedgerows has been made where a clear need to differentiate between them, for example, to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

BS5837 Categories

- 3.4 Trees, groups and hedgerows have been divided into one of four categories based on Table 1 of BS5837, 'Cascade chart for tree quality assessment'. For a tree to qualify under any given category it should fall within the scope of that category's definition (see below).
- 3.5 Category U trees are those which would be lost in the short term for reasons connected with their physiology or structural condition. They are, for this reason not considered in the planning process on arboricultural grounds.
- 3.6 Categories A, B and C are applied to trees that should be of material consideration in the development process. Each category also having one of three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural or conservation values accordingly.
- 3.7 Category (U) – (Red): Trees which are unsuitable for retention and are 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 within this category are:
- Trees that have a serious irremediable structural defect such that their early loss is expected due to collapse and includes trees that will become unviable after removal of other category U trees.
 - Trees that are dead or are showing signs of significant, immediate or irreversible overall decline.
 - Trees that are infected with pathogens of significance to the health and/ or safety of other nearby trees or are very low quality trees suppressing adjacent trees of better quality.

- Certain category U trees can have existing or potential conservation value which may make it desirable to preserve.
- 3.8 Category (A) – (Green): Trees that are considered for retention and are of high quality with an estimated remaining life expectancy of at least 40 years with potential to make a lasting contribution. Such trees may comprise:
- Subcategory (i) trees that are particularly good examples of their species, especially if rare or unusual, or are essential components of groups such as formal or semi-formal arboricultural features for example the dominant and/or principal trees within an avenue.
 - Subcategory (ii) trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.
 - Subcategory (iii) trees, groups or woodlands of significant conservation, historical, commemorative or other value for example veteran or wood pasture.
- 3.9 Category (B) – (Blue): Trees that are considered for retention and are of moderate quality with an estimated remaining life expectancy of at least 20 years with potential to make a significant contribution. Such trees may comprise:
- Subcategory (i) trees that might be included in category A but are downgraded because of impaired condition for example the presence of significant though remediable defects, including unsympathetic past management and storm damage.
 - Subcategory (ii) trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.
 - Subcategory (iii) trees with material conservation or other cultural value.
- 3.10 Category (C) – (Grey): Trees that are considered for retention and are of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm. Such trees may comprise:
- Subcategory (i) unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
 - Subcategory (ii) trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value or trees offering low or only temporary / transient screening benefits.
 - Subcategory (iii) trees with no material conservation or other cultural value.

Ancient and Veteran Trees

- 3.11 Various published methodologies are currently available for the identification of Ancient and Veteran trees which, due to the complexity and subjectivity of the process of defining and assessing these trees, often have conflicting definitions.
- 3.12 This assessment and the criterion for defining a veteran tree is based upon the definition within BS:5837.

- 3.13 “Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned”.

NOTE These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem

- 3.14 Stem girth is the most reliable guide when determining the age of trees and in normal growing conditions, ancient and veteran trees are those which have a large girth by comparison with other trees of the same species. To inform the assessment of chronological age reference has been made to the chart provided within Lonsdale (2013) (shown below in Figure 1).

- 3.15 BS:5837 does not provide a definition for ancient trees and therefore the assessment and the criterion being used for identifying ancient tree is based upon government guidance on, Ancient woodland, ancient trees and veteran trees: advice for making planning decisions¹ which states.

“All ancient trees are veteran trees, but not all veteran trees are ancient. The age at which a tree becomes ancient, or veteran will vary by species because each species ages at a different rate.”

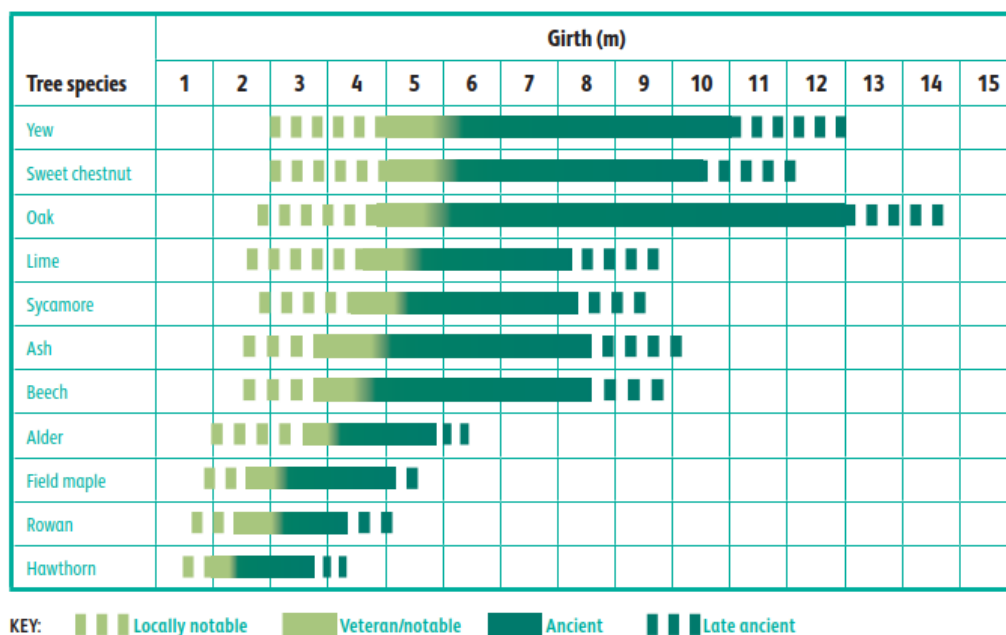


Figure 1: The chart of girth in relation to age and development classification of trees, as shown in Lonsdale (2013)².

- 3.16 Ancient and veteran trees are also material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2023, which includes its own definition of ancient and veteran trees:
- 3.17 ‘A tree which, because of its age, size, and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.’³

¹ Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

² Lonsdale, D. (Ed.). 2013). Ancient and other veteran trees: further guidance on management. London: The Tree Council.

³ Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

Considerations and Limitations of the Tree Survey

- 3.18 The survey was completed from ground level only and from within the boundary of the site. Aerial tree inspections or an assessment of the internal condition of the stem/s or branches were not undertaken at this stage as this level of survey is beyond the scope of the initial assessment.
- 3.19 The statements made in this report regarding the assessed applies to the date of survey and cannot be assumed to remain unchanged. It will be necessary to review all comments and observations made within this report, in accordance with sound arboricultural practice, within two years of the date of survey (unless explicitly stated elsewhere within this report). Further review may also be necessary where site conditions change or works to trees are carried out which have not been specified in detail within this report.
- 3.20 Hedgerows are identified as a Habitat of Principal Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The tree survey conducted, in accordance with BS5837, does not assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, and is outside the scope of this assessment.
- 3.21 It may be necessary during detailed design to undertake further assessment and accurate positioning of woody species within tree groups and hedgerows to assist structural calculations for foundation design of structures in accordance with NHBC Chapter 4.2 Building near Trees.

4.0 RESULTS

- 4.1 A total of thirty-five individual trees, twelve groups of trees, and two hedgerows were surveyed as part of the Arboricultural Assessment. Trees were surveyed as individual trees, groups and hedgerows as per the survey methodology.
- 4.2 Appendix A presents details of all individual trees, groups and hedgerows recorded during the assessment including heights, diameters at 1.5m from ground level, crown spread (given as a radial measurement from the stem), age class, comments as to the overall condition at the time of inspection, BS5837 category of quality and suitability for retention and the root protection area (RPA), calculated in accordance with Annex C, D and Section 4.6 of BS5837:2012.
- 4.3 General observations particularly of structural and physiological condition for example the presence of any decay and physical defect and preliminary management recommendations have also been recorded where appropriate.
- 4.4 The individual positions of trees, groups and hedgerows have been shown on the Tree Survey Plan. The positions of trees are based on a topographical / land survey, as far as possible, supplied by the client. Where topographical information has not identified the position of trees these have been plotted using a global positioning system and aerial photography to provide approximate locations. The crown spread, root protection area and shade pattern (where appropriate) are also indicated on this plan.

Results Summary

- 4.5 Tree cover on the site was largely restricted to the field boundaries, except for a single tree situated centrally within the field parcel and three trees situated alongside a track on the north edge of the field parcel. A line of trees was present along the boundary with Thurnscoe Bridge Lane, and larger tree groups were present along the bridleway which included mature planting associated with the former railway and areas of younger planting.
- 4.6 Table 1 below summarises the trees assessed and several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

Table 1: Summary of Trees by Retention Category

	Individual Trees	Total	Groups of Trees	Total
Category U - Unsuitable		0	G12	1
Category A (High Quality / Value)	T35	1		
Category B (Moderate Quality / Value)	T1, T3, T4, T5, T6, T7, T9, T14, T15, T16, T17, T18, T19, T21, T22, T23, T24, T25, T26, T28, T29, T30, T34	23	G2, G3, G4, G5, G6, G9, G10	7
Category C (Low Quality / Value)	T2, T8, T10, T11, T12, T13, T20, T27, T31, T32, T33	11	G1, G7, G8, G11, H1, H2	6

- 4.7 Thirteen individual trees (T1-T13) and two tree groups (G1 and G2) were recorded along the site's eastern boundary alongside Thurnscoe Bridge Lane. This tree cover ranged in quality from moderate (Category B) to low (Category C) and included a mixture of species which included turkey oak *Quercus cerris*, sycamore *Acer pseudoplatanus*, common lime *Tilia x europaea*, ash *Fraxinus excelsior*, beech *Fagus sylvatica* and English oak *Quercus robur*.
- 4.8 T14, a mature English oak stood centrally within the eastern field parcel and displayed several features which can be associated with veteran trees. These features included the presence of a decay fungus *Ganoderma resinaceum*, cavities, splits and patches of missing bark. While these features can be an indication of the tree being veteran when attributed to age related decline, in this instance these features are the result of external factors with it being evident that T14 had previously been struck by lightning and the ground around the base has been regularly ploughed close to the stem.
- 4.9 T14 also had a stem diameter which is below the veteran range as set in Figure 1 and with these potential veteran features not being attributed to age related decline which allows the niche and specialist habitat to develop over several years and gives veteran trees their status as irreplaceable habitats. T14 was not considered a veteran tree but did poses conservation value being recorded as Category B(iii).
- 4.10 Tree cover along the bridleway which formed the southern boundary of the site was all recorded as moderate quality (Category B) for its collective landscape value form an arboricultural perspective. This tree cover which included a mixture of mature tree groups associated with the former railway (G3, G9 and G10) and younger planted tree groups (G4 and G5) provided a strong arboricultural feature for users of the bridleway but were situated to make little visual contribution to the wider locality.
- 4.11 Mature crack willow *Salix fragilis* and alder *Alnus glutinosa* (G11) had established within the low laying ground alongside a water course and the site's western boundary. It was evident that these trees were under no management regime with failed stems being present throughout the group. G11 was assessed as low quality (Category C) due to its current condition and may require future management, which could include coppicing, should public access to these groups be increased.
- 4.12 Three mature trees (T33, T34 and T35) stood within the site close to the northern boundary, which abutted the rear gardens of residential properties on Derry Grove. T34 a mature sycamore was considered in a fair overall condition with basal growth restricting access to the base and past pruning to raise the crown above an access track which passed beneath its crown. T35 a mature turkey oak was of large proportions and considered a particularly good example of the species being recorded as high quality (Category A). T33 a multi stemmed sycamore was considered of limited arboricultural value and recorded as low quality (Category C).

Ancient and Veteran Trees

- 4.13 None of the assessed trees were considered as ancient or veteran trees in accordance with our veteran survey methodology.

Statutory Considerations

- 4.14 Local authorities have a Duty under the Town and Country Planning Act to create Tree Preservation Orders (TPO) to protect and preserve specific trees and woodlands that bring significant amenity benefit to a particular site or location.
- 4.15 Under a TPO it is a criminal offence to cut down, top, lop, uproot or wilfully destroy a tree protected by that Order, or to cause or permit such actions, if carried out without the prior written consent of the acting LPA.
- 4.16 No direct consultation with the Local Planning Authority has taken place, however, it is understood having used the online search facility on the website for the Local Planning Authority, Barnsley Metropolitan Borough Council that there are no Tree Preservation Orders and Conservation Areas that would apply to any trees present on, or in close proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees. Before any tree works are undertaken confirmation of the online information should be sought from the Local Authority.
- 4.17 Information provided on Tree Preservation Orders and Conservation Areas is accurate to the date of this assessment and cannot be assumed to remain unchanged. The last check was carried out on 3rd October 2024.

5.0 ARBORICULTURAL IMPACT ASSESSMENT

- 5.1 The following paragraphs present a summary of the tree survey and discussion of trees and groups recorded in the context of any proposed development in the form of an Arboricultural Impact Assessment in accordance with section 5.4 of BS5837. Any final tree retentions will need to be reconciled with the advice contained within this report.
- 5.2 The AIA has been based upon the Planning Layout and seeks to outline the relationship between the proposals and the existing trees and hedgerows. The drawing shows the proposals for a residential development of 296 dwellings.
- 5.3 An overlay of the layout has been incorporated in the Tree Retention Plan to assist in identifying the relationship and any potential conflicts between the proposals and the existing trees and hedgerows. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.
- 5.4 Table 2 below summarises the impact on tree stock and these impacts have been discussed in more detail following the table.

Table 2: Summary of Impact on Tree Stock

	Trees to be Removed	Reason for Removal	Total
Category B (Moderate Quality / Value)	T4	T4 – Removal to facilitate vehicular and pedestrian access to the site.	4
	T5	T5 – Removal to facilitate vehicular and pedestrian access to the site.	
	T6	T6 – Removal to facilitate vehicular and pedestrian access to the site.	
	T7	T7 – Removal to facilitate vehicular and pedestrian access to the site.	
	G2	G2 – Removal to facilitate vehicular and pedestrian access to the site.	1
Category C (Low Quality / Value)	T8	T8 – Removal to facilitate vehicular and pedestrian access to the site.	2
	T33	T33 – Removal to facilitate construction of Plot 267	1
	G1	G1 – Partial removal of section to facilitate vehicular and pedestrian access to site.	
	H1	H1 – Partial removal of section to facilitate vehicular and pedestrian access to site.	1

- 5.5 A total of five individual trees (T4, T5, T6, T7 & T8), one tree group (G2) and the part removal of another group and hedgerow (G1 & H1) is necessary to facilitate vehicular and pedestrian access to the site from Thurnscoe Bridge Lane. This is only boundary where an access could feasibly be located, and its position has been informed by factors including highway safety.

- 5.6 The retention of tree cover to the north and south of the proposed new access will maintain a level of tree cover along Thurnscoe Bridge Lane, screening the development from the road. Mitigation for the removal of these trees would be provided in the form of a new street tree planting along the main roads within the development in accordance with NPPF paragraph 136.
- 5.7 A single tree within the site area is shown to be removed to facilitate the development, T33 a mature multi stemmed sycamore which was recorded as being of low quality and of limited arboricultural value. The removal of this tree should raise no objection from an arboricultural perspective with the development having been designed around the retention of higher value trees within the site.
- 5.8 Individual trees T14, T34 and T35 all stood within the main site area and the development has been designed around the retention of this tree cover seeing these trees retained within areas of incidental public open space within the main development area. These three trees have all been provided sufficient space from proposed development to allow them to continue to contribute to the setting of the site without the need for regular management or pruning works.
- 5.9 A footpath link is shown to pass through the RPA of T14 to provide a pedestrian link through the site. Situated within the RPA of this retained tree, it is necessary that this footpath be constructed using tree friendly construction techniques, which will allow for it to be installed as shown while resulting in minimal disturbance to T14 or its rooting area.
- 5.10 Two car parking bays are also shown to intrude within the RPA of T14 by less than 1m. It is not feasible for tree friendly construction techniques to be used in the situation due to levels, with these bays being accessed by a driveway directly from the main spine road.
- 5.11 The ground around T14 has been subject to regular ploughing which is likely to have restricted shallow root development. It is our professional judgement that these two parking bays could be constructed using conventional construction techniques, with this minor excavation 9m, from the base of T14, within ground that is unlikely to contain tree roots would be highly unlikely to be of any detriment to this tree.
- 5.12 Apart from the tree cover shown to be removed to provide vehicular access, which is unavoidable to facilitate development of the site, all boundary tree cover is to be retained ensuring the development is in accordance with the specific guidance under the site allocation (HS52). The shading influence of these trees has also been considered and while tree cover along the site's southern boundary will inevitably cast shade over the site, this shading would not be considered excessive and should be considered in accordance with Local Policy GD1.
- 5.13 All vegetation and, particularly, woody vegetation proposed for clearance should be removed outside of the bird-breeding season (March - September inclusive) as all birds are protected under the Wildlife and Countryside Act, 1981 (as amended) whilst on the nest. Where this is not possible, vegetation should be checked prior to removal by an experienced ecologist.

Discussion

- 5.14 In conclusion for arboriculture, the proposals are considered to meet the aims and objectives of local and national policy through careful consideration of the design and retention of a high proportion of the existing tree cover. The retention of this tree coupled with proposed new tree planting which will include tree lined streets, will meet the individual aspirations set out in these various policies.

6.0 NEW TREE AND HEDGEROW PLANTING

- 6.1 As part of the development proposals an adequate quantity of structured tree planting has been identified within the submitted Landscaping Plan to mitigate for the proposed tree removal. This new tree planting has been identified, alongside the primary access roads, within the roadside verges and within proposed areas of public open space.
- 6.2 The success of any landscaping scheme relies on an adequate provision of a high-quality rooting environment within which trees can thrive and reach their full potential. Planting trees with due care and consideration can, in the long term, provide a greater return on a schemes green investment and ensure trees remain healthy and grow to mature proportions.
- 6.3 Wherever possible, following discussions with the developer and utility companies, common service trenches should be specified to minimise land take associated with underground service provision and facilitation access for future maintenance.
- 6.4 Tree planting should be avoided where they may obstruct overhead power lines or cables. Any underground apparatus should be ducted or otherwise protected at the time of construction to enable trees to be planted without resulting in future conflicts.

7.0 TREE PROTECTION MEASURES

- 7.1 Retained trees should be adequately protected during works through the erection of the requisite tree protection measures. These protection measures should be detailed as part of a site-specific Arboricultural Method Statement, which could be imposed as a condition of planning approval.
- 7.2 Measures to protect trees should follow the guidance in BS5837 and be applied where necessary for the purpose of protecting trees within the site whilst allowing sufficient access for the implementation of the proposed layout. These have been broadly summarised below.

General Information and Recommendations

- 7.3 All trees retained on site should be protected by suitable barriers around the calculated RPA, crown spread of the tree or other defined constraints of this assessment as detailed by section 6 and 7 of BS5837.
- 7.4 Barriers should be erected prior to commencement of any construction work and once installed, the area protected by fencing will be regarded as a construction exclusion zone.
- 7.5 Any trees that are not to be retained as part of the proposals should be felled prior to the erection of protective barriers. Particular attention needs to be given by site contractors to minimise damage or disturbance to retained specimens.

Tree Protection Barriers

- 7.6 Tree protection fencing should be fit for the purpose of excluding any type of construction activity and suitable for the degree and proximity of works to retained trees. Barriers must be maintained to ensure that they remain rigid and complete for the duration of construction activities on site.
- 7.7 In most situations, fencing should comprise typical construction fencing panels attached to scaffold poles driven vertically into the ground, as illustrated in Appendix B.
- 7.8 Where site circumstances and the risk to retained trees do not necessitate the default level of protection an alternative will be specified appropriate to the level / nature of anticipated construction activity.

Protection outside the exclusion zone

- 7.9 Once the areas around trees have been protected by the barriers, any works on the remaining site area may be commenced providing activities do not impinge on protected areas.
- 7.10 All weather notices should be attached to the protective fencing to indicate that construction activities are not permitted within the fenced area. The area within the protective barriers will then remain a construction exclusion zone throughout the duration of the construction phase of the proposed development.
- 7.11 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles where they are near retained trees.

8.0 TREE MANAGEMENT

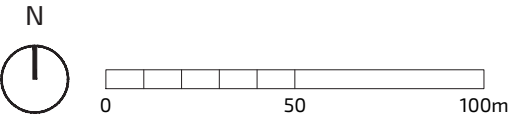
- 8.1 All retained trees should be subjected to sound arboricultural management as recommended within section 8.8.3 of BS5837 Post Development Management of Existing Trees, where there is a potential for public access to satisfy the landowner's duty of care.
- 8.2 Landowners responsible for trees, especially those within the public domain, have a legal 'duty of care' to ensure that visitors and neighbours of their land are reasonably safe and that nobody comes to harm or injury, by his or her negligence, through taking measures to reduce risks as far as is 'reasonably practical' (The Health and Safety at Work Act 1974).
- 8.3 To ensure that risks are reduced as far as is 'reasonably practicable' it will be necessary that, a review of the relationship between retained trees and the new development should be undertaken by a qualified arboriculturist to assess the retained tree cover and prepare a schedule of tree works.
- 8.4 The Occupiers Liability Act (1957 and 1984) also places a 'duty of care' to ensure that no reasonably foreseeable harm takes place due to tree defects. That duty of care should be reasonable, proportionate, and reasonably practicable when managing the risk⁴.
- 8.5 It is currently expected that a suitably qualified Arboriculturist or tree surveyor should inspect trees with an appropriate level of regularity. The purpose of the inspections is to determine whether a tree could foreseeably cause harm by virtue of its size and physical condition.

⁴ The Health and Safety at Work Act 1974

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Notes:

All dimensions to be verified on site. Do not scale this drawing, use figure dimensions only. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A – Tree Schedule.
The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

- Category U - Trees / Groups Unsuitable for Retention (BS5837:2012)
- Category A - Trees / Groups of High Quality (BS5837:2012)
- Category B - Trees / Groups of Moderate Quality (BS5837:2012)
- Category C - Trees / Groups of Low Quality (BS5837:2012)
- Hedgerow
Colour Indicates BS5837:2012 Category
- Root Protection Area
- Individual/Group number and BS5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)

-	29/01/24	First Issue.	EC / AW
A	01/11/24	Revision	EC / AW
rev	date	description	drwn/chkd

client

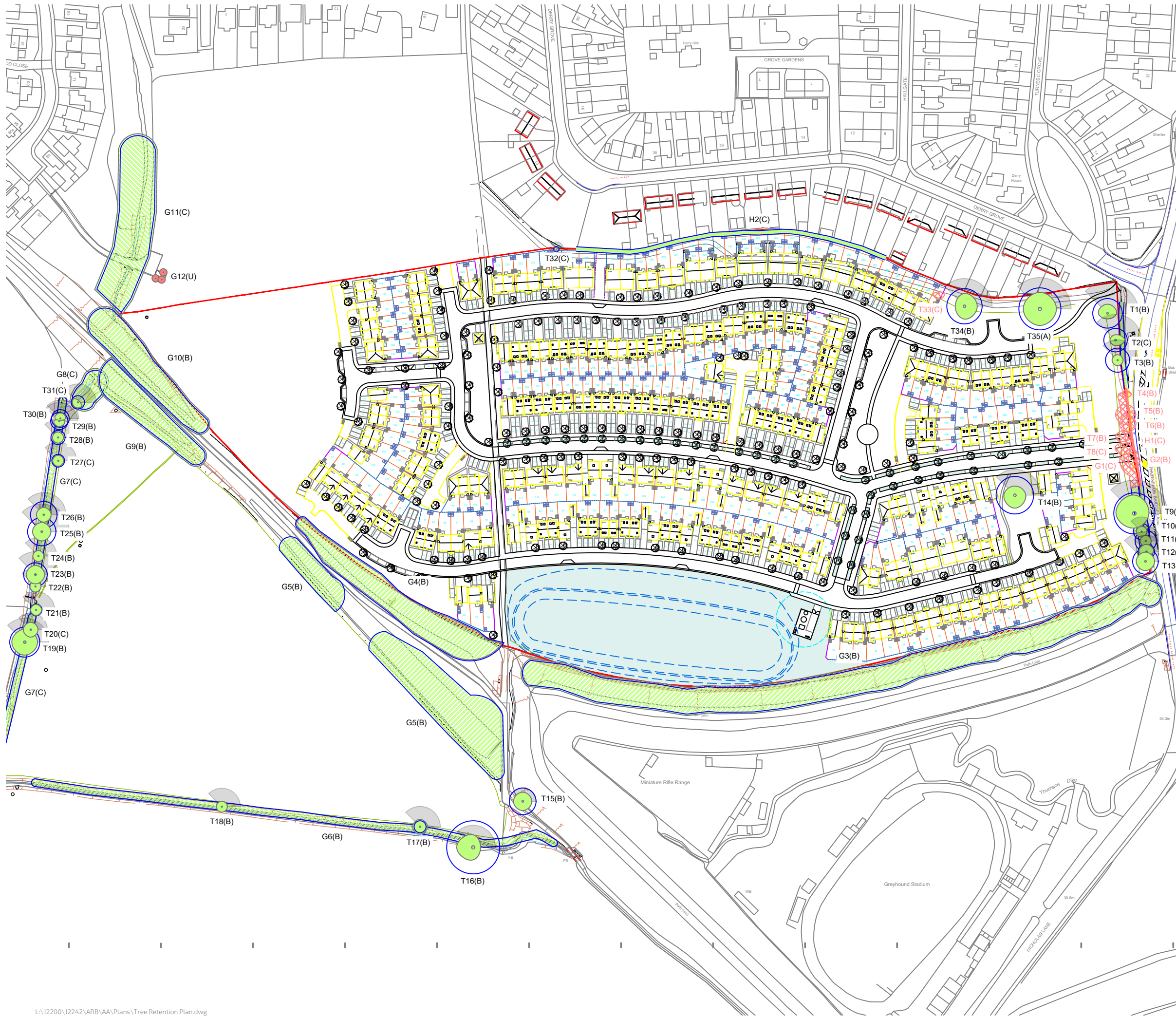
Avant Homes

project

**Thurnscoe Bridge Lane,
Thurnscoe**

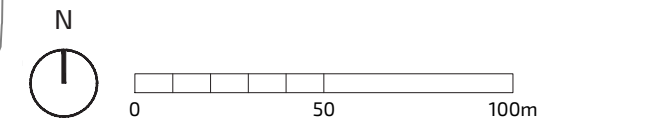
title	scale
TREE SURVEY PLAN	1:2000 @ A3

number	status	rev
12242-T-01	-	A



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Notes:
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The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

- Tree/Group to be Retained
- Tree/Group proposed to be removed subject to relevant permissions
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Hedgerow proposed to be removed subject to relevant permissions
- Root Protection Area (Shown for retained trees only)
- Individual / Group Number and BS Category
- Individual / Group Number to be Removed and BS 5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)

24/10/24	First Issue.	EC / AW
01/11/24	Revision	EC / AW
rev	description	drwn/chkd

client
Avant Homes
project

**Thurnscoe Bridge Lane,
Thurnscoe**

title
TREE RETENTION PLAN
scale
1:2000 @ A3

number
12242-T-02
status
-
rev
A

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Appendix A - Tree Schedule

Measurements	Age Classes	Quality Assessment of BS Category	ULE (relates to BS Category)
Height - Measured using a digital laser clinometer (m)	YNG: Establishing, typically with good vigour and fast growth rates and strong apical dominance; c. less than 1/3 life expectancy	Category U - Trees 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.	<10 years
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	SM: Semi-mature trees less than 1/3 life expectancy	Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.	40+ years
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	EM: Established, typically vigorous and increasing in apical height and lateral spread; 1/3 - 2/3 life expectancy. Offers landscape significance	Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	20-40 years
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	M: Fully established over 2/3 life expectancy, generally good vigour and achieving full height potential with crown still spreading	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 150mm.	10-20 years
	OM: Fully mature, at the extremes of expected life expectancy, vigour decreasing, declining or moribund	Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value	
	V: biological, cultural or aesthetic value comprising niche saproxylic habitat. Individuals of large proportions (stem girth) in comparison to trees of the same species/surviving beyond the typical age range for their species.	The BS category particular consideration has been given to the following: • The presence of any structural defects in each tree/group and its future life expectancy • The size and form of each tree/group and its suitability within the context of a proposed development • The location of each tree relative to existing site features e.g. its screening value or landscape features • Age class and life expectancy	

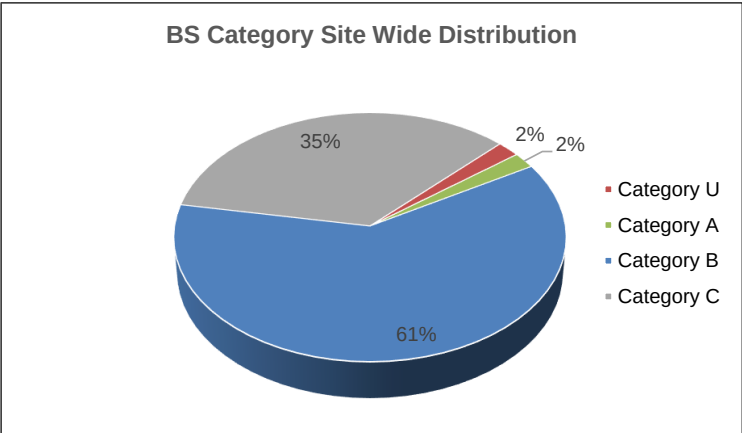
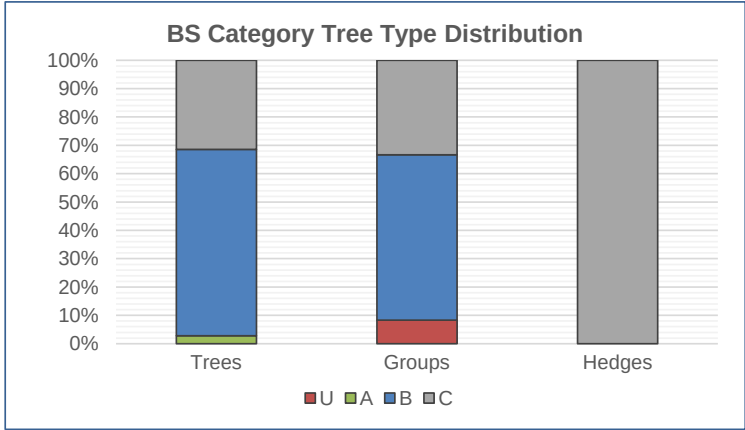
Structural Condition	Physiological Condition	Root Protection Area (RPA)
Good - No significant structural defects	Good - No significant health problems	• The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). • The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected. • Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.
Fair - Structural defects that can be remediated	Fair - Symptoms of ill-health that can be remediated	
Poor - Significant defects beyond remediation, present a risk of failure in the foreseeable future	Poor - Significant ill-health. Unlikely the tree will recover in the long term	
Dead - Dead tree with structural integrity of tree severely compromised	Advanced Decline / Dead - Advanced state of decline and unlikely to recover or Dead	

Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U		0	G12	1
Category A	T35	1		0
Category B	T1, T3, T4, T5, T6, T7, T9, T14, T15, T16, T17, T18, T19, T21, T22, T23, T24, T25, T26, T28, T29, T30, T34	23	G2, G3, G4, G5, G6, G9, G10	7
Category C	T2, T8, T10, T11, T12, T13, T20, T27, T31, T32, T33	11	G1, G7, G8, G11, H1, H2	6
	Total	35	Total	14

BS Category Tree Type Distribution displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.

BS Category Site Wide Distribution shows the proportion of trees assessed in each category across the whole site which allows an interpretation of the site's overall quality.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	Turkey Oak Quercus cerris	17	670	N - 5 S - 3 E - 5 W - 5	M	G	Situated within field parcel uneven crown due to past suppression neighbouring tree removed past pruning to raise crown small diameter dead branches	203	8.0	B (i)
T2	Sycamore Acer pseudoplatanus	14	530	N - 3 S - 3 E - 5 W - 3	M	P	Situated within field parcel basal suckers die back of crown with large diameter dead branches large dead branch to east over footpath and bench epicormic growth noted throughout crown	127	6.4	C (i)
T3	Common Lime Tilia x europaea	11	Over ivy 545	3	M	F	Situated within field parcel dense ivy cover obscures main stem severed at base compact crown epicormic growth noted throughout small diameter dead branches noted	134	6.5	B (i)
T4	Sycamore Acer pseudoplatanus	9	Over ivy 355	N - 2 S - 2 E - 4 W - 1	EM	F	Situated within field parcel part of a linear group along boundary end tree dense ivy cover obscures main stem severed at base epicormic growth noted throughout crown basal suckers	57	4.3	B (ii)
T5	Turkey Oak Quercus cerris	12	Over ivy 630	5.5	M	F	Situated within field parcel part of a linear group along boundary dense ivy cover obscures main stem severed at base broken branches noted in lower crown small diameter dead branches crown weighted to east towards carriageway	180	7.6	B (ii)
T6	Turkey Oak Quercus cerris	11	640	4.5	M	F	Situated within field parcel part of a linear group along boundary established basal sucker base obscured small diameter dead branches past pruning to raise crown with large diameter pruning wound	185	7.7	B (ii)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T7	Beech Fagus sylvatica	11	585	N - 4 S - 2 E - 4 W - 4	M	F	Situated within field parcel part of a linear group along boundary uneven crown due to close spacing to neighbouring tree broken branches and branch stubs noted in lower crown	155	7.0	B (ii)
T8	Ash Fraxinus excelsior	13	Over ivy 580	N - 2 S - 4.5 E - 4.5 W - 4.5	M	F	Situated within field parcel part of a linear group along boundary uneven crown due to close spacing to neighbouring tree dense ivy cover obscures stem ash die back evident basal suckers and epicormic growth noted dead branches within crown	152	7.0	C (i)
T9	Turkey Oak Quercus cerris	18	930	N - 10 S - 8 E - 8 W - 10	M	F	Situated within field parcel part of a linear group along boundary large diameter pruning wound on main stem at 1.5m western aspect partially occluded with small cavity spreading form typical of species large diameter dead branches and epicormic growth noted in crown	391	11.2	B (i)
T10	Sycamore Acer pseudoplatanus	8	370	3	EM	P	Situated within field parcel part of a linear group along boundary past pruning to raise crown with branch socket cavities further cavities noted on main stem with exposed heartwood limited future potential	62	4.4	C (i)
T11	Sycamore Acer pseudoplatanus	8	480	3	EM	P	Situated within field parcel part of a linear group along boundary past pruning to raise crown with branch socket cavities limited future potential	104	5.8	C (i)
T12	English Oak Quercus robur	9	320 180	N - 4 S - 2 E - 4 W - 4	EM	F	Situated within field parcel part of a linear group along boundary uneven crown due to suppression from neighbouring tree low crown to near ground level with broken branches noted in lower crown twin stemmed from 1m unlikely to develop into a suitable mature specimen	61	4.4	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T13	Ash Fraxinus excelsior	16	580	5	M	F	Situated within field parcel part of a linear group along boundary end tree in row basal suckers noted with ash die back evident burring noted on main stem close to base possible hollowing crown weighted towards carriageway broken branches and dead branches noted in crown	152	7.0	C (i)
T14	English Oak Quercus robur	14	850	N - 5 S - 7 E - 6 W - 6	M	F	Situated within centre of field parcel close cultivation of soil around base small basal cavity with bracket fungus noted past pruning to raise crown for machine access with branch stubs helical split up main stem partially occluded possible lightening strike large diameter dead branches large patches of missing bark open cavity noted on main leader at 7m sheltered Ganoderma resinaceum Lacquered bracket	327	10.2	B (iii)
T15	Hawthorn Crataegus monogyna	7	350 350 350	5	M	F	Situated beyond site boundary on railway embankment multi stemmed from 1m crossing and rubbing branches noted within crown past pruning to raise crown above adjacent footpath	166	7.3	B (i)
T16	English Oak Quercus robur	12	1200	N - 7 S - 7 E - 4 W - 9	M	P	Situated beyond drainage channel forming site boundary remnant stem hollow from ground level up to crown break at 5m burnt out with fire damage completed hollow with holes through remaining stem two mature lateral branches form crown with some fire damage noted on northern branch and exposed heartwood good physiological condition structurally poor and at risk of failure	651	14.4	B (iii)
T17	English Oak Quercus robur	11	270	4	EM	F	Situated within boundary tree group past pruning to raise crown above site unable to fully access base	33	3.2	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T18	Sycamore Acer pseudoplatanus	10	240	3	EM	F	Situated within boundary tree group lower crown maintained by flail mowing unable to fully access base	26	2.9	B (i)
T19	English Oak Quercus robur	13	680	7	M	F	Situated on site boundary on bank of drainage channel large basal cavity with exposed heartwood and decay pocket noted past pruning to raise crown broken branches noted in lower crown	209	8.2	B (i)
T20	Beech Fagus sylvatica	9	250 200	4	EM	P	Situated on site boundary on bank of drainage channel multi stemmed from 1m with single failed stem at 1.5m bleeding noted on main stem close to base unable to fully access limited future potential	46	3.8	C (i)
T21	Sycamore Acer pseudoplatanus	10	210 160	3	EM	F	Situated within boundary tree group lower crown maintained by flail mowing unable to fully access base	32	3.2	B (i)
T22	Sycamore Acer pseudoplatanus	10	250	3	EM	F	Situated within boundary tree group unable to fully access base	28	3.0	B (i)
T23	Sycamore Acer pseudoplatanus	12.5	535	5	M	F	Situated within boundary tree group unable to fully access base basal suckers restrict access	129	6.4	B (i)
T24	English Oak Quercus robur	10	200	3	EM	F	Situated within boundary tree group unable to fully access base	18	2.4	B (i)
T25	English Oak Quercus robur	15	640	5	M	F	Situated on site boundary on bank of drainage channel basal cavity with exposed heartwood and decay pocket noted past pruning to raise crown broken branches noted in lower crown	185	7.7	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T26	English Oak Quercus robur	12	est 600	4	M	F	Situated on site boundary on bank of drainage channel unable to access base past pruning to raise crown broken branches noted in lower crown	163	7.2	B (i)
T27	Sycamore Acer pseudoplatanus	10	230 120 120	3	EM	F	Situated within boundary tree group unable to fully access base possible lapsed coppice with decay evident in stool	37	3.4	C (i)
T28	Sycamore Acer pseudoplatanus	10	200 200 150	3	EM	F	Situated within boundary tree group unable to fully access base possible lapsed coppice	46	3.8	B (i)
T29	Sycamore Acer pseudoplatanus	10	300 200 150	N - 1 S - 3 E - 3 W - 3	EM	F	Situated within boundary tree group unable to fully access base close spacing to neighbouring tree resulting in uneven crown	69	4.7	B (i)
T30	Sycamore Acer pseudoplatanus	10	400	N - 3 S - 1 E - 3 W - 3	EM	F	Situated within boundary tree group unable to fully access base close spacing to neighbouring tree resulting in uneven crown	72	4.8	B (i)
T31	Sycamore Acer pseudoplatanus	10	300	N - 1 S - 3 E - 3 W - 3	EM	F	Situated within boundary tree group unable to fully access base close spacing to neighbouring tree resulting in uneven crown suppressed crown form	41	3.6	C (i)
T32	Hawthorn Crataegus monogyna	4	6x 50	1	M	P	Self seeded on edge of field parcel next to fence maintained lower crown	7	1.5	C (i)
T33	Sycamore Acer pseudoplatanus	13	6x 160	N - 1 S - 3 E - 3 W - 3	M	P	Situated within field parcel on edge of track stems removed to North to maintain clearance multi stemmed from base possible bundle with multiple trees limited arboricultural value	69	4.7	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T34	Sycamore Acer pseudoplatanus	15	800	N - 7 S - 7 E - 7 W - 5	M	F	Situated within field parcel on edge of track basal suckers restrict access to stem past pruning to raise crown above track	290	9.6	B (i)
T35	Turkey Oak Quercus cerris	17	950	9	M	G	Situated within field parcel on edge of track spreading form typical of species occasional large diameter dead branches crossing and rubbing branches noted in crown past pruning to raise crown above track	408	11.4	A (i)

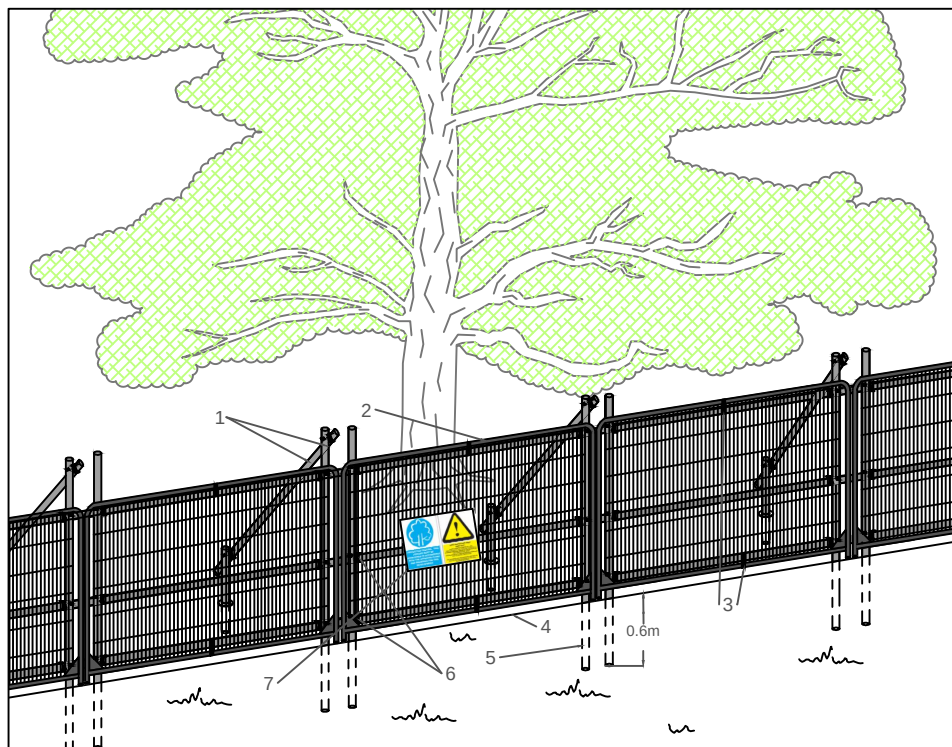
Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Ash Fraxinus excelsior English Oak Quercus robur Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus English Elm Ulmus procera	6	upto 170	2	SM	P	Sporadic self seeded trees along field edge close to boundary forming understorey to mature specimens dense undergrowth throughout group with debris limited arboricultural value	13	2.0	C (ii)
G2	English Elm Ulmus procera	9	upto 350	4	EM	F	Linear group of trees along site boundary seven trees in total likely self seeded with irregular spacing between trees ivy cover obscures base and stems no obvious signs of Dutch elm disease	55	4.2	B (ii)
G3	Ash Fraxinus excelsior English Oak Quercus robur Hawthorn Crataegus monogyna Silver Birch Betula pendula Sycamore Acer pseudoplatanus Turkey Oak Quercus cerris	15	upto 350	5	EM	F	Linear group along former railway embankment no obvious management irregular spacing between trees broken branch and small diameter dead branches noted throughout group lower crowns maintained along field edge moderate screening value	55	4.2	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G4	Ash Fraxinus excelsior Blackthorn Prunus spinosa English Oak Quercus robur Hawthorn Crataegus monogyna Silver Birch Betula pendula Holly Ilex aquifolium Whitebeam Sorbus aria Bird Cherry Prunus padus	11	upto 300	3	EM	F	Linear group along field edge with adjoining footpath likely planted as a buffer dense undergrowth throughout restricts access with occasional cut through sooty bark disease noted within group predominantly ash with blackthorn understorey moderate screening value	41	3.6	B (ii)
G5	Ash Fraxinus excelsior Blackthorn Prunus spinosa English Oak Quercus robur Hawthorn Crataegus monogyna Silver Birch Betula pendula Holly Ilex aquifolium Whitebeam Sorbus aria	10	upto 250	3	EM	F	Linear group along field edge with adjoining footpath likely planted as a buffer dense undergrowth throughout restricts access large gap in centre of group predominantly ash with blackthorn understorey moderate screening value	28	3.0	B (ii)
G6	Hawthorn Crataegus monogyna	8	avg 100 100 100	2	M	F	Outgrown hedgerow along site boundary with drainage channel through group maintained along field edge sparse in sections with gaps moderate landscape value	14	2.1	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G7	Blackthorn Prunus spinosa Crack Willow Salix fragilis Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus	7	upto 100 100 100	2	SM / M	P	Sporadic trees along site boundary dense undergrowth throughout group sparse in sections with large gaps forms understorey to mature trees in section limited screening value	14	2.1	C (ii)
G8	Crack Willow Salix fragilis	16	upto 400 300	7	M	P	Small group of willow on site boundary close to drainage channel close spacing between trees failed stems noted within group tall upright forms could be coppiced	113	6.0	C (ii)
G9	Elder Sambucus nigra English Oak Quercus robur Sycamore Acer pseudoplatanus Holly Ilex aquifolium	15	upto 350	5	EM	F	Linear group along former railway embankment no obvious management irregular spacing between trees broken branch and small diameter dead branches noted throughout group lower crowns maintained along field edge moderate screening value predominantly sycamore	55	4.2	B (ii)
G10	Elder Sambucus nigra English Oak Quercus robur Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus	15	upto 350	5	EM	F	Linear group along former railway embankment no obvious management irregular spacing between trees broken branch and small diameter dead branches noted throughout group lower crowns maintained along field edge moderate screening value predominantly sycamore	55	4.2	B (ii)
G11	Crack Willow Salix fragilis Alder Alnus glutinosa	16	upto 400 300	7	M	P	Group of willow on site boundary close to drainage channel close spacing between trees failed stems noted within group tall upright forms predominately willow with occasional alder willow could be coppiced	113	6.0	C (ii)

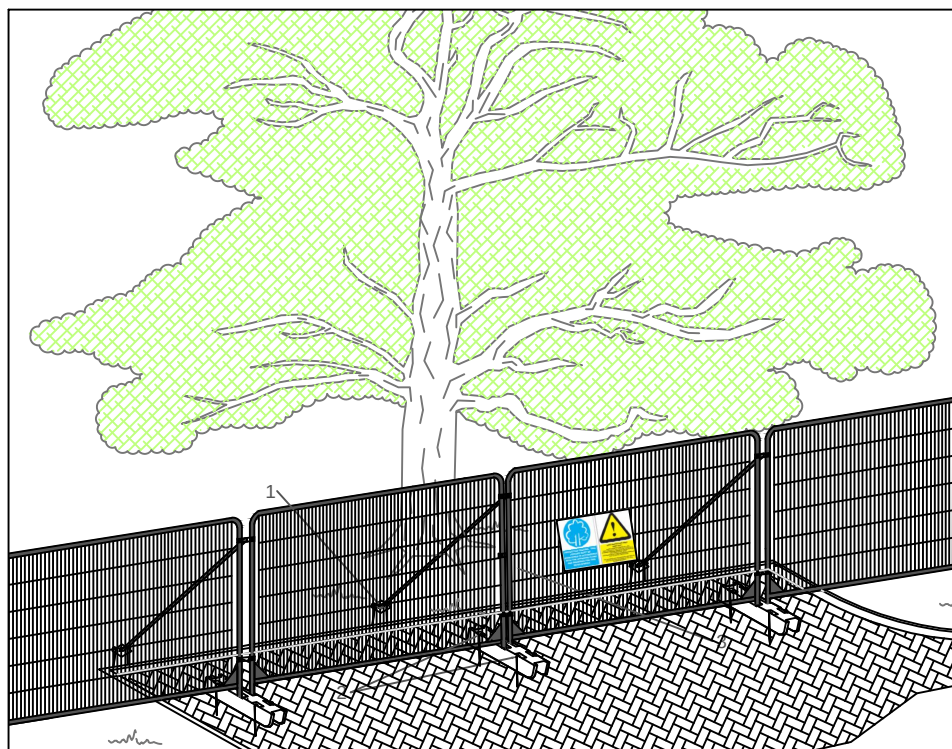
Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G12	Crack Willow Salix fragilis Elder Sambucus nigra	6	upto 200	2	M	P	Three trees self seeded around tank previously topped at 1.5m unsuitable for long term retention	N/A	N/A	U

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
HEDGEROWS										
H1	Hawthorn Crataegus monogyna	1.5	avg 100	0.5	M	P	Gappy hedgerow along site boundary with adjoining carriageway sparse in sections with limited screening value	5	1.2	C (ii)
H2	Elder Sambucus nigra Sycamore Acer pseudoplatanus Holly Ilex aquifolium Privet Ligustrum ovalifolium Leyland Cypress Cupressocyparis leylandii Dogwood Cornus sanguinea	3	est 100	1	EM	P	Scrappy hedgerow along boundary with rear gardens of adjoining properties sparse in sections with gaps	5	1.2	C (ii)



Standard specification for protective barrier

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs



Above ground stabilising systems

1. Stabiliser strut with base plate secured with ground pins
2. Feet blocks secured with ground pins
3. Construction Exclusion Zone signs

NOTES

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APPENDIX B PROTECTIVE FENCING SPECIFICATIONS

CAD file: S:\Arb resources\Basic Templates\Tree Protection\Appendix B - Protective Fencing A4.dwg