

ENVIRONMENT

Fort Estates Ltd

Crabtree Farm, Barwell

Arboricultural Method Statement and
Tree Protection Plan

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APPENDICES

Appendix 1: Tree Constraints Plan

Appendix 2: Tree Protection Plan

Appendix 3: Tree Survey Schedule

Appendix 4: Classification Descriptions

1. INTRODUCTION

Introduction and Background

- 1.1 This report contains an Arboricultural Method Statement and Tree Protection Plan produced to accompany a planning application for development on land at Crabtree Farm, Hinckley Road, Barwell, Leicestershire (hereafter referred to as 'the Site').
- 1.2 This report has been produced to accompany a planning application for the western field at the Site for a residential development which will include the erection of 45 dwellings, access and provision of open space.
- 1.3 The proposed development plan is shown in the Tree Protection Plan (TPP) at **Appendix 2**.
- 1.4 A tree survey of the Site in accordance with BS5837:2012 was carried out on 16th September 2020 with the results outlined in Tree Constraints Plan (TCP) at **Appendix 1** and the Tree Survey Schedule at **Appendix 3**.

Objectives

- 1.5 The objectives of the report are:-
 - This Arboricultural Method Statement has been produced in order to provide guidance and information required to protect the retained trees on site. The method statement has been produced in accordance with BS 5837:2012.
 - A copy of this method statement must be made available to all contractors on site during the development stage to ensure all parties comply with protection measures outlined within.
 - This method statement has been produced specifically for this site and therefore cannot be used for any other site.

Trees Within the Site

- 1.6 Trees included within this survey comprised of 26 individual trees and 29 tree groups, details of which can be found within the Tree Survey Schedule at **Appendix 3** and the Tree Constraints Plan (TCP) at **Appendix 1**.
 - Two individual trees were classified as BS5837:2012 Category A,
 - Ten individual trees were classified as BS5837:2012 Category B,
 - Nine tree groups were classified as BS5837:2012 Category B,
 - 12 individual trees were classified as BS5837:2012 Category C,
 - 19 tree groups were classified as BS5837:2012 Category C,
 - Two individual trees and one tree group were classified as BS5837:2012 Category U.

2. ARBORICULTURAL METHOD STATEMENT

Introduction

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

Sequence of Events

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

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

Pre-Commencement Site Meeting

- 2.3 A pre-commencement site meeting should take place prior to any works being started to finalise plans for the layout of tree protection.
- 2.4 The developers and the project arboriculturist should be in attendance. It may be a requirement for the LPA tree officer to attend and therefore notice of the meeting should be provided to the LPA.

Pre-Commencement Tree Works

- 2.5 Prior to any construction activities, proposed tree works will require completion.
- 2.6 The following trees and tree groups will require removal to facilitate the development (see also **TPP at Appendix 2**);
- Part of G25 will require removal to facilitate construction of the new access road and junction (see TPP at **Appendix 2**).
 - T19 and T20 will require removal to facilitate the construction of a driveway and residential property.
 - G16, G15, G28, G27, G26, which form the eastern boundary, will be removed.
- 2.7 Removal of stumps in close proximity to retained trees must be removed through grinding operations only. Mechanical excavation of these stumps must not occur to prevent damage to roots of retained trees which share the same soil volume.

- 2.8 Should additional tree works be identified as being required during construction activities, the project arboriculturist and LPA must be notified in writing and this method statement must be amended to cover any additional works.

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

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

Root Protection Areas (RPA)

- 2.11 Based on the tree survey data (**Appendix 3**), root protection areas (RPAs) have been determined for trees on site.
- 2.12 A topographical survey was undertaken to detail the location of trees within the Site. The location of individual trees is shown in **Appendix 1 & 2**; it should be noted however that topographical surveys are not always comprehensive and it is recommended that the root protection zones and therefore the location of the Protective Fencing is measured on site during installation (using collected data for RPAs and canopy spreads). Any deviation from the location of the proposed Protective Fencing should be confirmed with the project arboriculturist and tree officer at the Local Planning Authority.
- 2.13 The RPA is designed to protect, at least, a functional minimum of tree root mass in order to ensure that the trees survive the construction process.
- 2.14 It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

Tree Protection Fencing

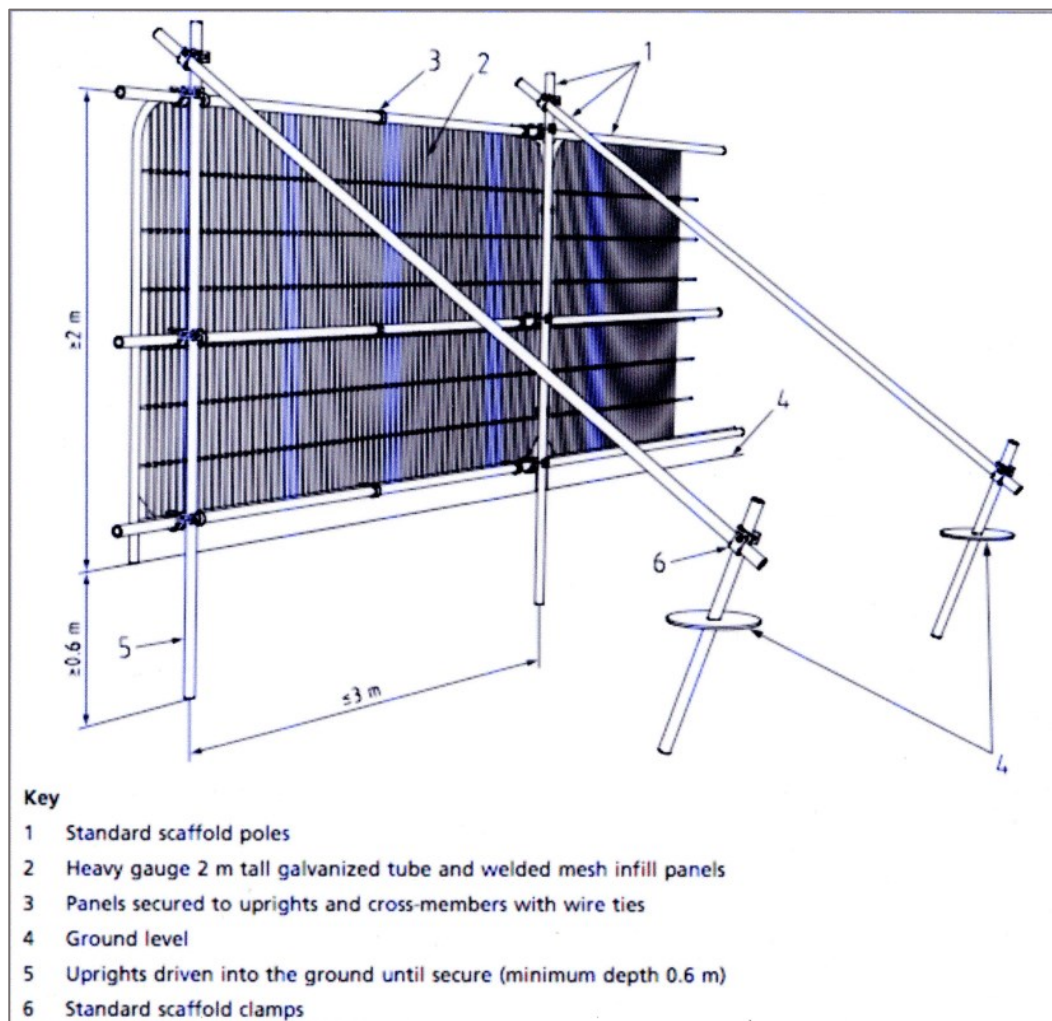
Standard Fencing

- 2.15 The Tree Protection Plan (TPP), shown in **Appendix 2**, details the position of the Tree Protection Fencing (TPF). This fencing will comprise of the type detailed below in **Figures 1 and 2**. TPF must be erected before any materials or machinery are brought onto site and before any development or stripping of soil commences.
- 2.16 Once erected, TPF will be regarded as sacrosanct, and will not be removed or altered without prior agreement of an arboriculturist and approval of the local planning authority.
- 2.17 Barriers should be fit for the purpose of excluding constructive activity, and appropriate to the degree and proximity of work taking place around the retained trees. Special attention should be paid to ensuring that barriers remain rigid and complete. Once the barrier fencing has been installed, construction work can commence. All-weather

notices should be erected on the barrier with words such as: "Construction Exclusion Zone – Keep Out".

- 2.18 The default TPF specification (**Figure 1**) is a vertical and horizontal scaffold framework, braced to resist impacts. The vertical poles are driven securely into the ground with horizontal poles connected securely to the vertical sections. Bracing bars must then be securely attached to prevent movement of the structure if struck by machinery. Welded mesh panels are then securely attached to the scaffold framework. During installation it is important to consider the position of below ground services and structural roots, which must not be damaged. Where these constraints prevent the use of this specification, an alternative specification is provided in **Figure 2**.
- 2.19 Refer to **Figure 1** for the specification of the default Tree Protection Fencing.
- 2.20 It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them. In the event of any panel or support becoming damaged, this must be immediately reinforced by adding panels with the designs below as appropriate.
- 2.21 Regular inspection of the TPF shall be carried out by the retained Arboricultural Consultant.
- 2.22 Before any works take place within the Site, full BS5837 fencing will be used to ensure the safeguard of the tree RPAs, until there is no risk from damage from the construction activity. To be effective the fencing must be robust and clearly signed.

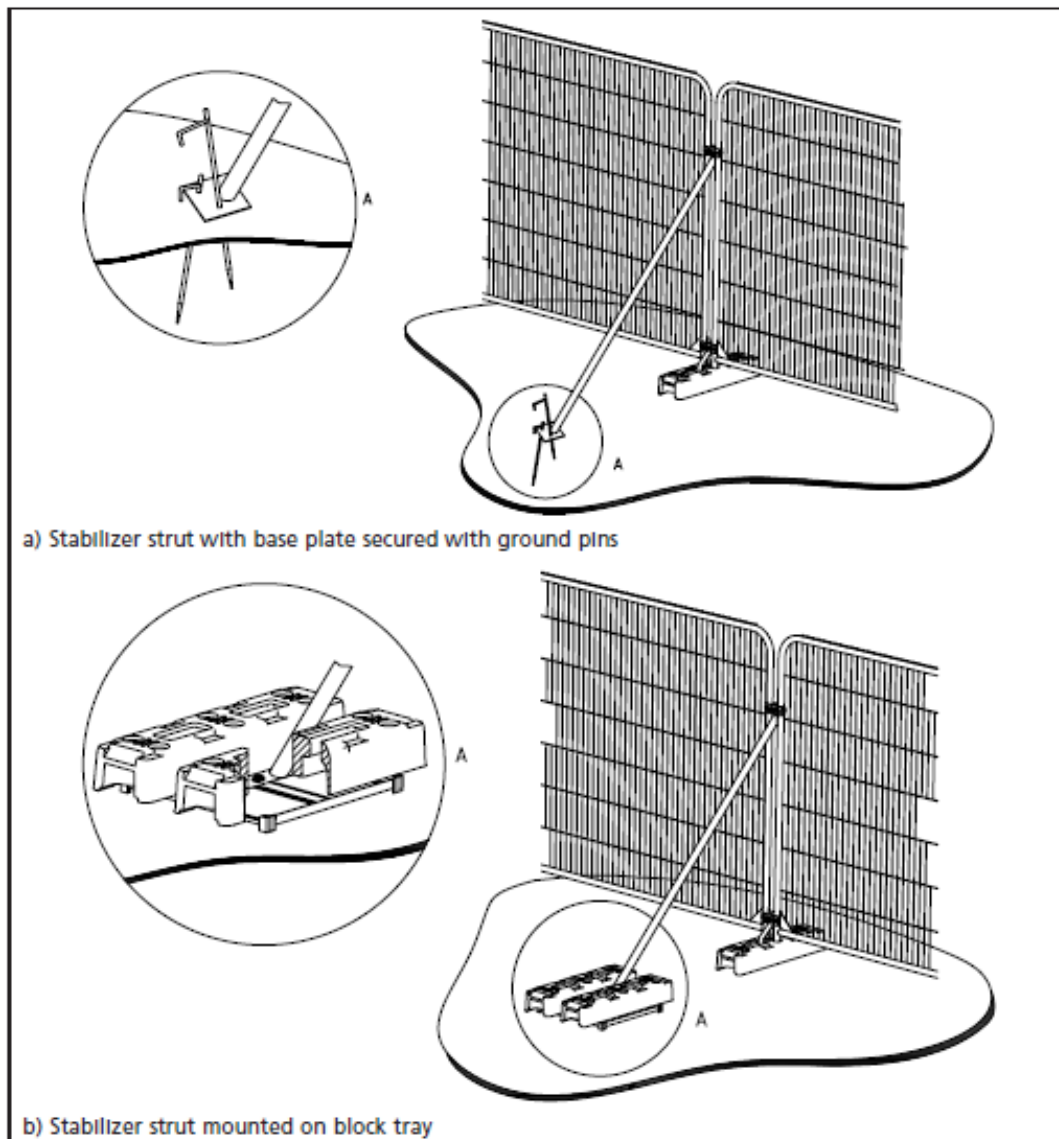
Figure 1: Default Specification for Protective Barrier (Tree Protection Fencing – TPF)
 (Taken from Figure 2 of Section 6 BS5837:2012)



Alternative Fencing

- 2.23 An alternative Tree Protection Fencing (TPF) design is shown on **Figure 2**.
- 2.24 2 metre tall welded mesh panels standing in rubber or concrete feet joined using a minimum of two anti-tamper couplers installed so they can only be removed from inside the protected area. The fence couplers should be at spaced least 1 metre apart, but uniformly across the whole barrier. These panels must be supported within the protected area with struts attached to a base plate secured by ground pins as per **Figure 2**.
- 2.25 Where the fencing is installed above retained hard surfacing and / or it is otherwise not feasible to use ground pins (e.g. due to underlying services or structural roots), the struts can be mounted on a block tray as per **Figure 2**.

Figure 2: Above Ground Stabilising Systems

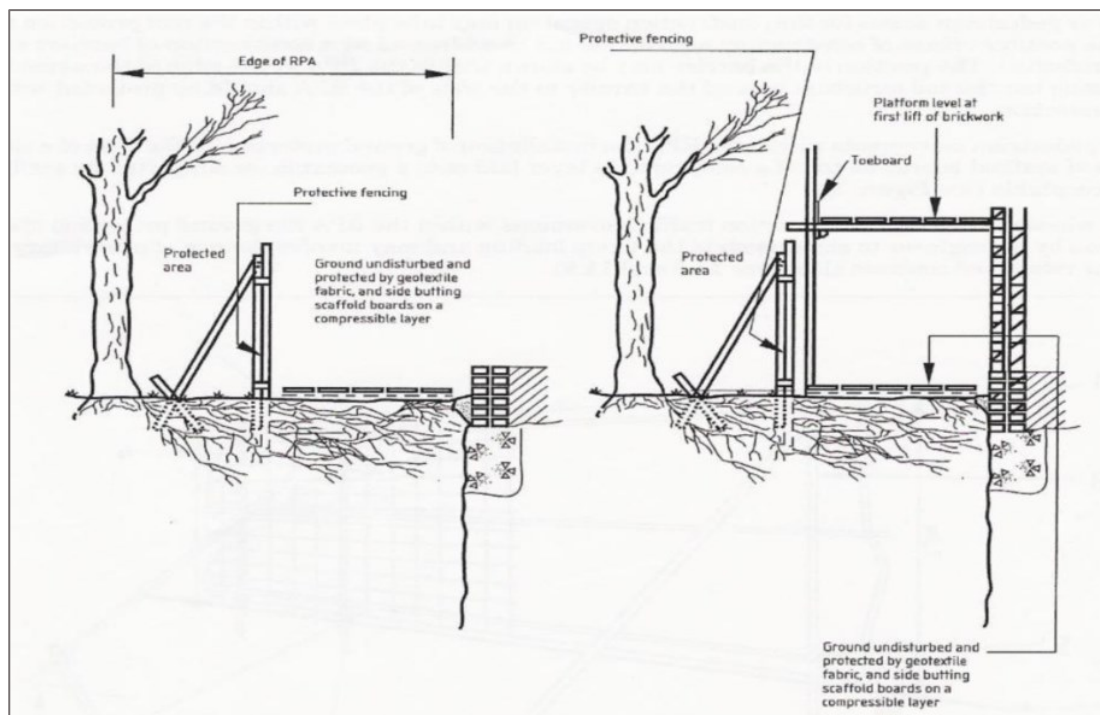


Ground Protection

- 2.26 Should scaffolding be required within any of the RPA's, appropriate ground protection should be installed; such protection must be strong enough to support any predicted load and resist compaction and soil damage.
- 2.27 The primary method of protecting the ground when erecting scaffolding within RPA is by installing geotextile fabric and side butting scaffolding boards on a compressible layer such as bark chippings on a geotextile membrane.
- 2.28 The scaffolding may be erected first with the uprights placed on spreader boards and the ground protection installed around the uprights.
- 2.29 The boarding will be left in place until the building works are finished.

- 2.30 A single thickness of boarding laid on the soil surface will provide sufficient protection for pedestrian loads. However, for wheeled or tracked construction traffic movements within the RPA, ground protection should be designed by the project engineer to accommodate the likely loading and may involve the use of proprietary systems such as three-dimensional cellular confinement systems and approved for use by the developers arboriculturist and local authority before any works start.
- 2.31 Any installation of “no-dig” three-dimensional cellular confinement systems within the RPA will be supervised by a suitably qualified arboriculturist.
- 2.32 The ground beneath any protection boarding will be left undisturbed and will be protected with a porous geotextile fabric. If necessary, sand should be laid on the fabric to level the ground.
- 2.33 A revision to the Tree Protection Plan will be required should works such as scaffolding or vehicle tracking be required within the RPA in areas not identified by the TPP at **Appendix 4**.

Figure 3: Default Specification for the installation of scaffolding within RPAs



Restrictions within Tree Protection Areas

- 2.34 Inside the exclusion area of the Tree Protective Fencing (TPF), the following shall apply:
- 2.35 No mechanical excavation and no excavation by any other means without prior agreement and stipulation on ground protection requirements from the LPA.

- 2.36 No ground level changes whatsoever, no storage of plant or materials and no vehicular access. No storage or handling of any chemicals. Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there is a multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipework shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund. All material storage facilities and work areas must consider the effects of sloping ground on the movement of potentially harmful liquid spillages towards or into protected areas. Prior to and during all construction works on site, no spoil or construction materials will be stored within the RPA of any tree on, or adjacent to the Site, even if the proposed development is to be within the RPA. This is to reduce to a minimum the compaction of the roots of the trees. Any encroachment within this protected area will only be with the prior agreement of the Local Planning Authority.

Fencing Installation within the RPA

- 2.37 Ideally excavation for fence posts should not occur within the RPA of retained trees. However, where this is necessary special construction measures should be adopted.
- 2.38 Boundary fencing between plots will be required in and adjacent to the RPA of various retained trees (see TPP at **Appendix 2**).
- 2.39 Where there is a requirement for excavation for fence posts within the RPA, this should be carried out by hand or handheld mechanical auger. This will limit the damage caused to existing roots.
- 2.40 No fence post should be positioned within a 1m radius of the main stem.
- 2.41 Where post are to be concreted in place, post holes within the RPA should be lined with an impermeable material to avoid leaching of chemicals into the surrounding soil volume.

Avoiding Crown and Stem Damage

- 2.42 Great care must be exercised when working close to retained trees. Plant and machinery with booms, jibs and counterweights and the passage of tall or wide loads should be controlled by a banksman to maintain adequate clearance.
- 2.43 **Under no circumstance shall construction personnel undertake any tree pruning operations.**

Installation of Underground Services

- 2.44 Every effort should be made to ensure the routeing of services does not encroach into RPA for the retained trees, if for whatever reason installation within RPA is required, the developers arboriculturist and local authority must be notified prior to any tree protection barrier removal and the following details adhered to.
- 2.45 Trenching for the installation of underground services severs any roots present and may change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care will be taken in the routeing and methods of excavation used. At all times where services are to pass within the Root Protection Area, detailed plans showing the proposed routeing will be drawn up in conjunction with an arboriculturist. Such plans will also show the levels and access space needed for installing the services.
- 2.46 The preferable method for trenching within RPAs to avoid damage is via excavation using 'air- spade' or similar. This tool utilises compressed air to remove soil from around tree roots causing minimal damage. This approach should be utilised whenever possible.

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

Location of Site Buildings/Compounds

- 2.47 No information on the location of site building and compounds have been provided.
- 2.48 Under no circumstances must any material or debris be stored within the RPA of retained trees and stems must remain clear of any material.
- 2.49 Covering of tree stems with materials or debris can block lenticels and prevent gaseous exchanges, killing the living cambium beneath the bark and leading to the eventual death of trees.

Landscaping

- 2.50 The creation of private gardens is planned within the RPA of retained trees.
- 2.51 Generally ground level changes within the RPA of retained trees should not occur. However, the raising of the ground level may occur minimally as long as the following guidelines are followed.
- 2.52 Good quality top soil with a course texture and high sand content should only be used within the RPA. This maintains good aeration and water movement.
- 2.53 No more than a maximum of 150mm of soil should be added within the RPA. This must not be mechanically compacted down as aeration and water movement must be maintained to encourage roots to grow up into the added soil layer.

- 2.54 Tree protection fencing must remain in place until the construction phase is complete. Tree protection fencing may only be removed for the purpose of landscaping activities under the guidance of an arboriculturist or the LPA tree officer.

New Tree Planting

- 2.55 All trees are to be procured, planted and receive aftercare in accordance with British Standards BS 8545:2014 'Trees: from nursery to independence in the landscape – Recommendations'.
- 2.56 Great care must be taken to prevent any damage to trees during handling and transportation. The contractor(s) charged with supplying the trees shall ensure that the trees are handled in accordance with the Plant Handling Code, from selection at the nursery to planting on site. The trees will be well packed and secured onto the vehicle during transit, so as to avoid any damage.
- 2.57 The contractor shall replace any trees that are damaged on site or during transportation from the nursery to the Site.
- 2.58 The planting pits shall be twice the diameter and depth of the tree roots. Care will be taken to ensure the tree is planted at an appropriate depth so that the root collar is just below ground level. The soil removed from the planting pit shall be well broken before backfilling, and an appropriate slow release fertiliser will be mixed into the backfill soil in accordance with the manufacturer's instructions. The trees will be well firmed with the ball of the foot.
- 2.59 It is advisable that any tree planting takes place during the early winter months of November and December. This will allow for the development of sufficient fibrous roots ready for the subsequent growing season.
- 2.60 Should winter planting not be achievable, it is recommended that root balled trees are planted and are watered sufficiently at the time of planting. Subsequent watering regimes will be required throughout the remaining growing season to ensure successful establishment.
- 2.61 If within a period of five years from the date of planting of any tree, that tree, or any tree planted in replacement for it, is removed, uprooted, destroyed or dies, (or becomes in the opinion of the LPA seriously damaged or defective), another tree of the same species and size originally planted shall be planted at the same place within 12 months, unless otherwise agreed in writing with the LPA.

APPENDICES

Appendix 1: Tree Constraints Plan

Appendix 2: Tree Protection Plan

Appendix 3: Tree Survey Schedule

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
INDIVIDUAL TREES																
T1	Goat willow	M	10	6.5	6	6	6.5	0	basal 850	F	F	10+	Self sown multi stemmed willow in scrub area of site. Deadwood throughout lower crown, heavy ivy colonisation. No obvious defects or signs of ill health identified.	Remove to facilitate development	C1	8.5
T2	Elder	M	3.5	2	2	2	2	0.5	150	F	F	10+	Small self sown elder in centre of cleared scrub area.	Remove	C1	1.8
T3	Ash	EM	11	5	6	4.5	5	3	300*	F	F	10+	Ash tree located on boundary fence line. Sparse crown with ash dieback indicators. Heavy ivy colonisation making inspection difficult.	Retain	C2	3.6
T4	Ash	EM	12.5	6	5	4	5	3	300*	F	F	20+	Ash located on boundary. No obvious indicators of ash dieback and healthier fuller canopy exhibited. Heavy ivy on stem.	Retain	B2	3.6

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
T5	Hawthorn	M	7	2	2	2	2	0	200	F	F	20+	Hawthorn located on boundary in adjacent private property, dense growth	Retain	C1	2.4
T6	Cherry	Y	6	3.5	3.5	3.5	3.5	2	150	G	G	20+	Small cherry located on boundary between wire and solid adjacent fence. No obvious defects or signs of ill health identified.	Retain	C1	1.8
T7	Cherry	EM	9	3.5	3.5	3.5	3.5	3	400*	G	G	20+	Cherry located on adjacent private property on boundary. 3 stems from approx 1m.	Retain	B1	4.8
T8	Cherry	SM	8.5	4.5	4.5	4.5	4.5	2	200*	G	G	20+	Young cherry on boundary between wire and solid fence no obvious defects or signs of ill health identified.	Retain	C1	2.4
T9	Field maple	M	12	5.5	5.5	5.5	5.5	2	5 stem 300*	F	F	30+	Large mature field maple, multi stemmed from base. Provides large crown area and is a significant size for species. Heavy ivy	Retain	B2	6.7

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
													colonisation making inspection of stems difficult.			
T10	Ash	EM	10	4	4	4	4	1.5	3 stems 250*	F	F	20+	Multi stemmed ash on boundary, no indicators of ssh dieback identified, no other obvious defects identified. Good crown coverage.	Retain	B2	4.3
T11	Elm	EM	9.5	4	4	4	4	0	250*	F	F	10+	Multi stemmed tree in hedgerow, no obvious defects or signs of ill health identified. Self sown unmanaged tree.	Retain	C2	3
T12	Oak	M	11.5	1.5	1.5	1.5	1.5	2	700	P	P	<10	Standing oak stem which has had crown removed in past, Large decay area at base of stem and all limbs beginning to decay.	Retain	U	8.4
T13	Field maple	M	9	4.5	4.5	4.5	4.5	1.5	basal 500	F	F	20+	Multi stemmed maple with dense crown, tight unions leading to multiple inclusions	Remove to facilitate development	C1	5

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
T14	Hawthorn	EM	5	2.5	2.5	2.5	2.5	0	basal 200	F	F	10+	Dense multi stemmed tree adjacent to T13, suppressed by all surrounding trees.	Remove to facilitate development	C1	2
T15	Field maple	EM	9	4	4	4	4	0	basal 400*	F	F	20+	Multi stemmed maple tree on boundary, multiple suckers	Retain	C2	4
T16	Ash	M	10	4	6	5	4	1.5	300*	P	P	<10	Ash tree with multiple areas of damage on stem and main limbs.	Remove	U	3.6
T17	Ash	M	10	4	3	5	5	3.5	600	F	F	10+	Mature ash which has previously lost its crown. New smaller crown has formed through regenerative growth. Potential for decay with stem and weak attachment of new growth, but provides good habitat for a range of species.	Remove to facilitate development	B3	7.2
T18	Goat willow	M	10	5.5	5.5	6	5	1.5	basal 500*	F	F	10+	Large mature goat willow forming part of central boundary vegetation, large crown dominating this section of G14.	Remove to facilitate development	B2	5

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
T19	English oak	EM	15	8.5	7.5	8	7	3	600	G	F	30+	Stand alone oak, multiple dead and snapped limbs in crown, Longitudinal wound on stem. Roots exposed with ground eroding to the east. Large wide crown and with management can be retained as impressive future large tree.	Remove to facilitate development	B2	7.2
T20	Ash	M	17	6.5	4	6	5	1.5	620	F	P	10+	Large mature tree, with multiple limb failures and die back in upper canopy. Decay and cavities identified in main north stem.	Remove to facilitate development	C2	7.44
T21	Field maple	EM	11	4.5	4.5	4.5	4.5	1.5	220	G	G	20+	Early mature tree located on boundary providing taller canopy along mid boundary area. No obvious defects or signs of ill health identified.	Retain	B2	2.64
T22	Ash	M	21	8	8.5	8.5	9	2	850*	G	G	30+	Large mature ash, no signs of ash die back and generally exhibits good	Retain	A2	10.2

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
													health and condition. Tallest and most significant tree on site, high value landscape feature			
T23	Crack willow	M	17	7	6	6.5	7.5	2	350*	F	F	20+	Tall mature willow, with multiple snapped and hung up limbs. Management of canopy will improve quality.	Retain	B2	4.2
T24	English oak	M	16.5	10	10	11.5	10	1.5	1000*	F	F	30+	Very large mature oak with dominating crown. Large canopy area and high value landscape feature. No obvious defects or signs of ill health identified.	Retain	A2	12
T25	Crack willow	M	22	7.5	8	9	11.5	1.5	3 stems 600*	F	F	20+	Large mature willow with multiple stems from base. failed and hung up limbs through out crown.	Retain	B2	10.4
T26	Ash	M	17	7.5	7.5	7.5	7.5	3	5 stems 300*	F	F	10+	Multi stemmed ash in corner of site. Deadwood through out and minor dieback in outer crown, potentially due to ash dieback.	Retain	C2	5.2

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
GROUPS OF TREES																
G1	Hawthorn	M	6	4	4	4	4	0	200	F	F	20+	Group of self sown hawthorn in scrub area. Deadwood throughout crowns. Unmanaged area.	Remove to facilitate development	C1	2.4
G2	Hawthorn	M	8	4.5	4.5	4.5	4.5	0	300	F	F	20+	Line of mature hawthorn along fence line. Wide canopies with good habitat value. No obvious defects or signs of ill health identified.	Remove to facilitate development	B2	3.6
G3	Hawthorn, elder	M	6	4	4	4	4	0	200-300*	F	F	10+	Self sown unmanaged vegetation along boundary with heavy ivy colonisation.	Retain	C2	3.6
G4	Ash, field maple, elm, hawthorn	M	10	5	5	5	5	0	200-300	F	F	20+	Group of trees located along fence line. Generally exhibit fair condition and provide dense area of maturing canopy. Low height and small group.	Remove to facilitate development	B2	3.6
G5	Hawthorn, elm	SM-M	8	2.5	2.5	2.5	2.5	0	200	F	F	10+	over grown boundary vegetation which has not been managed. Sparse	Retain	C2	2.4

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
													canopies throughout. Poor form throughout.			
G6	Hawthorn	M	6	3	3	3	3	0	100-300	F	F	20+	Unmanaged boundary hedge single species	Retain	C2	3.6
G7	Hawthorn	M	6	4	4	4	4	0	200-300*	F	F	20+	Unmanaged boundary vegetation with gaps single species.	Retain	C2	3.6
G8	Elder, hawthorn, blackthorn, elm	Y-SM	7	3.5	3.5	3.5	3.5	0	100-300	P	P	<10	Small group of dead and dying trees.	Retain	U	3.6
G9	Hawthorn ash	Y	6-9	3	3	3	3	0	100	F	F	20+	Unmanaged self sown boundary vegetation.	Retain	C2	1.2
G10	Field maple	M	10	5	5	5	5	1.5	basal 400	F	F	20+	Group of mature maple on site boundary, multi stemmed from base with damage throughout stems. Most significant canopy on boundary.	Retain	B2	4

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
G11	Hawthorn	EM	6	2	2	2	2	0	200*	F	F	20+	Small group of hawthorn on boundary, unmanaged vegetation.	Retain	C2	2.4
G12	Hawthorn	EM	6	2	2	2	2	0	200*	F	F	20+	Small group of hawthorn on boundary, unmanaged vegetation.	Retain	C2	2.4
G13	Hawthorn	M	6	2	2	2	2	0	100-200*	F	F	10+	Unmanaged boundary vegetation, overgrown and with sections of dead and dying stems,	Retain	C2	2.4
G14	Ash, blackthorn, field maple, goat willow, elm, apple, hawthorn,	EM - M	max 10	5	5	5	5	0	max 300	F	F	20+	Boundary vegetation providing continuous canopy. Mostly exhibiting self sown multi stemmed form and has not been managed, but provides avenue of maturing canopy	Remove in full to facilitate development	B2	3.6
G15	Ash, hawthorn	SM	10.5	3.5	3.5	3.5	3.5	1.5	350	F	F	10+	Small group of trees with ash dominating, generally young no signs of ash dieback identified. Small understorey hawthorns completing group.	Remove in full to facilitate development	C2	4.2

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
G16	Ash, hawthorn, blackthorn, oak,	SM	8	4	4	4	4	0	200	F	F	20+	Line of boundary vegetation, very Sporadic with gaps. Some dead and dying stems. 1x oak which forms most significant part of group.	Remove in full to facilitate development	C2	2.4
G17	Hawthorn, ash, field maple	SM	6-8	3	3	3	3	0	100- 200	F	F	10+	Boundary vegetation, unmanaged with some dead and dying stems within.	Retain	C2	2.4
G18	Hawthorn, ash, field maple	SM	6-8	3	3	3	3	0	100- 200	F	F	10+	Boundary vegetation, unmanaged with some dead and dying stems within.	Retain	C2	2.4
G19	Ash, field maple	M	10- 14	6	6	6	6	1.5	200- 400	F	F	20+	Mature tree located on boundary of site. Tall canopy. No obvious defects or signs of ill health identified.	Retain	B2	4.8
G20	Hawthorn, blackthorn, field maple	M	8	4	4	4	4	0	200*	G	G	20+	Dense and tall mature boundary vegetation, all exhibiting good condition and dominating along	Retain	B2	2.4

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
													boundary between larger trees			
G21	Field maple, ash	M	13	7	7	7	7	1.5	200-400	G	G	30+	Dense group of mature trees predominantly field maple. Multi stemmed in places. Generally exhibits good condition. Dominated boundary in this section with tall dense canopy	Retain	B2	4.8
G22	Hawthorn, blackthorn, apple, field maple	M	8	5	5	5	5	0	max 200	F	F	20+	Boundary vegetation, mixed species with sections of dead and dying stems. Gaps in places. Unmanaged and poor form in places.	Retain	C2	2.4
G23	Hawthorn	M	10	4	4	4	4	0.5	250*	G	G	30+	Group of hawthorn on boundary, provides dense area of canopy exhibiting good condition. Good form for self sown boundary vegetation.	Retain	B2	3
G24	Crack willow, goat willow, ash	M	11.5	6	6	6	6	1	200-400*	F	F	20+	Group of tall willow predominantly, mostly tall	Retain	B2	4.8

No.	Species (Common Name)	Age Class	Height (m)	Crown Spread (m)				Crown Clearance (m)	Stem Diameter (mm)	Physiological Condition	Structural Condition	Estimated Remaining Contribution (Years)	Comments	Recommendations	Retention Category (Sub Category)	RPA (m)
				W	S	N	E									
													narrow stems, with goat willow understorey.			
G25	mixed	M	5-10	4	4	4	4	0	max 200	F	F	20+	Mixed boundary vegetation, all self sown, overgrown and unmanaged.	Remove to facilitate development	C2	2.4
G26	Blackthorn	M	4	3	3	3	3	0	100	F	F	10+	Dense group of blackthorn in boundary	Remove in full to facilitate development	C2	1.2
G27	Crack willow	M	12	5	5	5	5	0	300	F	F	10+	Group of multi stemmed willow trees, all self sown. Young slender stems in general.	Remove in full to facilitate development	C2	3.6
G28	Hawthorn , elm	SM-M	6	4	4	4	4	0	100-300	F	F	10+	Group of predominantly hawthorn with elm stems situated within. Most elms are dead with the remaining dying off.	Remove in full to facilitate development	C2	3.6
G29	Hawthorn, elm, willow	M	8	4	4	4	4	0	200	F	F	10+	Boundary road side vegetation of predominantly hawthorn. elm to western end have died. Unmanaged and overgrown.	Part removal required to facilitate construction of access road and junction	C2	2.4

Key

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

Appendix 4: Classification Descriptions

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

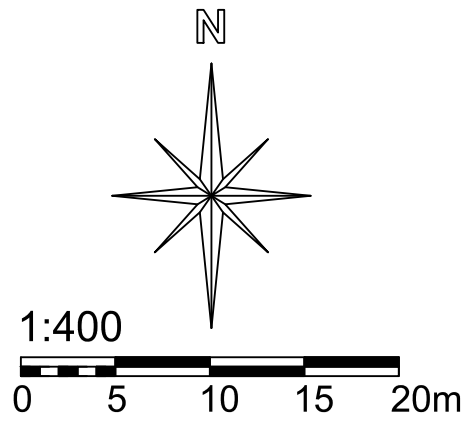
Cascade Chart for the Quality Assessment (Taken from BS5837:2012 Table 1, Page 9)

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



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Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
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Tree Protection Plan
showing proposed
layout with trees and
arboricultural controls.

Key

- Tree
Showing tree location, category colour, canopy and tag number.
- Tree groups
Shown as dashed centre line. Colour represents category (see above).
- Tree Root Protection Area
- Trees & Groups For Removal
- Tree Root Protective Fencing
BS5837 specification (braced and staked).
- No dig construction
- Ground Protection
- Tree Pruning

Tree/Group/Hedge numbering: T1-T26, G1-G29.

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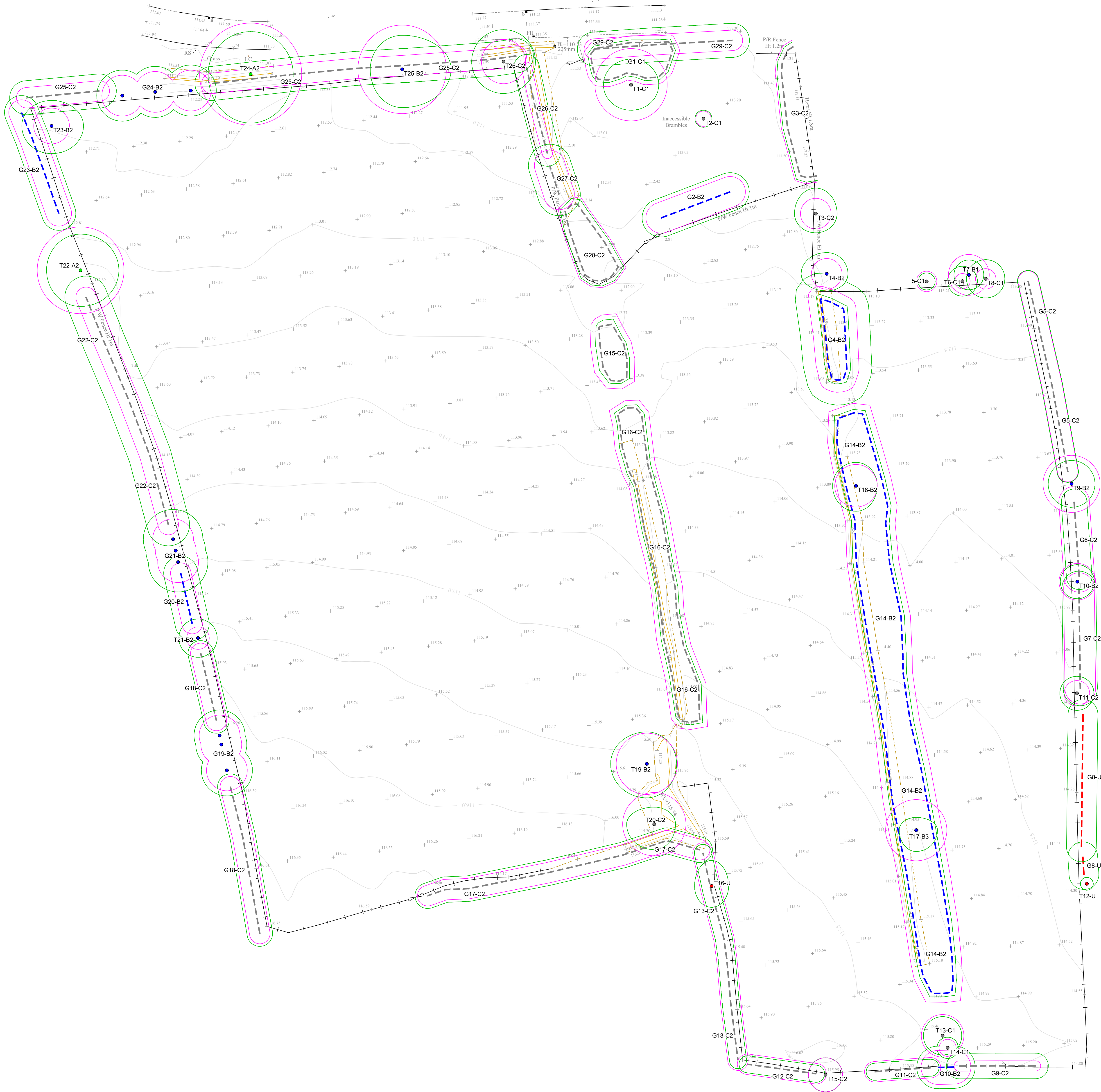
Client

Project
Former Burial Ground, Crab Tree Farm, Hinckley Road, Barwell.

Drawing Title
Tree Protection Plan

Scale 1:400 AD	Date Jun 2021	DB CS	CB JS
Drawing Number	Rev 1		

Notes
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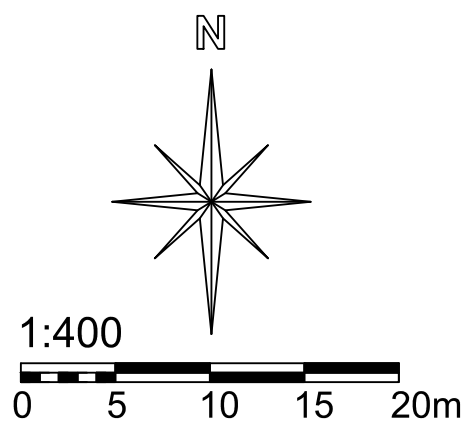


Tree Constraints Plan
showing tree categories
and root protection
zones.

BS5837:2012 Tree Categories

- Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years. Groups shown as hatched shapes.
- Category B**
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Groups shown as hatched shapes.
- Category C**
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm. Groups shown as hatched shapes.
- Category U**
Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Groups shown as hatched shapes.
- Tree groups**
Shown as dashed centre line. Colour represents category (see above).
- BS 5837:2012 Root Protection Area**

Tree/Group/Hedge numbering: T1-T26, G1-G29.



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Client

Project
Crab Tree Farm,
Hinckley Road, Barwell.

Drawing Title
Tree Constraints Plan

Scale
1:400 AD

Date
Sep 2020

DB
CS

CB
JS

Drawing Number

Rev
1