

# BS5837 TREE SURVEY

Arboricultural Impact Assessment, Method Statement & Tree  
Protection Plan: Land North of Bronwylfa Road.



09/11/2023  
REV: V1.1

Arboricultural Services  
**Arbserve**

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# 1. EXECUTIVE SUMMARY

Arbserve Ltd has been instructed by Innova Renewables Developments to undertake a BS5837 Tree Survey of land near Legacy (SJ 30560 48624) for the proposed Energy Storage System project.

This report includes an AIA which evaluates the existing tree cover, any tree related constraints and the impact of the proposed works upon the immediate surroundings.

This report also includes Arboricultural Method Statements (AMS) which outline the proposed methods to be employed as a result of the AIA in connection to the proposed construction work.

A Tree Protection Plan (TPP) is contained on the map to illustrate RPA's and methods to protect and work around retained trees along with any construction exclusion zones (CEZ).

Individual trees have been surveyed and categorised in accordance with BS5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'.

The 'site' is a pasture field located between Bronwyflla Road B5097 to the South, the A483 trunk road to the East, a dismantled railway to the North and Bersham Cricket club to the West.

Trees vary in terms of condition and overall value across the spectrum from A to U. Trees located on the old, dismantled railway to the North of the site have a blanket TPO known as W1.

Impact on overall tree cover of the proposed design is extremely low because it has been designed around the existing tree cover. In fact, the site will be left with more trees because of proposed landscaping.

Only three sections of hedge to facilitate access have been proposed for removal. However, the 54m of mixed species field boundary hedge (13m/13m/28m) will be more than off-set through hedgerow enhancement planting. For example, the existing wooden post and rail boundary fence will be planted up with hedgerow whips (41.5m) plus the boundary South of the attenuation basin (56m), along with other additional hedgerow enhancement.

There are four category U trees which appear to be under third party ownership on adjacent land. At present these can be retained in their current state but should be routinely monitored by the scheme owner.

The proposed 'build' falls outside all tree root protection areas (RPA). RPA's are to be protected by a construction exclusion zone fence (CEZ) as indicated on the tree protection plan.



## **2. INTRODUCTION**

### **2.1 INSTRUCTION**

Arbserve Ltd are instructed by Innova Renewables Developments to conduct a BS5837 Tree Survey including Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan for land near Legacy (SJ 30560 48624) in connection to a proposed Energy Storage System.

This report identifies and categorises the significant trees in accordance with BS5837: 2012 (Trees in Relation to Design, Demolition and Construction – Recommendations), which may be impacted by the proposed scheme.

This report has been prepared to take account of the constraints that the existing trees place on the site. Arbserve have discussed the brief and specification of the proposed development with the client, the parameter of trees to be surveyed has been established using the map location plan provided and drawings of the proposed scheme.

### **2.2 SCHEME PROPOSAL**

The proposed scheme is for the installation and operation of an Energy Storage System (ESS) including energy storage units, substation, site access, cable connection, landscaping and ancillary infrastructure at Land North of Bronwylfa Road, Rhostyllen, Wrexham.

### **2.3 AUTHOR**

Luke Edwards: RFS Cert Arboriculture and Lantra Award in Professional Tree Inspection combine with over a decade of experience in Arboriculture as a surveyor and consulting Arboriculturalist.

### **2.4 REPORT LIMITATIONS**

This report was prepared for use by our client for planning purposes only. It is not a substitute for a tree condition, insurance, or mortgage service. Information provided by third parties used in the preparation of this report is assumed to be correct. The contents are copyright and may not be duplicated or used by third parties without written consent of Arbserve Ltd. The tree survey site parameters are highlighted on the location plan. This parameter has been established by reviewing the proposed building location/planning boundary and selecting all trees over a diameter of 75mm that could be affected by the proposed construction.

Trees are living organisms, the health and condition of which can change rapidly, especially after extreme weather conditions. All observations and advice provided in this report are based on the condition of the trees at the time of inspection and are only relevant in the context of the proposed design.

The conclusions and recommendations in this report are valid for a period of one year of the date of this report and are specific to the current design proposal.

Bats, nesting birds and a variety of mammal species are protected under Conservation of Habitats and Species Regulations 2010, Wildlife and Countryside Act 1981, Nature Reserves and Special Protection Areas and Countryside and Rights of Way Act 2000.

Prior to the commencement of any tree work or felling operations (Forestry Act 1967) a risk assessment must be conducted to determine if any protected species and their habitats will be disturbed or endangered. If any protected species are present in any of the trees or there are known bird nesting sites or bat roosts, then the Statutory Nature Conservation Organisation must be consulted before work commences. A check with the LPA must also be made to ensure trees are not protected under Tree Preservation Orders, Conservation Areas or AONB; if so written consent from the LPA must be secured first, unless part of a LPA approved planning application. In all cases the tree owner must also provide consent.

## 2.5 LOCATION OF SURVEY

- OS X (Eastings): 330560
- OS Y (Northings): 348624
- NGR: SJ 30560 48624
- Nearest Post Code: LL14 4BJ



## 2.6 SITE DESCRIPTION & PARAMETERS

Trees were surveyed in relation to the area of proposed works contained within the area shown above (white line, red shading). Part of the adjacent field to the West has also been surveyed because it contains a proposed abnormal load access route. Trees to the North on the dismantled railway are protected under 'W1' a 'blanket' Tree Preservation Order (TPO). Of this group, only trees in proximity to the proposed scheme have been surveyed.

## 3. METHOD

### 3.1 BS5837:2012 INTRODUCTION

A tree survey carried out in accordance with BS5837: 2012 facilitates a phased approach to tree protection during development. The survey data collected is used to assess and categorise the existing trees. It establishes their suitability for retention and whether they are compatible with the proposed design.

The aim of tree categorisation is to identify the quality and value (in a non-fiscal sense) of the trees associated with the proposed design. Tree categorisation facilitates informed decisions to be made concerning which trees should be removed or retained within the context of the proposed design.

Data collected informs the extent of the minimum root protection area required and determines where a need exists for additional protection for the physical structure of any significant trees impacted by the proposed design.

From this survey, the constraints trees pose upon the design can be identified, and a mechanism to deliver suitable mitigation can be provided through an Arboricultural Method Statement supported by a tree protection plan.

### 3.2 METHOD

All trees in this survey have been surveyed from ground level using Visual Tree Assessment (VTA) observations. This involves a systematic, non-invasive, ground based examination of each tree, looking for signs of ill-health, vulnerability or damage and their causes. Protocol described by (Lonsdale 1999), and (Mattheck & Breloer 1998) (Strouts & Winter 1998) No aerial inspections or invasive decay detection surveys or soil samples have been carried out.

Data was collected in accordance with the requirements of British Standard 5837:2012. Measurements were taken using diameter tape, digital clinometer, or laser measure. Where this was not possible or reasonably practical, measurements have been estimated by eye.

Data collected:

- Tree ID
- Species
- Maturity
- Height
- Height and direction of first significant branch
- Stem Diameter according to annex c of BS5837:2012
- Crown spread-in four cardinal directions
- Physical and structural condition
- Retention category according to table 1 BS5837:2012

All trees surveyed have been plotted on a tree protection plan of the site and their data recorded in the BS5837 Tree survey schedule. This includes all trees and shrubs with a diameter of 75mm or above measured at 1.5m above ground level. Measured according to annex c of BS5837:2012.

(Note in the case of woodlands or substantial tree groups, only individual trees with stem diameters greater than 150mm usually need plotting)

The tree constraints and Root Protection Areas (RPA) are then calculated for single stemmed trees; by calculating an area equivalent to a circle radius 12 times the stem diameter.

Root Protection Area (RPA) Layout design tool indicating the minimum areas around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability, and where the protection of the roots and soil structure is treated as a priority. (BS5837:2012)

The (RPA) will be calculated for all trees surveyed using the BS5837 formula. The radius of the RPA will be given and highlighted on a tree protection plan map attached to this document.

The current value of the trees is assessed in the Arboricultural Impact Assessment using the quality categories A, B, C, U ranging from high quality (A) to low quality or DBH <150mm (C) based on Arboricultural, landscape, and cultural values. Category U trees are considered to be unsafe for Arboricultural reasons and should be normally removed. With the exception of retaining standing dead habitat poles.

The Arboricultural impact assessment and method statement for each tree will be recorded within the BS5837 Tree survey schedule preliminary recommendations survey comment.

The remaining contribution of each tree is noted <10 10-20, 20-40 or >40years. This can only be an informed opinion based on the surveyor's experience and the current conditions of the tree, and obviously cannot take account of catastrophic weather events.

## 4. KEY TO SURVEY & PLANS

**ERC:** Means ‘estimated remaining contribution’, recorded in a range of years. It is the amount of *time the tree can realistically be retained for*.

**Cat:** Means ‘category grading’, a full explanation of the categories is given in an excerpt from BS 5837:2012 in the Tree Survey Schedule section

**Ref:** The reference number assigned to that item with a code to help identify the type or structure such as:

T	Tree
S	Shrub
G	Group of Trees
SG	Group of Shrubs
O	Orchard
W	Woodland
H	Hedgerow

**Hgt (m):** Height of the tree in metres rounded up to the nearest half metre.

**DBH:** ‘Diameter at Breast Height’ – the stem diameter measured in millimetres at 1.5m above ground level. Where the ground around the base of the tree is not level, this is taken 1.5m above the upper side of slope.

**Crown Spread:** The crown spread is given to four cardinal points, rounded up to the nearest half metre.

**Clear (m):** The height of the crown clearance of the lowest branch above ground level, with the general direction it is growing to a cardinal point.

**Life stage:** Recorded with codes as follows, and relative to the species of the tree:

**RPA:** root protection area.

**CEZ:** Construction exclusion zone.

Y	Young
EM	Early-mature
SM	Semi-mature
M	Mature
OM	Over-mature
V	Veteran

The trees were surveyed and assessed impartially and irrespective of the proposed development. Management recommendations should be implemented regardless of any proposed development for reasons of sound Arboricultural management or safety.



BS 5837:2012 requires retention of better quality (category A and B trees) where possible. Planning permission overrides a Tree Preservation Order and Conservation Area. Furthermore, trees are a material consideration in the UK planning system irrespective of their legal status. It is therefore not considered necessary to highlight or give additional merit to trees that have legal protection. Trees in land adjacent to the site are considered where they may be impacted by development, for example when roots or branches encroach onto the site.

Trees may be recorded as group or woodland where:

- The canopies touch.
- The trees have more group value than individual merit.
- They are part of a formal landscape feature like an avenue.
- It is impractical to record them individually.
- Trees within groups or woodlands etc. are recorded individually where it is necessary to distinguish them from others.

## 5. TREE DATA SUMMARY

### 5.1 INTRODUCTION

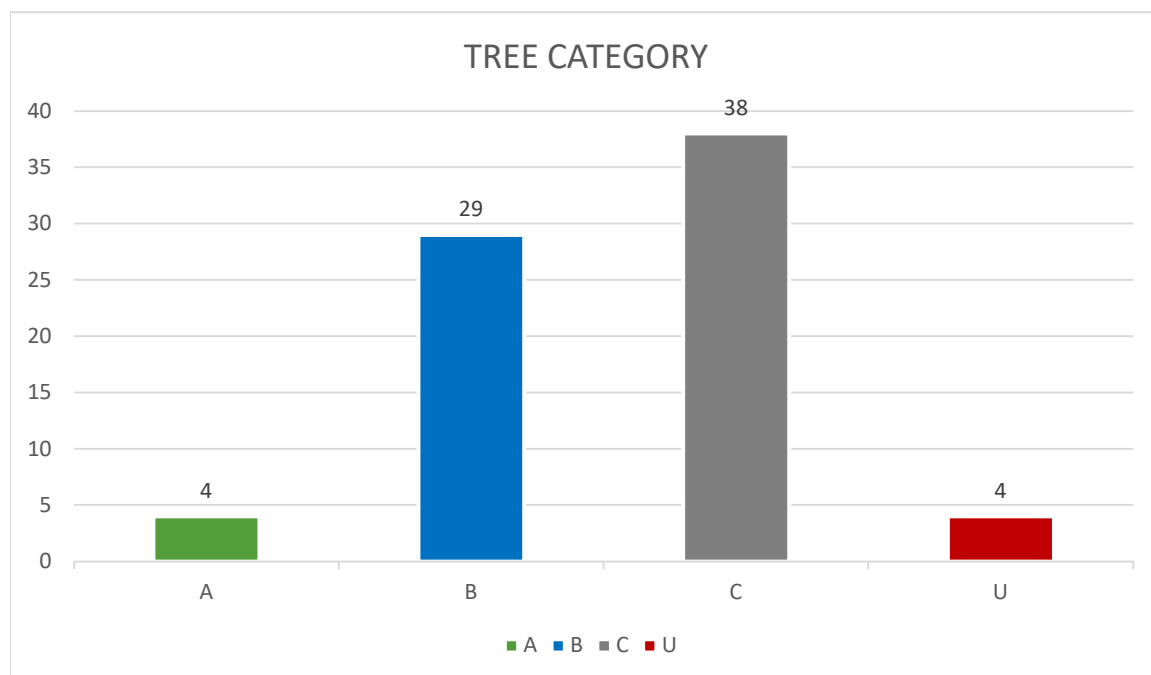
The survey was carried out April 2023 by Luke Edwards. Appendix 1 BS5837 'BS5837 Tree Protection Plan, Land North of Bronwylfa Road ' shows the layout of the site and the locations of all relevant trees.

The full results are tabulated in BS5837 tree survey schedule table (Appendix 2) and should be read in conjunction with the Tree Protection Plan (Appendix 1). For clarity on larger schemes map tiles have been used.

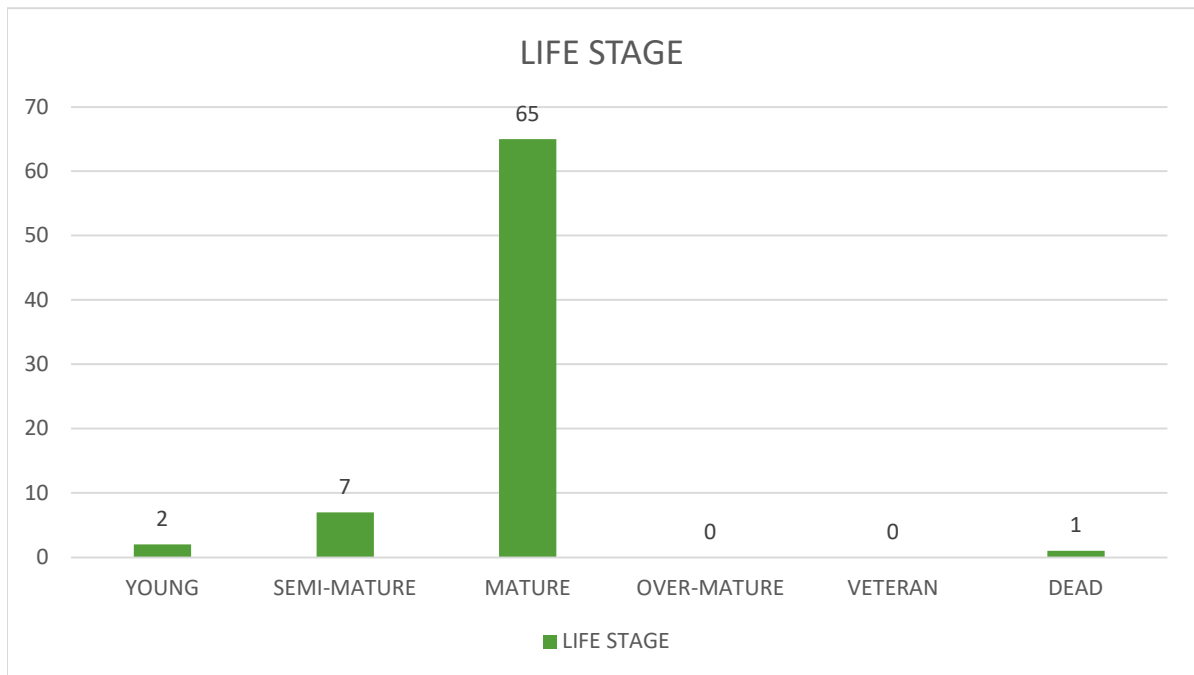
### 5.2 TREE DATA SUMMARY CHARTS

Individual trees and groups have been categorised in accordance with the BS5837: 2012 (see appendix 3) and these are summarised in the charts below:

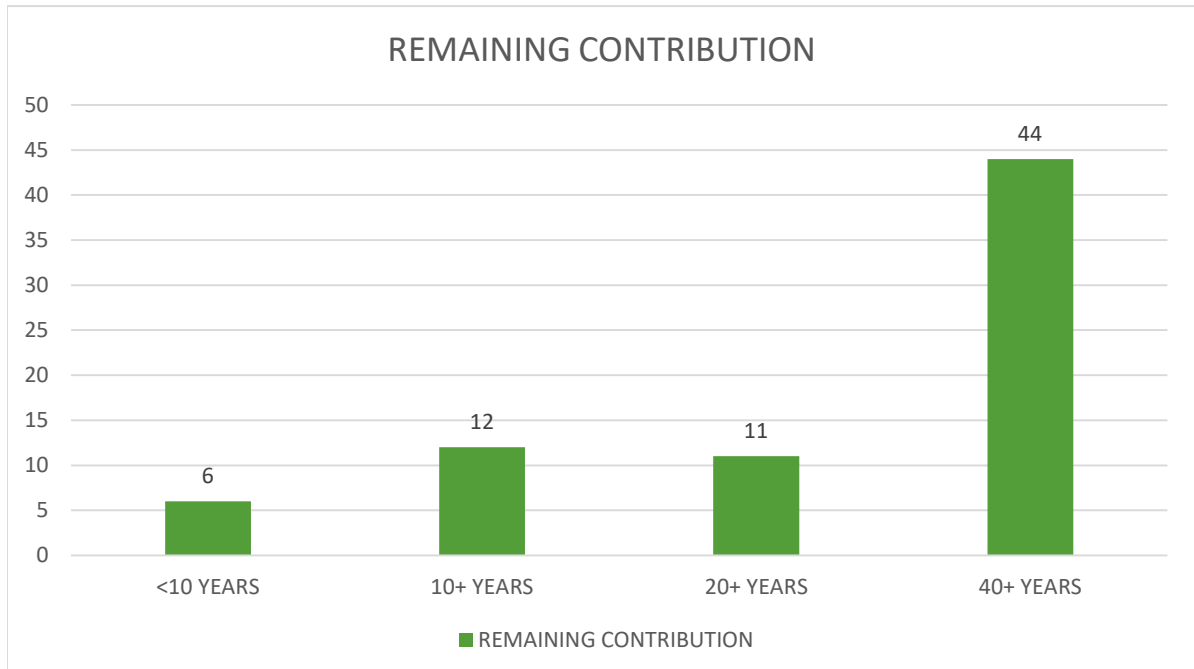
#### 5.2.1 TREE CATEGORY



### 5.2.2 LIFE STAGE



### 5.2.3 REMAINING CONTRIBUTION



## 6. CONSTRAINTS POSED BY EXISTING TREES

The constraints posed by the trees within the scheme boundary are derived from the physical structure of each tree and its accompanying root distribution network.

### 6.1 ABOVE GROUND CONSTRAINTS

The above ground constraints posed by the existing trees are shown in the current height and spread. The height and direction of the first significant branch and any notable physical and structural defects are also shown in the BS5837 survey schedule (Appendix 2).

The physical form of the tree; its trunk and branches, are a significant constraint to development. Impact on a trees' structure by machinery, equipment, materials or liquid discharge/leakage has the potential to detrimentally impact on the continued physiological and structural condition of the tree.

More so for residential schemes, the effects of trees on daylight and sunlight with regards to shading can be illustrated by plotting a segment, with radius from center of the stem equal to the height of the tree. This is drawn from due north-west to due east, indicating the shadow pattern through the main part of the day.

Further details of the above ground constraints are found in the Arboricultural Impact Assessment.

### 6.2 BELOW GROUND CONSTRAINTS

Root Protection Areas (RPA) as defined in Annex B of BS 5837:2012, indicate the minimum area around a tree deemed to contain enough roots and rooting volume to maintain the tree's vitality.

This is based on a standard calculation of the tree's stem diameter x12. Nevertheless, varying factors such as life stage, pre-existing features such as a wall or watercourse can affect the RPA. Therefore, not all will have a standard symmetrical root plate or one as big or small as the standard calculation. However, should this be the case then it is noted in the comment section for each tree in appendix 2.

The below ground constraints are marked as Root Protection Areas (RPA'S) on the tree protection plan derived from a standard calculation.

The concise Arboricultural Impact Assessments and Arboricultural Method Statements are displayed in the survey comment of the tree survey table for each tree.

This is to provide uncomplicated use by operatives along with the tree protection plan on site. The Arboricultural impact assessment and method statement in this report provide more detailed information.

## 7. ARBORICULTURAL IMPACT ASSESSMENT

### 7.1 AIA INTRODUCTION

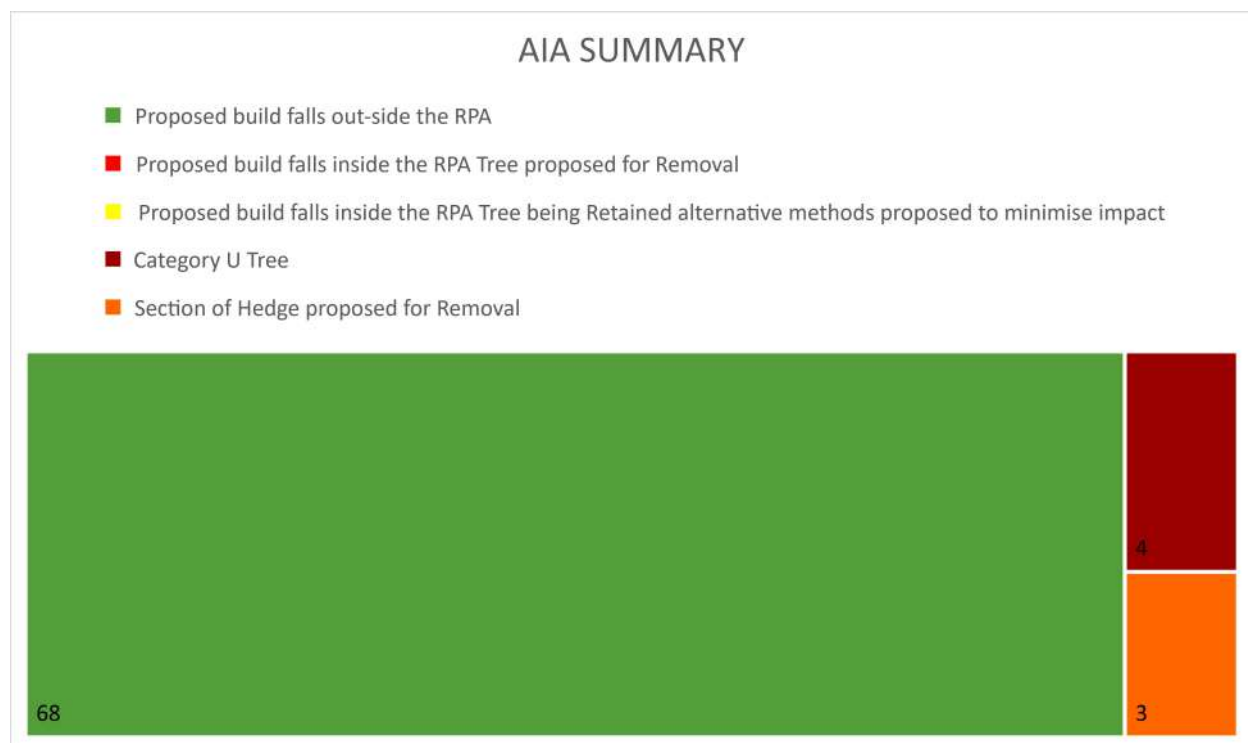
The AIA evaluates the direct and indirect effects of the proposed scheme design on the trees and where necessary recommends mitigation methods. It also aims to identify any potentially damaging activities proposed in the vicinity of retained trees. The concise Arboricultural Impact Statement for each tree surveyed is included in the survey comment of the BS5837 tree survey schedule Appendix 2.

### 7.2 AIA DATA INTERPRETATION

The Arboricultural Impact Assessment for each tree/group typically falls into one of the main categories below:

- The proposed build falls out-side the RPA
- The proposed build falls inside the RPA Tree proposed for Removal
- The proposed build falls inside the RPA Tree being Retained alternative methods proposed to minimise impact (See AMS for proposed work method inside RPA).
- Category U.
- Section of Hedge proposed for Removal

### 7.3 AIA DATA SUMMARY



## **7.4 AIA SUMMARY**

Impact on overall tree cover of the proposed design is extremely low because it has been designed around the existing tree cover. In fact, the site will be left with more trees as a result of proposed landscaping.

Only three sections of hedge to facilitate access have been proposed for removal. However, the 54m of mixed species field boundary hedge (13m/13m/28m) will be more than off-set through hedgerow enhancement planting. For example, the existing wooden post and rail boundary fence will be planted up with hedgerow whips (41.5m) plus the boundary South of the attenuation basin (56m), along with other additional hedgerow enhancements.

There are four category U trees which appear to be under third party ownership on adjacent land. At present these can be retained in their current state but should be routinely monitored by the scheme owner.

The proposed 'build' falls outside all tree root protection areas (RPA). RPA's are to be protected by a construction exclusion zone fence (CEZ) as indicated on the tree protection plan.



## **8. ARBORICULTURAL METHOD STATEMENT**

### **8.1 AMS INTRODUCTION**

The purpose of the AMS is to safeguard that the proposed design and construction process does not impact detrimentally on the retained tree resource within and adjacent to the scheme.

The AMS details best practice measures to be adopted to protect retained trees during the development process. AMS details contained within the comment section of Appendix 2 Tree Schedule should be included within the specifications and schedules of work issued to all relevant construction and landscaping contractors.

The methodology should be approved by the Local Authority and Local Authority Tree Officer at planning stage and then discussed between the Project Manager, Architect and all relevant contractors before implementation.

### **8.2 GENERAL REQUIREMENTS**

#### **8.2.1 SITE INDUCTIONS**

A copy of the AMS shall remain on site for the duration of the construction and landscape works and be available to operatives at all times. The site induction shall include details regarding tree related issues. Any variation from the methodology described in this method statement should be discussed with the project Arboriculturist before implementation.

#### **8.2.2 TREE WORK**

Where applicable, all tree works should be carried out by suitably qualified and experienced arboricultural contractors in accordance with the tree works detailed in the Tree Survey Schedule, prior to the installation of the Temporary Protective Fencing and/or the Temporary Ground Protection.

All tree works should conform to British Standard BS3998:2010 Tree Work – Recommendations.

Performance of all arboricultural operations and use of equipment should be in accordance with current directives of the Health and Safety Executive (HSE) and current Industry Codes of Practice (ICOP).

All operatives should be equipped with and use Personal Protective Equipment (PPE) in accordance with current directives of the HSE and industry codes of practice.

All possible efforts should be made by the tree contractor, and any other site operatives, to prevent damage to retained trees.

### 8.2.3 SITE RULES & TREE PROTECTION

No construction related operations shall occur within RPAs, unless specifically detailed in the AMS.

Where specified, protective fencing shall be installed prior to the construction phase as detailed in Appendix 1.

No concrete or other construction materials shall be mixed within RPAs.

No excavation or any other operations shall occur within the RPAs, other than as detailed in the Arboricultural Method Statement.

All construction equipment and materials shall be stored outside RPAs. No fires shall be lit within 15m of any tree crown.

Deliveries by crane shall be supervised by the Site Agent, positioning the vehicle in such a manner that retained trees are not put at risk of damage.

No notice boards, phone cables or services should be attached to any part of any tree.

A record should always be maintained of any activity or incident with an impact or potential impact on retained trees and made available for review by the Project Arboriculturalist.

Weatherproof notices shall be attached to the protective fencing displaying the words Construction Exclusion Zone. It shall be checked by an Arboriculturalist before excavation works commence.

Ground levels should not be raised or lowered within the RPA and CEZ.

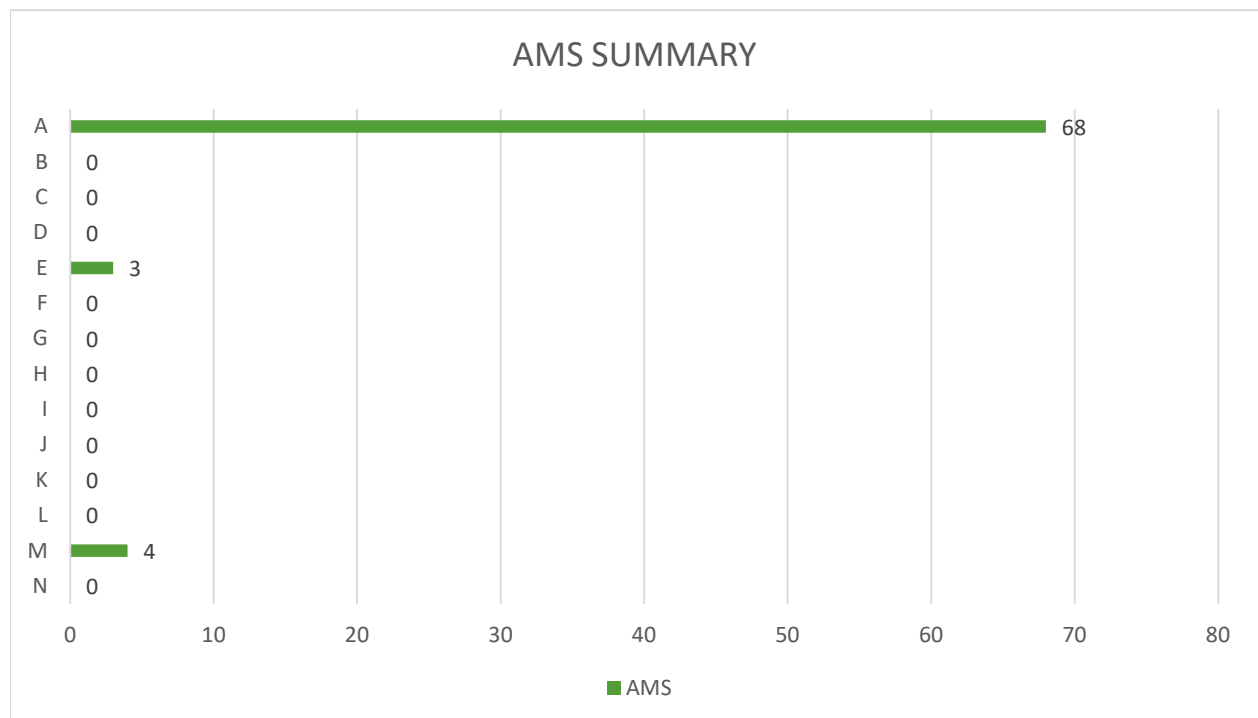
Drainage and utilities follow recommendations in the NJUG Volume 4 Code of practice relating to work in proximity to tree roots within the RPA. Any drainage or service-related works to be carried out within the RPA (apart from works permitted by Statutory Undertakers) must be subject to prior written approval of the LPA of a method statement detailing how such works are to be carried out and monitored, to avoid undue damage to trees.

### 8.3 AMS DATA INTERPRETATION

The Arboricultural Method Statement for each tree/group typically falls into one of the main categories below:

- A. Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ
- B. Work inside the RPA Trees proposed for Removal
- C. Work inside the RPA Trees proposed for Removal, mitigate loss by replanting Standard
- D. Work inside the RPA Section of Hedge Proposed for Removal
- E. Work inside the RPA Section of Hedge proposed for Removal, fence and replanted whips post work
- F. Work inside RPA inside Precautionary Zone for Utilities under NJUG's Vol 4 requires Arborist Supervision for Open Cut Trenches
- G. Work inside RPA inside Precautionary Zone for Utilities under NJUG's Vol 4 using Trenchless Tunnelling below the RPA.
- H. Work inside RPA, Hand Dig Pile Foundations
- I. Work inside RPA to create driveway using Cellular Confinement Systems
- J. Access via RPA required, install temporary ground protection mats to protect RPA
- K. Tree pruning required to facilitate access - carry out to BS3998
- L. Tree pruning required to accommodate scheme - carry out to BS3998
- M. Cat U Tree, proposed to fell or retain and monitor.
- N. Other

### 8.4 AMS DATA SUMMARY



## 8.5 AMS SUMMARY

Overall, the main Arboricultural Method Statement of this scheme is to retain trees and protect them with a CEZ fence as shown on the plans. This will afford protection for the trees and their rooting environment.

Three sections of mixed species field boundary hedge are proposed for removal totaling 54m (13m/13m/28m). This is to facilitate access. However, more than 100m + of new hedgerow enhancement planting will be carried out to mitigate.

Four trees have been identified as category U due to their condition. At present these can be retained in their current state but should be routinely monitored by the scheme owner.

In summary this development has a low impact on existing tree stock.

## 9. ARBORICULTURAL SITE MONITORING

The arborist shall visit site at pre-scheduled intervals for the below to ensure the method statement is followed under field conditions and ensure compliance by contractors.

- The marking out and instalment of construction exclusion zones prior to construction/works.
- Supervision of work inside RPAs

Prepared and written by:



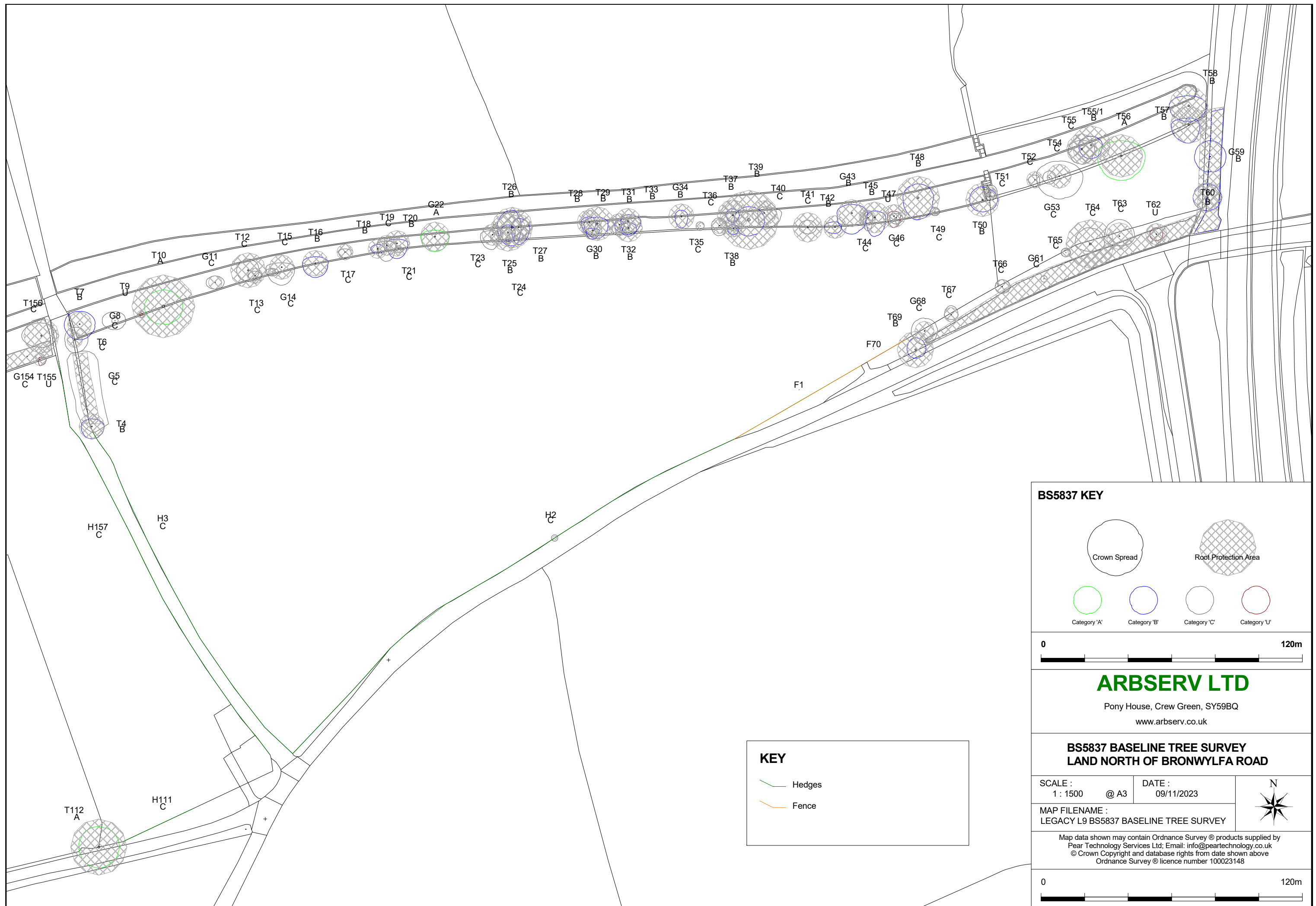
BA Hons, Cert Arb, Lanta Professional Tree Inspection  
(Arboricultural Surveyor)

Luke Edwards 19/11/2023

## 10. APPENDICES

## APPENDIX 1: BS5837 TREE PROTECTION PLAN





No trees proposed for removal. The layout considered existing tree stock at the design stage to avoid Root Protection Zones. The RPA's are to be protected by CEZ Construction Exclusion Zone barriers as shown (lilac).

'Hedgerow Enhancement Planting' around the site will mitigate the proposed hedge removal. The current wooden post and rail fence F1 and F70 (orange) will be planted up and this accounts for 41.5m alone to mitigate the 54m proposed for removal. With an additional 56m of hedgerow replanting on the South boundary below the attenuation basin.

H3 and H157. Two 13m sections of mixed species flail maintained hedge proposed for removal to facilitate access crossing point.

H111. A 28M section of mixed species hedge is proposed for removal to facilitate access entry point.

KEY

- Hedges
- Fence
- Attenuation Basin
- CEZ Construction Exclusion Zone
- Hedge Proposed for Removal

ARBSERV LTD

Pony House, Crew Green, SY59BQ  
www.arbserv.co.uk

BS5837 TREE PROTECTION PLAN  
LAND NORTH OF BRONWYLFA ROAD

SCALE : 1 : 1500 @ A3 DATE : 09/11/2023

MAP FILENAME :  
LEGACY L9 BS5837 TPP

Map data shown may contain Ordnance Survey © products supplied by  
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## APPENDIX 2: BS5837 2012 TREE SURVEY SCHEDULE

## BS5837:2012 Tree Survey

## Arbserv Ltd

Client: Novus  
 Project: Substation and Battery Storage at Legacy  
 Survey Date: 03/04/2023 - 05/04/2023  
 Surveyor: Luke Edwards

Crew Green  
 Shrewsbury  
 Shropshire  
 SY5 9BQ  
 Phone: 01743 884671  
 Mobile: 07912599933

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
F1														
Unknown		0	0				A: 0		C:					
- -							R: 0		S: B:			NOTE: Wooden fence and Rail NO hedge.		
F70														
Unknown		0	0				A: 0		C:					
- -							R: 0		S: B:			NOTE: Post and rail wooden fence covered in brambles.		
G5														
A Group		5.7	0		N	4.9	M	A: 0	Fair	C: Fair				C
- -					E	4.9		R: 0		S: Fair				20 to 40 yrs
					S	4.9				B: Fair			ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.	
G8														
A Group		6.6	0		N	4.2	M	A: 0	Fair	C: Fair				C
- -					E	5		R: 0		S: Fair				10 to 20 yrs
					S	4.2				B: Poor			ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of X2 Hazel and X1 Small Sycamore.	
					W	6								
Age Classifications:		N	Newly planted	EM	Early Mature		Condition:	C	Crown		Stems:	Ø	Diameter	
		Y	Young	M	Mature			S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition	
		SM	Semi-mature	OM	Over Mature			B	Basal area		ERC:		Estimated Remaining Contributio	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
G11														
A Group	7.4	0		N	3	M	A: 0	Good	C: Good				C	
- -				E	4.2		R: 0		S: Fair			ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of X1 Hawthorn and X1 Elder.	>40 yrs	
				S	3.1				B: Good					
				W	4.2									
G14													Estimated Measurements	
A Group	7	0		N	1.5	Y	A: 0	Fair	C: Fair				C	
- -				E	3		R: 0		S: Fair			ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of x5 young Sycamore with some squirrel damage on bark of main stems.	10 to 20 yrs	
				S	2				B: Good					
				W	3									
G22													Estimated Measurements	
A Group	11	0		N	3	M	A: 0	Good	C: Good				A.1.2	
- -				E	6.5		R: 0		S: Good			ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of X4 Oak.	>40 yrs	
				S	6.9				B: Good					
				W	6.5									
G30													Estimated Measurements	
A Group	6	0		N	1	M	A: 0	Good	C: Good				B	
- -				E	3		R: 0		S: Good			ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.	>40 yrs	
				S	4				B: Good					
				W	3.2									
G34													Estimated Measurements	
A Group	14.2	0		N	3	M	A: 0	Good	C: Good				B	
- -				E	3		R: 0		S: Good			ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.	>40 yrs	
				S	5.2				B: Good					
				W	3									
Age Classifications:		N	Newly planted	EM	Early Mature	Condition:		C	Crown	Stems:		Ø	Diameter	
	Y	Young	M	Mature				S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition	
	SM	Semi-mature	OM	Over Mature				B	Basal area	ERC:			Estimated Remaining Contributio	

Tree and Tag No			Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
Species				No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
G43												Estimated Measurements			
A Group			14.6	0	N	4	M	A: 0	Good	C: Good				B	
- -					E	7.1		R: 0		S: Good		ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.		>40 yrs	
					S	9.8				B: Good					
					W	7									
G46												Estimated Measurements			
A Group			6	0	N	2	M	A: 0	Fair	C: Poor				C	
- -					E	3		R: 0		S: Fair		ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of X1 Sycamore, X1 Elm and X2 Hawthorn.		10 to 20 yrs	
					S	2.8				B: Good					
					W	3									
G53												Estimated Measurements			
A Group			3.7	0	N	3	SM	A: 0	Good	C: Good				C	
- -					E	3		R: 0		S: Good		ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of young Hawthorn.		>40 yrs	
					S	3				B: Good					
					W	3									
G59												Estimated Measurements			
A Group			16.4	0	N	7.3	SM	A: 0	Good	C: Good				B.2	
- -					E	7.3		R: 0		S: Good		ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of x45 shelter belt trees adjacent to A483 Dual Carriageway. Mixture if mainly Birch, Pine, Larch, Beech and Oak.		>40 yrs	
					S	7.3				B: Good					
					W	7.3									



Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
G61														
A Group	15	0		N	1.5		SM	A: 0	Fair	C: Fair				C.2
- -				E	1.5			R: 0		S: Good				10 to 20 yrs
				S	1.5					B: Good				
				W	1.5									
ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of semi mature shelter belt trees screen from main road etc. However, circa 95% Ash mixture with some hawthorn and other species making up 5%. Young Ash more susceptible to ADB with some of the trees showing early signs of ADB.														
G68													Estimated Measurements	
A Group	11.1	1	360	N	6		M	A: 58.6	Good	C: Good				C
- -				E	6			R: 4.31		S: Good				10 to 20 yrs
				S	6.3					B: Good				
				W	6.1									
ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of x2 Ash larger has DBH recorded for RPA.														
G154													Estimated Measurements	
A Group	4	1	260	N	10		M	A: 30.6	Fair	C: Fair				C.2
- -				E	10			R: 3.12		S: Fair				20 to 40 yrs
				S	3.5					B: Fair				
				W	3.5									
ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of Hawthorn & Elder covered with brambles etc.														
H2														
A Hedgerow	1.5	0		N	1.5		M	A: 0	Good	C: Good				C
- <i>Spp.</i>				E	1.5			R: 0		S: Good				>40 yrs
				S	1.5					B: Good				
				W	1.5									
ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Mixed species flailed maintained hedge.														

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC	
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment				
H3															
A Hedgerow - <i>Spp.</i>		1.5	0		N E S W	1.5 1.5 1.5 1.5	M	A: 0 R: 0	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: Proposed for Removal 13m wide section of hedge to facilitate access. METHOD STATEMENT: Fell 13m wide section of Hedge to ground level and mitigate by replanting mixed species native broadleaf hedge whips post works on site. NOTE: Mixed species flailed maintained hedge.			C >40 yrs	
H111															
A Hedgerow - <i>Spp.</i>		4.6	1	80	N E S W	1 1 1 1	M	A: 2.9 R: 0.96	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: Proposed for Removal 28m wide section of hedge to facilitate access. METHOD STATEMENT: Fell 28m wide section of Hedge to ground level and mitigate by replanting mixed species native broadleaf hedge whips post works on site. NOTE: Unmanaged tall Hawthorn hedge.			C >40 yrs	
H157													Estimated Measurements		
A Hedgerow - <i>Spp.</i>		1.8	1	50	N E S W	1 1 1 1	M	A: 1.1 R: 0.59	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: Proposed for Removal 13m wide section of hedge to facilitate access. METHOD STATEMENT: Fell 13m wide section of Hedge to ground level and mitigate by replanting mixed species native broadleaf hedge whips post works on site. NOTE: Mixed species flailed maintained hedge.			C >40 yrs	
T4															
Field Maple <i>Acer campestre</i>		8.1	4	480 (Eq)	N E S W	3.5 5.7 5.7 5	M	A: 104.2 R: 5.75	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs	
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition		
											ERC:	Estimated Remaining Contributio			



Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T6													
Common Hazel <i>Corylus avellana</i>	6.1	5	291 (Eq)	N E S W	6 6.1 5.9 4.7	M	A: 38.2 R: 3.48	Fair	C: Fair S: Fair B: Poor	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C 20 to 40 yrs
T7													
Common Oak <i>Quercus robur</i>	11.2	1	450	N E S W	6 7.2 7.2 7.1	M	A: 91.6 R: 5.39	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T9													
Sycamore <i>Acer pseudoplatanus</i>	6.1	1	140	N E S W	0.6 0.8 0.6 0.9	M	A: 8.9 R: 1.68	Decline	C: Poor S: Poor B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Tree in decline apical dieback, small tree, retain for habitat value. 3rd Party tree covered by W1 TPO, scheme owner/management to monitor.			U <10 yrs
T10													
Sycamore <i>Acer pseudoplatanus</i>	16.3	4	1179 (Eq)	N E S W	7.5 9 8.5 8.7	M	A: 628.9 R: 14.14	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			A.1.2 >40 yrs
T12													
Sycamore <i>Acer pseudoplatanus</i>	10.2	3	658 (Eq)	N E S W	5.2 5.2 5.2 5.2	M	A: 196 R: 7.89	Poor	C: Good S: Poor B: Poor	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Multi stem Sycamore signs of some bleeding canker base of trunk.			C 10 to 20 yrs
Estimated Measurements													
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature		Condition:	C S B	Crown Stem Basal area		Stems:	Ø (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	
										ERC:		Estimated Remaining Contributio	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T13														
Common Hawthorn <i>Crataegus monogyna</i>		5.8	1	290	N E S W	2.2 3 2 3	M	A: 38.1 R: 3.48	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C 20 to 40 yrs
T15											Estimated Measurements			
Common Oak <i>Quercus robur</i>		8.9	1	460	N E S W	2 6.1 8.3 7.2	M	A: 95.7 R: 5.51	Fair	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Growing under adjacent larger Oak and North crown out competed by the larger Oak to the North.			C >40 yrs
T16											Estimated Measurements			
Common Oak <i>Quercus robur</i>		9.2	1	480	N E S W	3 6.1 6.6 6	M	A: 104.2 R: 5.75	Fair	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T17											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		5.9	2	300 (Eq)	N E S W	1.5 2.9 2.9 2.9	M	A: 40.7 R: 3.59	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C 20 to 40 yrs
T18											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		5.6	1	360	N E S W	2 3.2 2 3.2	M	A: 58.6 R: 4.31	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contributio

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T19														
Common Ash <i>Fraxinus excelsior</i>		10.2	1	380	N E S W	2 4.1 7.5 4.7	M	A: 65.3 R: 4.55	Fair	C: Fair S: Fair B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Monitor for signs of Ash Dieback.			C 10 to 20 yrs
T20											Estimated Measurements			
Common Oak <i>Quercus robur</i>		8.9	1	480	N E S W	2 5 7 5	M	A: 104.2 R: 5.75	Fair	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T21														
Sycamore <i>Acer pseudoplatanus</i>		5.1	1	120	N E S W	0.5 2 2 2	Y	A: 6.5 R: 1.43	Fair	C: Fair S: Good B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C 20 to 40 yrs
T23											Estimated Measurements			
Common Oak <i>Quercus robur</i>		8.4	1	400	N E S W	2 3 6.9 5.7	M	A: 72.4 R: 4.8	Fair	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C >40 yrs
T24											Estimated Measurements			
Common or Black Elder <i>Sambucas nigra</i>		3.8	1	120	N E S W	0.5 3.1 0.5 2	M	A: 6.5 R: 1.43	Fair	C: Poor S: Good B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C 10 to 20 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contributio		

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T25											Estimated Measurements			
Crab Apple <i>Malus sylvestris</i>		5.9	1	700	N	3.6	M	A: 221.7 R: 8.4	Fair	C: Good S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T26											Estimated Measurements			
Common Oak <i>Quercus robur</i>		13.6	1	760	N	8	M	A: 261.3 R: 9.11	Good	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T27											Estimated Measurements			
Common Oak <i>Quercus robur</i>		13.7	1	480	N	4	M	A: 104.2 R: 5.75	Good	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T28											Estimated Measurements			
Common Oak <i>Quercus robur</i>		9.8	1	460	N	2.5	M	A: 95.7 R: 5.51	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T29											Estimated Measurements			
Common Oak <i>Quercus robur</i>		11	2	638 (Eq)	N	3	M	A: 184.1 R: 7.65	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of X2 Hawthorn.			B >40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	ERC:	Estimated Remaining Contributio

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC	
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment				
T31											Estimated Measurements				
Common Hawthorn <i>Crataegus monogyna</i>		7.2	0		N E S W	2 2.2 3.1 2.2	M	A: 0 R: 0	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs	
T32											Estimated Measurements				
Common Hawthorn <i>Crataegus monogyna</i>		7.6	1	520	N E S W	2.4 3.8 3.7 3.7	M	A: 122.3 R: 6.23	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs	
T33											Estimated Measurements				
Common Oak <i>Quercus robur</i>		11	1	480	N E S W	3 6 6.2 3.3	M	A: 104.2 R: 5.75		C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs	
T35											Estimated Measurements				
Common Ash <i>Fraxinus excelsior</i>		7.1	1	160	N E S W	1.9 1.9 2.1 1.9	M	A: 11.6 R: 1.92	Fair	C: Poor S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Young Ash with signs of ADB.			C <10 yrs	
T36											Estimated Measurements				
Common Ash <i>Fraxinus excelsior</i>		9	1	300	N E S W	3.6 3.4 4.7 3.6	SM	A: 40.7 R: 3.59	Fair	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Semi mature Ash with early stage ADB.			C 10 to 20 yrs	
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature			Condition:	C S B	Crown Stem Basal area			Stems:	Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition		
												ERC:	Estimated Remaining Contributio		

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T37											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		8.6	1	580	N E S W	3 3 3.2 3.1	M	A: 152.2 R: 6.96	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			<b>B</b>   >40 yrs
T38											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		7.1	1	320	N E S W	1.8 2.2 2.9 3	M	A: 46.3 R: 3.83	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			<b>B</b>   >40 yrs
T39											Estimated Measurements			
Sycamore <i>Acer pseudoplatanus</i>		14.2	1	1110	N E S W	6.1 7.1 7.5 7	M	A: 557.5 R: 13.32	Fair	C: Good S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Mature old large Sycamore multi stem from historical coppice.			<b>B</b>   >40 yrs
T40											Estimated Measurements			
Common Oak <i>Quercus robur</i>		8.9	1	460	N E S W	2.8 8 7.4 3	M	A: 95.7 R: 5.51	Fair	C: Fair S: Good B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			<b>C</b>   >40 yrs
T41											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		4.7	4	556 (Eq)	N E S W	3.3 4.1 3 4	M	A: 139.9 R: 6.67	Fair	C: Good S: Good B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			<b>C</b>   20 to 40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contributio	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T42											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		6.2	2	431 (Eq)	N E S W	2.4 3 3 5	M	A: 84.2 R: 5.17	Good	C: Good S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T44											Estimated Measurements			
Wych Elm <i>Ulmus glabra</i>		10.2	1	290	N E S W	2.6 2.2 6.2 2.2	M	A: 38.1 R: 3.48	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C 20 to 40 yrs
T45											Estimated Measurements			
Wych Elm <i>Ulmus glabra</i>		15.8	1	580	N E S W	3 5.2 8.9 4	M	A: 152.2 R: 6.96	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B 20 to 40 yrs
T47											Estimated Measurements			
Wych Elm <i>Ulmus glabra</i>		13.6	1	430	N E S W	2.2 3 5.4 3.1	M	A: 83.7 R: 5.16	Poor	C: Poor S: Poor B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Tree in decline apical dieback, medium tree, retain for habitat value. 3rd Party tree covered by W1 TPO, scheme owner/management to monitor.			U <10 yrs
T48											Estimated Measurements			
Common Ash <i>Fraxinus excelsior</i>		19	5	810 (Eq)	N E S W	6.4 7.2 10.2 7	M	A: 297.2 R: 9.72	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B 20 to 40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contributio	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC	
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T49											Estimated Measurements			
Common Ash <i>Fraxinus excelsior</i>		8	1	160	N E S W	1.6 2.2 2.1 2.2	SM	A: 11.6 R: 1.92	Fair	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Semi mature Ash with early stage ADB.		C   <10 yrs	
T50											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		6.9	2	626 (Eq)	N E S W	6 7 5.5 6	M	A: 177.6 R: 7.51	Good	C: Good S: Good B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.		B.2  >40 yrs	
T51											Estimated Measurements			
Common Ash <i>Fraxinus excelsior</i>		8.8	1	200	N E S W	3.6 3 3.3 3.7	SM	A: 18.1 R: 2.4	Fair	C: Fair S: Fair B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.		C  10 to 20 yrs	
T52											Estimated Measurements			
Sycamore <i>Acer pseudoplatanus</i>		8.2	1	310	N E S W	2.2 2.3 3.2 3	M	A: 43.5 R: 3.72	Fair	C: Good S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.		C  >40 yrs	
T54											Estimated Measurements			
Common Ash <i>Fraxinus excelsior</i>		16.4	0		N E S W	7 11 10.5 10.6	M	A: 0 R: 0	Fair	C: Fair S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Group of mature Ash with early stage ADB. One tree leaning south to monitor.		C  10 to 20 yrs	
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition		
										ERC:		Estimated Remaining Contributio		



Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T55											Estimated Measurements			
Common Oak <i>Quercus robur</i>		11.2	1	570	N	4	M	A: 147 R: 6.84	Fair	C: Fair S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C 20 to 40 yrs
T55/1											Estimated Measurements			
Common Oak <i>Quercus robur</i>		13.6	4	721 (Eq)	N	4.1	M	A: 235 R: 8.64	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B.3 >40 yrs
T56											Estimated Measurements			
Common Oak <i>Quercus robur</i>		13.2	1	800	N	7	M	A: 289.6 R: 9.6	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			A.1.2 >40 yrs
T57											Estimated Measurements			
Common Oak <i>Quercus robur</i>		12.6	3	696 (Eq)	N	3.2	M	A: 219 R: 8.34	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
T58											Estimated Measurements			
Common Oak <i>Quercus robur</i>		14.6	4	725 (Eq)	N	4.6	M	A: 237.6 R: 8.69	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B >40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	ERC: Estimated Remaining Contributio

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T60											Estimated Measurements			
Common Beech <i>Fagus sylvatica</i>		17	1	550	N E S W	6.1 6.3 6.2 6.8	M	A: 136.9 R: 6.6	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: X1 Beech significantly larger than rest of the trees in the shelter belt.			B  >40 yrs
T62											Estimated Measurements			
Wych Elm <i>Ulmus glabra</i>		8.7	1	400	N E S W	3 3 3 3	Dead	A: 72.4 R: 4.8	Dead	C: Poor S: Poor B: Poor	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Dead Elm, small to medium tree, retain for habitat value. 3rd Party tree, scheme owner/management to monitor.			U  n/a
T63											Estimated Measurements			
Common Ash <i>Fraxinus excelsior</i>		16.8	1	500	N E S W	7.7 7 4.5 7	M	A: 113.1 R: 6	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C  10 to 20 yrs
T64											Estimated Measurements			
Goat Willow <i>Salix caprea</i>		8.8	1	908	N E S W	7.6 6.6 3.4 7	M	A: 373 R: 10.89	Good	C: Good S: Fair B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C  >40 yrs
T65											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		6.3	1	160	N E S W	2.1 2.2 2 2.2	M	A: 11.6 R: 1.92	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C  >40 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature	Condition:		C S B	Crown Stem Basal area	Stems:		Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contributio		

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
T66											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		6.8	1	270	N	3.2	M	A: 33 R: 3.24	Good	C: Good S: Good B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			C >40 yrs
T67											Estimated Measurements			
Common Ash <i>Fraxinus excelsior</i>		8.7	1	270	N	4.2	SM	A: 33 R: 3.24	Poor	C: Poor S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Semi mature Ash, early signs of ADB.			C <10 yrs
T69											Estimated Measurements			
Sycamore <i>Acer pseudoplatanus</i>		8.9	4	685 (Eq)	N	5.5	M	A: 212.2 R: 8.21	Good	C: Good S: Fair B: Good	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			B.2 >40 yrs
T112											Estimated Measurements			
Sycamore <i>Acer pseudoplatanus</i>		13.1	1	1050	N	9.5	M	A: 498.8 R: 12.6	Good	C: Good S: Good B: Fair	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ.			A.1.2 >40 yrs
T155											Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		6	4	234 (Eq)	N	1	M	A: 24.7 R: 2.8	Decline	C: Poor S: Poor B: Poor	ARBORICULTURAL IMPACT ASSESSMENT: The proposed build falls out-side the RPA. METHOD STATEMENT: Install the section of Haras fence barrier positioned as indicated on the tree protection plan to create the CEZ. NOTE: Tree in decline lack of buds, peeling and cracked bark on trunk and lower stems. 3rd Party Ownership but not within falling distance of the CEZ retain for habitat value. Scheme owner/management to monitor.			U <10 yrs
Age Classifications:		N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature		Condition:	C S B	Crown Stem Basal area		Stems:	Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition		
											ERC:	Estimated Remaining Contributio		



## Report selection criteria.

Projects.

Substation and Battery Storage at Legacy

Date Range.

Any Date

Work types.

----> -No Selection made-

Latest Survey.

All surveys for the selected trees.

---> Last survey for each selected tree.

Work Completed.

---> Work Completed

---> Work Not Completed

Number of trees in selected Project(s) **77**

Number of trees in Report selection **77**

**Age Classifications:**

N	Newly planted	EM	Early Mature
Y	Young	M	Mature
SM	Semi-mature	OM	Over Mature

**Condition:**

C	Crown
S	Stem
B	Basal area

**Stems:** Ø Diameter  
(Eq) Equivalent stem diameter using BS5837:2012 definition  
**ERC:** Estimated Remaining Contributio

## APPENDIX 3: PHOTO GALLERY





F1



H2



H3



T4





G5



T6



T7



G8





T9



T10



G11



T13





G14



T15



T16



T17





T18



T19



T20



T21





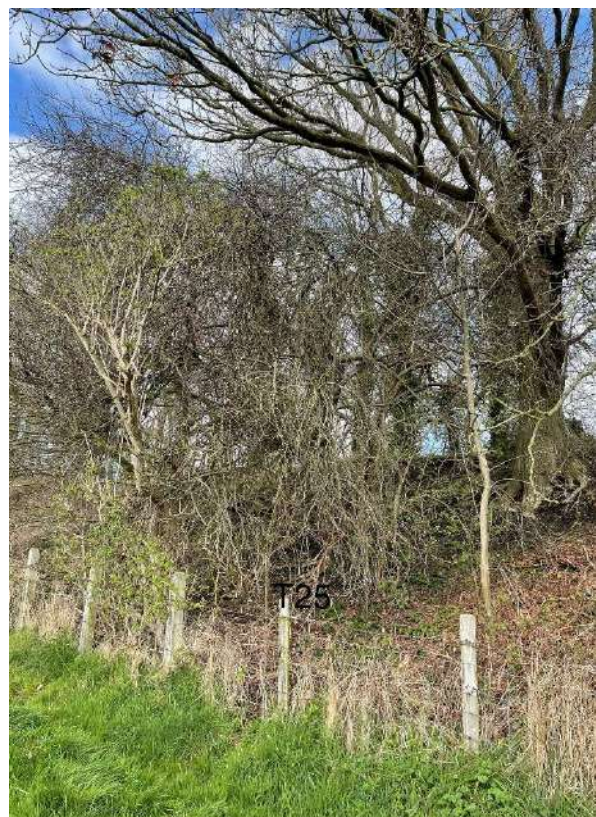
G22



T23



T24



T25





T26

T26



T27

T27



T28

T28



T29

T29





G30



T31



T32



T33





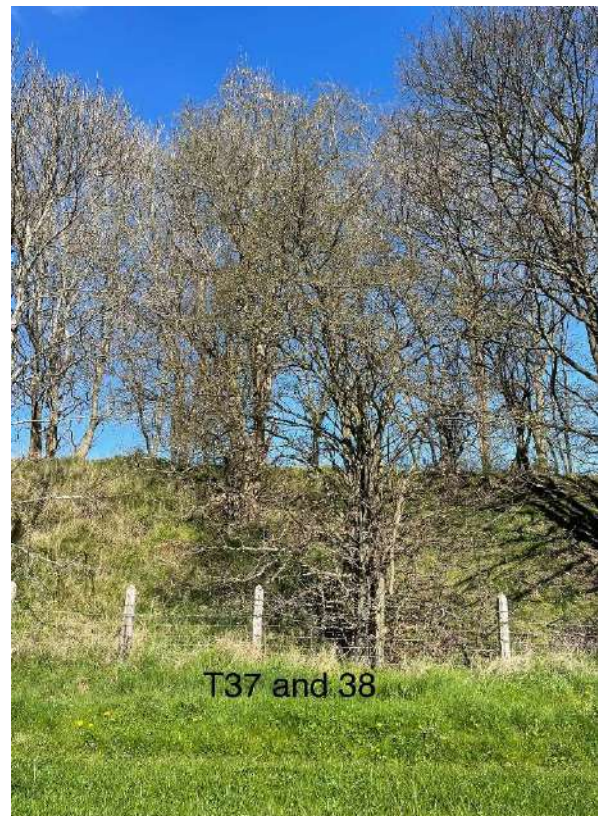
G34



T35



T36



T37 / T38





T39

T39



T40

T40



T41

T41



T42

T42





G43



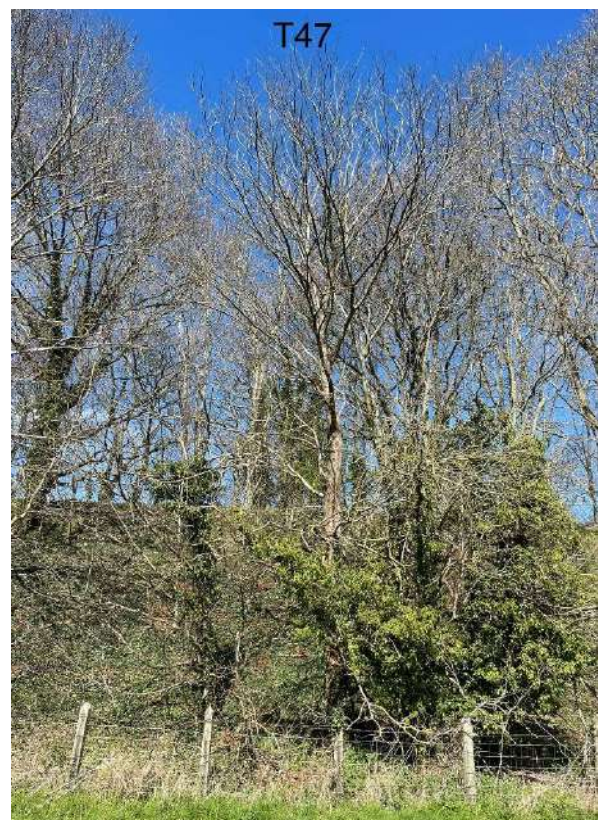
T44 and T45

T44 / T45



G46

G46



T47

T47





T48

T48



T49

T49



T50

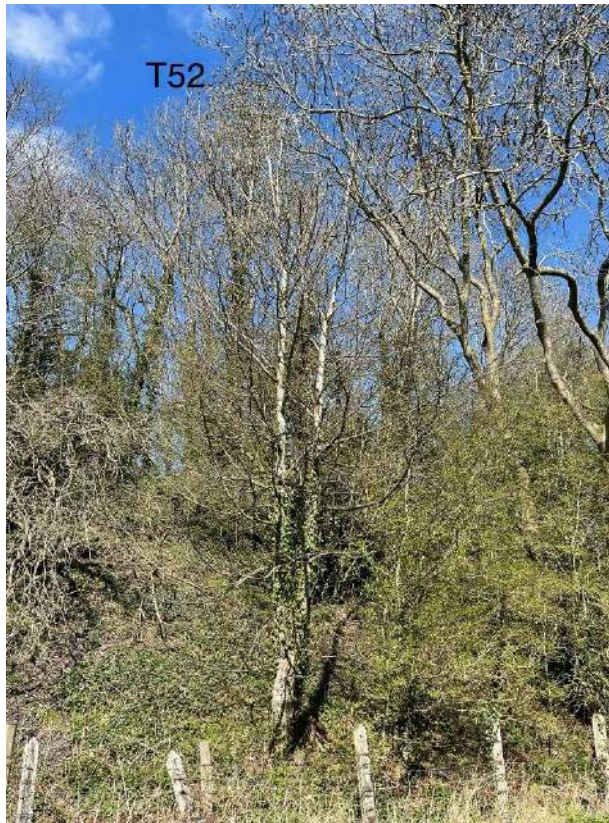
T50



T51

T51





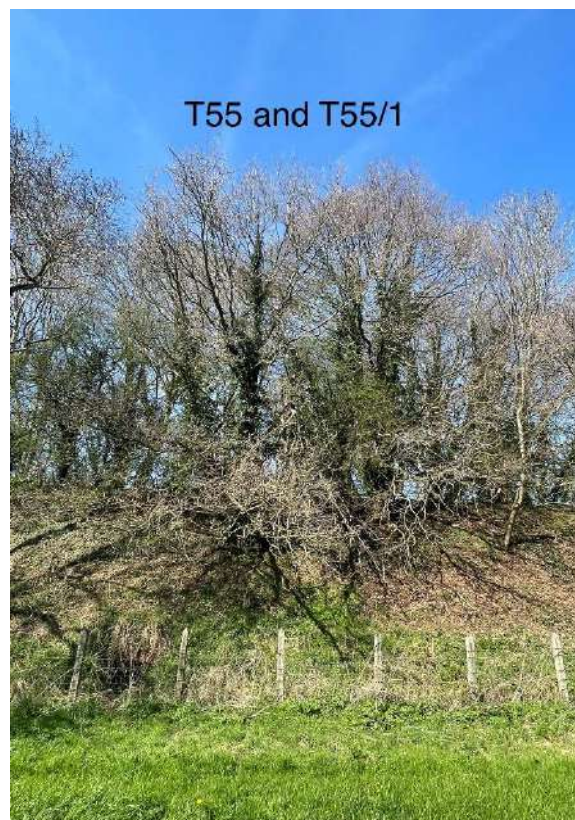
T52



G53



T54



T55 / T55\_1





T56

T56



T57

T57



T58

T58



G59

G59





T60



G61



G61



T62

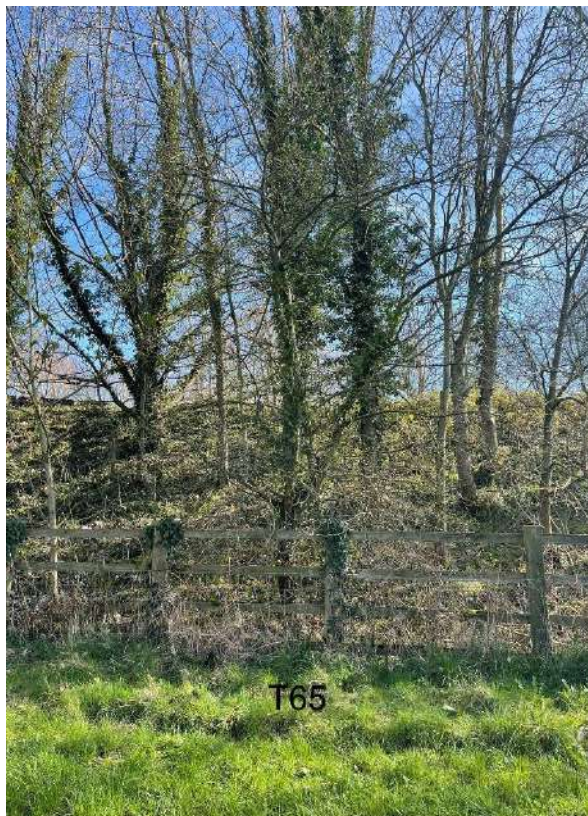




T63



T64



T65



T66





T67

T67



G68

G68



T69

T69



F70

F70 (Post and Rail Fence Covered in  
Bramble)





H111

H111



T112

T112



G154

G154



T155

T155





T156



H157



H157

## APPENDIX 4: BRITISH STANDARD CASCADE CHART

## BRITISH STANDARD

BS 5837:2012

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
<b>Trees unsuitable for retention (see Note)</b>		
<b>Category U</b> 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	<ul style="list-style-type: none"> <li>Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>	See Table 2
<b>Trees to be considered for retention</b>		
	<p><b>1 Mainly arboricultural qualities</b></p> <p>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)</p> <p><b>2 Mainly landscape qualities</b></p> <p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p> <p><b>3 Mainly cultural values, including conservation</b></p> <p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	See Table 2
<b>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</b>		
<b>Category B</b> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	<p>Trees that might be included in category A, but are 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</p> <p>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</p>	See Table 2
<b>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</b>		
<b>Category C</b> 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	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p> <p>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</p>	See Table 2



## APPENDIX 5: BARRIERS

### Barriers

**6.2.2.1** Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.

**6.2.2.2** The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts, as illustrated in Figure 2. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. If the presence of underground services precludes the use of driven poles, an alternative specification should be prepared in conjunction with the project arboriculturist that provides an equal level of protection. Such alternatives could include the attachment of the panels to a free-standing scaffold support framework.

**6.2.2.3** Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority. For example, 2 m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (Figure 3a). Where the fencing is to be erected

Figure 3 Examples of above-ground stabilizing systems

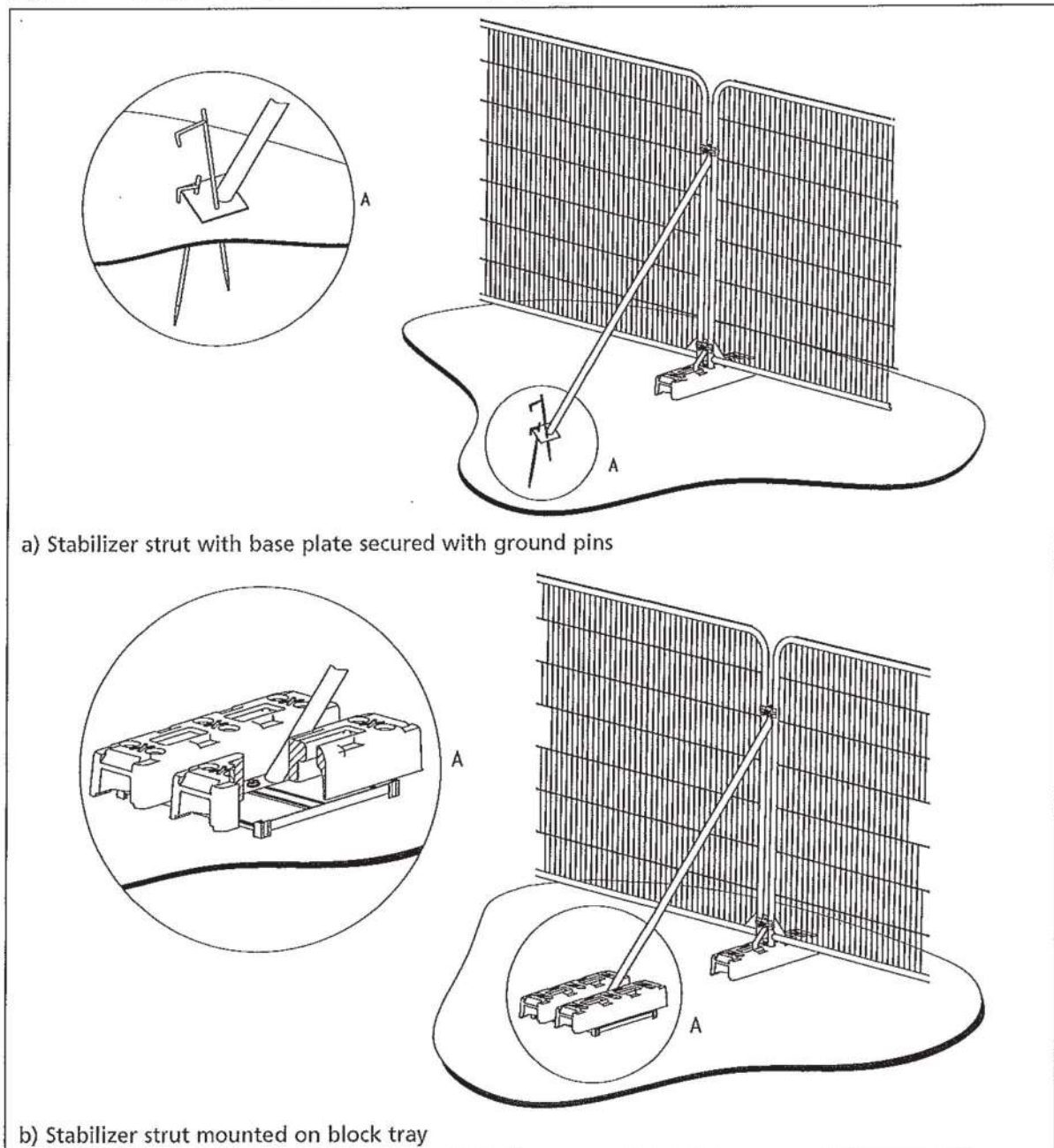
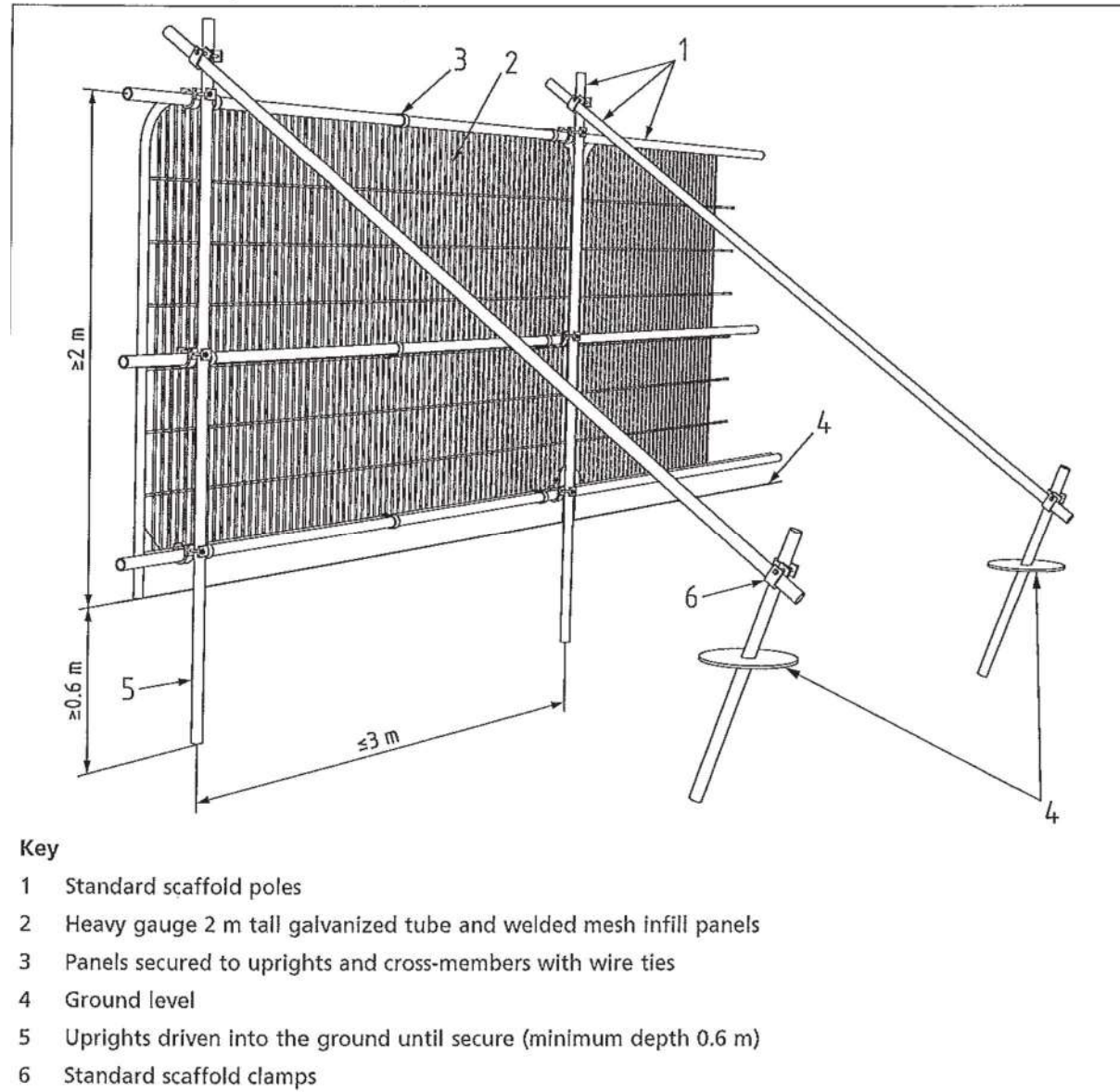


Figure 2 Default specification for protective barrier



## APPENDIX 6: REFERENCES

Arboricultural Practice Note No 12 'Through the Trees to Development' by Derek Patch and Ben Holding 2007.


BS5837: 2012 Trees in Relation to Design, Demolition and Construction Recommendations.

Diagnosis of ill-health in trees by R.G. Strouts and T.G Winter

Trees Pests and Diseases an arborists field Guide. Arboricultural Association.

Barrell Tree Consultancy: Buildings near trees.





# Trees in relation to design, demolition and construction – Recommendations



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