

Arboricultural Impact Assessment/Method Statement

Proposed Organic Poultry Unit Land at Cae Mor, Llwynmawr, Llangollen, LL20 7BE

Prepared for:

E & J MORRIS

Our Ref: 21/AIA/WXM/272

January 2021

Tree Solutions Ltd

T: 01244 389114

E: info@tree-solutions.co.uk

W: www.tree-solutions.co.uk

Contents:

1.0	Instruction
2.0	Statutory Controls & Planning Policy
3.0	The Site
4.0	Development Proposal
5.0	General Constraints Data – Construction Exclusion Zones
6.0	Survey Methodology
7.0	Juxtaposition of Trees & Structures
8.0	Demolition/Development Impact to Trees
9.0	Proposed Revisions
10.0	Conclusions
11.0	Limiting Conditions

<i>Appendix 1</i>	Tree Survey Schedule
<i>Appendix 2</i>	Arboricultural Impact Plan
<i>Appendix 3</i>	Tree Protection Plan
<i>Appendix 4</i>	Tree Protection Measures/Method Statement

1.0 INSTRUCTION

- 1.1 We have been instructed by E & J Morris to carry out an Arboricultural Impact Assessment (AIA) & Method Statement in order to assess the development proposal in relation to trees in accordance with the principles of British Standard 5837 'Trees in Relation to Design, Demolition & Construction - Recommendations' 2012.
- 1.2 We are instructed to prepare a report in order to provide information to assist all parties involved in the planning process to make balanced judgements regarding arboricultural features in relation to the proposed organic poultry units on land at Cae Mor, Llwynmawr. As such, all significant trees within influencing distance to the development proposal both on and adjoining the site have been surveyed and are listed within a Tree Survey Schedule (**Appendix 1**) and plotted on all accompanying plans.
- 1.3 The tree survey was carried out on 22/01/2021 by Alistair Henderson, Principal Consultant to Tree Solutions Ltd. Our appraisal of the mechanical integrity of trees on the site is enough to inform the current project. The assessment of trees is carried out from ground level without invasive investigation and the disclosure of hidden defects cannot therefore be expected. Whilst the survey is not specifically commissioned to report on matters of tree safety, we report obvious defects that are significant in relation to the existing and proposed land use. We do not carry out detailed safety inspections unless specifically instructed to do so in writing and have not carried out such inspections of trees on the proposal site.
- 1.4 Eleven individual trees (T1–T11) and three groups (G1–G3) were surveyed and mapped on a Preliminary Tree Constraints & Impact Assessment Plan Ref: 20/AIA/WXM/261 Drawing No. 1 & 2 at **Appendix 2**. All arboricultural information recorded during the survey is presented within a schedule at **Appendix 1**.
- 1.5 The Arboricultural Impact Assessment is based on the site layout, Drawing No: RB-MZ555-01 provided by Roger Parry & Partners.

2.0 STATUTORY CONTROLS & PLANNING POLICY

- 2.1 We have been unable to ascertain if any trees within this survey are subject to a Tree Preservation Order. You are advised to seek confirmation on this from Wrexham County Borough Council prior to undertaking any tree works not granted consent under this planning application.

2.2 Protected Species

- 2.2.1 Mature trees often contain cavities, crevices and hollows that offer potential habitat for species such as bats and barn owls. Both are afforded protection under the Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), as well as The Conservation (Natural Habitats, &c) (Amendment) Regulations 2007.

2.3 Wildlife Habitats

- 2.3.1 Trees and hedgerows of most species provide valuable nesting sites for a wide range of birds and it is likely that nesting birds will be present on the site during the period March to September.

3.0 THE SITE

- 3.1 The site is located within agricultural land to the north of the B4579 and west of Cae Mor Farm. The surrounding land use is agricultural.

4.0 DEVELOPMENT PROPOSAL

- 4.1 Organic poultry units with associated vehicular access.

5.0 GENERAL CONSTRAINTS DATA - CONSTRUCTION EXCLUSION ZONES (CEZ's)

5.1 GENERAL

5.1.1 The three phases of an AIA were outlined in Section 1. In addition, during the development process for retention trees, there may be three and even four constraints to consider: Construction Exclusion Zone (CEZ's):

- CEZ 1: Root Protection Area (see 5.2)
- CEZ 2: Tree Crown Protection (see 5.3)
- CEZ 3: Tree Dominance (see 5.4)
- CEZ 4: New Tree Planting Zone (see 5.5)

CEZ's are explained below:

5.2 CEZ 1: ROOT PROTECTION AREA (RPA)

5.2.1 The RPA, calculated in m², should be protected before and during any demolition/construction works. This ensures the effective retention of trees by safeguarding a reliable quantum of functioning tree roots. The RPA is based on a radial measure from the centre of the tree stem, which is calculated by multiplying the stem diameter by a factor of twelve or by the (mean stem diameter²) x number of stems for multi-stemmed trees. With the AIA 1, the RPA is only shown indicatively on the preliminary TCP, as its shape may be subject to amendment as the design progresses.

5.2.2 During the AIA 2, the derived radial measure is converted by the arboriculturalist into the actual area to be protected, having due regard to prevailing site conditions and how these may have affected the tree(s), particularly in relation to factors affecting their likely rooting disposition. The RPA for each tree should initially be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.

5.2.3 The means of protecting the RPA will include the installation of tree protective fencing prior to the start of any demolition or construction work on site. The prohibition of various activities within the RPA must be adhered to (e.g. mechanical excavation, soil stripping, fire lighting, material storage, lowering levels and creating excessive sealed surfacing) and may include the use of temporary ground protection and/or special engineering solutions where construction is proposed near to retention trees or within the RPA.

5.3 CEZ 2: TREE CROWN PROTECTION ZONE

5.3.1 This is the area above ground occupied by the crown (branches) of the tree, along with allowances for working space (safe working area) and if appropriate, for future growth. The extent of CEZ 2 is determined by considering the existing and future crown spread of the tree(s), bearing in mind the possibility of this being modified by an acceptable quantum of pruning.

5.4 CEZ 3: TREE DOMINANCE ZONE

5.4.1 N/A due to nature of application being agricultural and not residential.

5.5 CEZ 4: NEW PLANTING ZONE

5.5.1 In some cases, it may be appropriate to identify and protect areas intended for new landscape planting, which can fail to establish if the soil has been heavily compacted or contaminated during the demolition/construction process. The means of protecting CEZ 4 will either be by fencing it off prior to the start of works on site, or by soil remediation once construction has finished (and prior to the start of planting). Topsoil protection in areas destined for new planting is frequently an economy measure, saving on plant replacement and soil structure remediation. This is not applicable to this proposal.

6.0 SURVEY METHODOLOGY

6.1 The method used in the preparation of this report is based on the principles of BS 5837: 2012.

1. Tree heights were surveyed to the nearest 1m.
2. Trunk diameters were measured by use of forestry girth tape
3. The category assessment (Table 1) on which the trees is based include current and long-term arboricultural, landscape, cultural and conservation values (BS5837: 2012). This table can be found at **Appendix 1**
4. For clarity, the grading system is summarised from **Table 2** of the BS as follows:

U grade – trees for removal, effective for less than 10 years

A grade – trees of high quality and value, effective for more than 40 years

B grade – trees of moderate quality and value, effective for more than 20 years

C grade – trees of low quality and value, effective for 10 years

Note: We have indicated colour coding on the drawing and therefore a monochrome copy should not be relied on.

6.2 SOIL ASSESSMENT

6.2.1 A soil assessment is not required due to the nature of the development.

7.0 JUXTAPOSITION OF TREES AND STRUCTURES

7.1 Below ground constraints

- 7.1.1 The below ground constraints are generally summarised as the root protection area (RPA). The shape of the RPA and its exact location will depend upon arboricultural considerations including likely tolerance of the tree to root disturbance; morphology and disposition of the roots when known influenced by past or existing site conditions; soil type and structure; and topography and drainage.
- 7.1.2 The purpose of the RPA is to prevent physical damage to tree roots and to prevent damage to the soil structure. Tree roots are damaged by soil compaction, changes in soil levels or soil contamination which could reduce tree health and/or stability.
- 7.1.3 Root patterns are affected by topography and characteristics of the soil or substrate. Where trees are located within proximity to existing hard standing or underground physical barriers, they are unlikely to have an even distribution of lateral roots due to restrictions in root growth created by compacted sub-grades beneath. The RPA of all trees have been plotted unmodified as there were no significant barriers to prevent radial root spread.

7.2 Underground Services

- 7.2.1 There are no proposed service runs within the RPA of retained trees.

8.0 DEVELOPMENT IMPACT TO TREES

- 8.1 Tree Solutions carried out a phase one preliminary tree survey and provided the project architects with a report in which all existing trees and their respective Root Protection Areas (RPA) were identified and plotted on a Tree Constraints Plan and Impact Assessment Plan. As such the principals of BS5837: 2012, WCBC Planning Policy EC4 and LPG 17 have been adhered to.
- 8.2 One tree (G2) requires removal in order to accommodate the new vehicular access. This is a low- grade Rowan that has been layed on the past during boundary hedge management. This has resulted in 3 subsequent stem that grown up from the layed coppice stool. The old stool is hollow and contains substantial decay within. It is therefore clear that irrespective of this development proposal that this tree would require re-coppicing in the near future. It is not a visually prominent tree to the locale and its removal will have no adverse impact on the landscape character and setting.

- 8.3 The location of the proposed poultry units is well clear of all retained trees and a significant distance from their designated RPA's. The construction of the units is possible with no adverse impact to the health and vitality of any trees and those within any influencing distance will be protected during the works. We can therefore see no valid arboricultural grounds for refusal.



P1 – G1 – past coppiced Sycamore clear of proposed vehicular access track



P2 – G2 – Decayed Rowan to be removed to accommodate the new vehicular access track



P3 – T4, 5, G2 & Hawthorn hedge along field boundary to south of proposed units



P4 – Site viewed from south



P5 – G3, mature trees beyond western boundary & well clear of development

9.0 PROPOSED REVISIONS TO THE SCHEME

- 9.1 We advise that all proposed revisions having implications for trees should be referred to us for review.

10.0 CONCLUSIONS

- 10.1 BS 5837: 2012 contains clear and current recommendations for a best practice approach to the assessment, retention, and protection of trees on development sites. The proposed development has followed this guidance by:
- Seeking arboricultural advice and undertaking a phase 1 preliminary tree survey in order to inform the layout and design of the proposed development
 - Respecting the constraints posed to development of the site by high or moderate quality trees
 - Acting upon arboricultural advice throughout the design process in order to obtain the best development proposal whilst considering the current and future tree requirements
 - No trees of any significant value lost to development
 - Proposed siting well clear of retained trees and outside any zone of influence
- 10.2 The protection of retained trees will be in accordance with recommendation contained within the BS and as detailed on the Tree Protection Plan at **Appendix 3**.

11.0 LIMITING CONDITIONS

- Unless stated otherwise:
- Information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of the inspection.
- The inspection is limited to visual examination of the subject trees from ground level only and without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.
- This report has been prepared for the sole use and benefit of the client. Any liability of Tree Solutions shall not be extended to any third party.
- No part of this report can be reproduced without the authorisation of *Tree Solutions Ltd*.

Appendix One

Tree Survey Schedule

TREE SURVEY SCHEDULE (BS5837: 2012)

SITE:	CAE MOR, LLWYNMAWR, LLANGOLLEN, LL20 7BE
CLIENT:	E & J MORRIS
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	A. HENDERSON
ASSESSMENT DATE:	22/01/2021
VIEWING CONDITIONS:	CLEAR
JOB REFERENCE:	21/AIA/WXM/272

TREE NO. T - Tree G - Group H - Hedge	SPECIES (COMMON NAME)	AGE	HEIGHT (m) + CROWN CLEARANCE/ DIRECTION OF GROWTH (N.S.E.W)	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM DIA. (mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T1	Ash	FM	18 4N	9	5	6	5	800 500 (943)	G	- Fully mature tree on roadside - Co-dominant stems from 1m - Large diameter dead wood & dieback in crown - Past limb failures with tear out wounds - E.R.C.20	- Requires crown cleaning to remove dead/dying and dangerous limbs - Monitor for Ash Dieback	B2	11 69m²
T2	Sycamore	M	16 4S	7	5	5	5	780	G	- No obvious defects - Ground levels raised around base of stem - E.R.C.20	No works	B2	9.4 275m²
T3	Sycamore	EM	15	5	5	4.5	3	≤350	M	- Multiple stems from past coppice during hedge laying – average stem diameter 350mm - Extensive basal decay in coppice stool - E.R.C. 10	Will require re-coppicing in future as decay becomes more widespread	C2	4.2 55m²
T4	Willow	M	14 1S	5.5	4	5	4	510	G	- Decay in main scaffold limb to north - No significant defects - E.R.C.10	No works	B2	6 118m²
T5	Birch	M	15	5	4	2.5	4	390	G	- No obvious defects - E.R.C.20	No works	B2	4.7 70m²
T6	Rowan	FM	9	3	3	3	2	160x6 (392)	G	- Multi-stem from past coppice during boundary hedge management - E.R.C.10	No works	C3	4.7 70m²

HEADINGS & ABBREVIATIONS

TREE NO.
SPECIES:
AGE RANGE/LIFE STAGE:
HEIGHT:
CROWN SPREAD:
CROWN CLEARANCE & DIRECTION OF GROWTH:
STEM DIA/MULTI-STEM DIA:
VITALITY:
E.R.C. = ESTIMATED REMAINING CONTRIBUTION:
BS 5837 CATEGORY & SUB-CATEGORY GRADING:
BS 5837 RADIUS & BS 5837 RPA:

REFERENCE NUMBER. REFER TO PLAN OR NUMBERED TAGS WHERE APPLICABLE (T = TREE, G = GROUP, H = HEDGE)
COMMON NAME (LATIN NAMES AVAILABLE ON REQUEST)
Y = YOUNG, SM = SEMI MATURE, EM = EARLY MATURE, M = MATURE, PM = POST MATURE
ESTIMATED AND RECORDED IN METRES. APPROXIMATELY 1 IN 10 TREES ARE MEASURED USING A CLINOMETER AND THE REMAINDER ESTIMATED AGAINST THE MEASURED TREES
MAXIMUM CROWN RADIUS MEASURED TO THE FOUR CARDINAL COMPASS POINTS FOR SINGLE SPECIMENS ONLY (MEASUREMENT FOR TREE GROUPS - MAXIMUM RADIUS OF THE GROUP)
HEIGHT IN METERS OF CROWN CLEARANCE ABOVE ADJACENT GROUND LEVEL (TO INFORM ON GROUND CLEARANCE, CROWN/STEM RATIO AND SHADING)
STEM DIAMETER - MEASURED AT APPROXIMATELY 1.5 METRES ABOVE GROUND LEVEL OR A COMBINATION OF STEMS FOR MULTI-STEMMED TREES
A MEASURE OF PHYSIOLOGICAL CONDITION. D = DEAD, MD = MORIBUND, P = POOR, M = MODERATE, G = GOOD
RELATIVE USEFUL LIFE EXPECTANCY (YEARS)
A = HIGH QUALITY AND VALUE, B = MODERATE QUALITY AND VALUE, C = LOW QUALITY AND VALUE, U = UNSUITABLE FOR RETENTION (SUB-CATEGORY REFERS TO ARBORICULTURAL, LANDSCAPE AND CULTURAL/CONSERVATION VALUES)
PROTECTIVE DISTANCE - RADIUS FROM THE CENTRE OF THE STEM TO THE LINE OF TREE PROTECTION (CONSTRUCTION EXCLUSION ZONE - CEZ) AND PROTECTIVE BARRIER ROOT PROTECTION AREA - BS 5837 (2012) ANNEX D (THE RECOMMENDATIONS STATE THAT THE RPA SHOULD BE CAPPED AT 707 M²) NOTE – ALL CALCULATIONS ROUNDED TO NEAREST DECIMAL

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CAE MOR, LLWYNMAWR, LLANGOLLEN, LL20 7BE
CLIENT:	E & J MORRIS
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	A. HENDERSON
ASSESSMENT DATE:	22/01/2021
VIEWING CONDITIONS:	CLEAR
JOB REFERENCE:	21/AIA/WXM/272

PAGE 2 OF 2

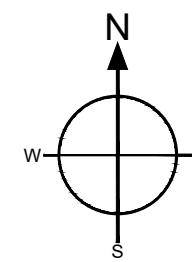
TREE NO. T - Tree G - Group H - Hedge	SPECIES (COMMON NAME)	AGE	HEIGHT (m) + CROWN CLEARANCE/ DIRECTION OF GROWTH (N.S.E.W)	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA. (mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T7	Sycamore	M	17 4S	2	7	6	7	800	G	- Closed canopy with T8 - Decay at base to north - E.R.C.20	No works	B2	9.6 290m²
T8	Sycamore	M	16	8	5	4.5	8	800	M/P	- Coppiced in past - Main central stem has large open decay cavity at base – within buttress/stool - Past large diameter crown failures - E.R.C.10	No works at present but will require remedial works in near future	B2	9.6 290m²
T9	Sycamore	M	12 1N	5	4	6	4	400 350x2 (636)	G	- Multi-stem tree with no obvious defects - E.R.C. 20+	No works	B2	7.6 183m²
T10	Sycamore	M	17	6	7	7	8	900	G	- Longitudinal crack below main union - E.R.C.20	Monitor for signs of movement in crack	B2	10.8 366m²
T11	Willow Alder	M	13	5	5	4	6	520	G	2 trees at 1m centre forming 1 closed canopy specimen - Dead wood & dieback in crowns - E.R.C.20	No works	B2	6.2 122m²
G1	Sycamore Holly x 1	M	≤13 3S	4.5	4.5	4.5	4.5	≤350	G	- Linear group along field boundary - All coppiced in past as part of hedge laying - Extensive decay within coppiced stool area - E.R.C.10-20	Monitor decay at base and re-coppice if necessary	B2	4.2 55m²
G2	Rowan	FM	9	3	3	3	2	160x6 (392)	G	4 stems from horizontal butt as a result of past layering - Extensive decay in butt – stems will likely fail irrespective of works - E.R.C.0	Remove for access track	C1	4.7 70m²
G3	Sycamore x 3 Ash x 1	M	≤15	4	4	4	4	≤600	G	- Field boundary trees well clear of proposed development - E.R.C.20+	No works	B2	7.2 163m²

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
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 a 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, and irreversible overall decline - 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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
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 trees or wood-pasture)	See Table 2
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 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	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	Trees with material conservation or other cultural value	See Table 2
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	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 Table 2

Appendix Two

Impact Assessment Plan



Direction of slope

Legend

Root Protection Area
Modified to Account for
Site Features

Category

Root Protection Area

Crown Spread

Tree Number

Category A
(High Quality)

Category B
(Moderate Quality)

Category C
(Low Quality)

Category U
(Dead/Dying/In Decline)

Tree Proposed for Removal

NOTE: Tree/group numbers marked with an * have approximate locations.

Client:	E & J Morris		
Project:	Land at Cae Mor Farm, Llwynmawr, Llangollen, LL20 7BE		
Title:	Arboricultural Impact Assessment		
Scale:	1:500 @ A1	Date:	Jan 2021
Drawn By:	NB	Revision:	-
Job Ref:	21/AIA/WXM/272	Drawing No:	01

Do not scale from this drawing all dimensions to be checked on site.

The copyright of this document resides with Tree Solutions unless assigned in writing by the company

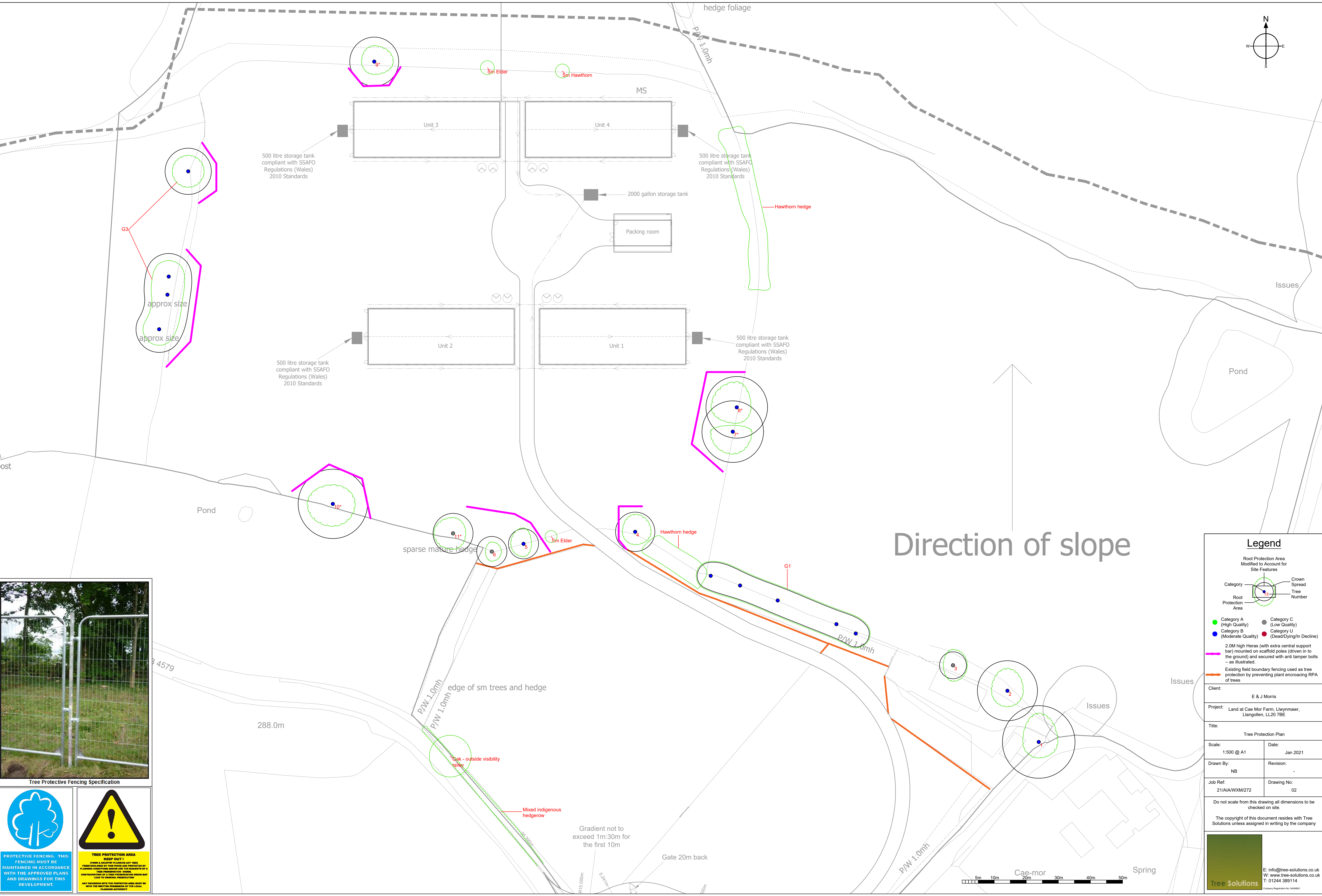
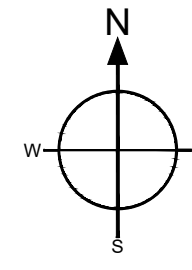
Tree Solutions

E: info@tree-solutions.co.uk
W: www.tree-solutions.co.uk
T: 01244 389114

Company Registration No: 5648851

Appendix Three

Tree Protection Plan



Direction of slope



Tree Protective Fencing Specification

PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

TREE PROTECTION AREA

KEEP OUT! (GREEN & COUNTRY PLANNING ACT 1968) TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE THE SUBJECT OF A TREE PROTECTION ORDER. ANY BREACH OF THIS FENCE OR ANY REMOVAL OF TREES MAY LEAD TO CRIMINAL PROSECUTION. ANY ENCROACHMENT INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY.

Legend

Root Protection Area Modified to Account for Site Features

Category A (High Quality) Category B (Moderate Quality) Category C (Low Quality) Category U (Dead/Dying/In Decline)

2.0M high Heras (with extra central support bar) mounted on scaffold poles (driven in to the ground) and secured with anti tamper bolts – as illustrated.

Existing field boundary fencing used as tree protection by preventing plant encroaching RPA of trees

Client: E & J Morris	
Project: Land at Cae Mor Farm, Llwynmawr, Liangollen, LL20 7BE	
Title: Tree Protection Plan	
Scale: 1:500 @ A1	Date: Jan 2021
Drawn By: NB	Revision: -
Job Ref: 21/AIA/WXM/272	Drawing No: 02

Do not scale from this drawing all dimensions to be checked on site.

The copyright of this document resides with Tree Solutions unless assigned in writing by the company

Tree Solutions

E: info@tree-solutions.co.uk
W: www.tree-solutions.co.uk
T: 01244 389114
Company Registration No: 3048951



Appendix Four
Tree Protective Measures/Method Statement

SEQUENCE OF OPERATIONS

From commencement of the above development, the following methodology shall be implemented in the manner and sequence described:

1. Tree Surgery Works
2. Erect temporary protective fencing
3. Main construction phase
4. Removal of temporary fencing
5. Landscaping within RPA's

1. Tree Surgery Works

1. Before the erection of the temporary protective fencing, all tree removal shall be implemented in accordance with the Tree Survey Schedule at **Appendix 1**
2. All possible efforts must be made to prevent damage to retained trees including potential root incursion or compaction caused by vehicle access.
3. All arboricultural works shall conform to the recommendations of BS 3998 (2010) 'Recommendations for Tree Work'
4. All operatives shall be equipped with and use personal protective equipment (PPE) in accordance with current Health & Safety Executive current directives and industry codes of practice.
5. Performance of all arboricultural operations and use of equipment shall be in accordance with current Health & Safety Executive current directives and industry codes of practice

2. Erect Temporary Tree Protective Fencing

1. Prior to commencement of any construction, preparation, excavation, or material deliveries the main contractor shall erect the temporary protective fencing as detailed in the 'Tree Protection Specification' and in the location indicated on the Tree Protection Plan.
2. Wirral Council Tree Officer is to be given 5 days written notice as soon as all protective fencing has been erected in order to inspect the specification and location. An inspection report will be completed and returned to the LPA Tree Officer for approval. Any damage occurring to protective fencing during the demolition or construction phase shall be made good by the main contractor

3. Main Construction Phase

1. There shall be no storage of construction material, site parking, site accommodation or equipment in any area designated as the Root Protection Area (RPA) and Construction Exclusion Zone (CEZ) and enclosed by Temporary Protective Fencing
2. No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained. No fires will be lit
3. The site agent shall supervise deliveries by self-loading crane, with vehicles positioned in such a manner that retained trees are not at risk of damage

Cement Mixing

- The cement mixer will be laid on top of plywood boards in a position outside the RPA of any trees. The mixer will be kept in this position throughout all development work.

Avoiding Damage to Stems and Branches

- Care shall be taken when planning site operations in proximity to trees to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious injury resulting in safe retention impossible

On Site Storage of Spoil and Building Materials

- Prior to and during all site construction works no spoil will be stored and no cement mixing will take place within the Root Protection Area of any tree on or adjacent to the site even if proposed site work is to be within the crown spread. Any encroachment within this protected area will only be with the prior agreement of the LPA Arboricultural Officer

4. Remove all Temporary Tree Protective Fencing

1. Tree Protective fencing will only be removed upon completion of all construction work and once all machinery associated with the works has left site.

5. Landscaping within RPA of Trees

1. There shall be **no rotovating** of ground within any area designated as a Root Protection Area (RPA) and Construction Exclusion Zone (CEZ) and enclosed by Temporary Protective Fencing.
2. No hard landscaping works or excavation for cables or any other service should be installed within the Root Protection Area (RPA) and Construction Exclusion Zone (CEZ) without the written consent of the LPA

Useful Contacts

Arboricultural Consultant

Name: Alistair Henderson
Tel: 01244 389114
Mobile: 07766 774508
Email: alistair@tree-solutions.co.uk

LPA Arboricultural Officer

Name: Jon Brewin
Tel: 01978 298763
Email: jon.brewin@wrexham.gov.uk

TREE PROTECTIVE FENCING

- 1 Before the commencement of any site excavations and subsequent construction works (other than those set out in the schedule of tree works contained in this document), protective fencing will be erected as detailed on the Tree Protection Plan and as specified below. The LPA Tree Officer will be given 5 days' notice upon completion of the fencing to inspect and approve prior to the commencement of any site works.
- 2 The fencing will consist of a scaffold framework in accordance with Figure 2 of BS 5837 – 2012 (illustration below) comprising a metal framework, both vertical and horizontal, well braced to resist impacts. Vertical tubes will be spaced at a maximum interval of 3m. Onto this, weldmesh panels shall be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not considered resistant to impact and for this reason will not be used. The site manager or other suitably qualified appointed person will be responsible for inspecting the protective fencing daily; any damage to the fencing or breaches of the fenced area will be rectified immediately.
- 3 Clearly legible weatherproof signage, stating "Protected Trees – Exclusion Zone" shall be attached to the fencing 1.5m from the ground, facing out of the Tree Protection Zone located at regular intervals along the fence line
- 4 The fencing will remain in place until completion of all site works and then only removed when all site traffic is removed from site
- 5 Other than works detailed within this method statement or approved in writing by the Local Planning Authority (LPA), no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

Protective Fencing Detail

The fence types are shown on the Tree Protection Plan with the following colour key: -

1. **Magenta** - 2.0M high heavy-duty Heras panels (with extra central support bar) mounted on scaffold poles (driven into the ground) and secured with anti-tamper bolts – as illustrated below.



Tree Protective Fencing Specification