TREE SOLUTIONS



Arboricultural Impact Assessment

The Barn, Coed Derwyn, Erbistock

Prepared for:

MR & MRS EVANS

Our Ref: 24/AIA/WXM/322

August 2024

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1.0 INSTRUCTION

1.1 We have been instructed by Mr & Mrs Evans (the applicant) to carry out an Arboricultural Impact Assessment (AIA) 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 to provide information to assist all parties involved in the planning process to make balanced judgements regarding arboricultural features in relation to the proposed garage and external works at The Barn, Coed Derwyn, Erbistock, LL13 0DN. As such, all 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 stage 1 tree survey was carried out on 30 July 2024 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 Three individual trees (T1–T3) and one group (G1) were surveyed and mapped on a Preliminary Tree Constraints & Impact Assessment Plan Ref: 24/AIA/WXM/322, Drawing Nos. 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 latest layout plan MSW 187, Drawing No: PRST01 provided by Willacy Horsewood Architects.

2.0 STATUTORY CONTROLS & PLANNING POLICY

2.1 We have been unable to ascertain if any trees are subject to a Tree Preservation Order. As such you are advised to seek confirmation on this prior to undertaking any works to trees.

2.2 Planning applications will be assessed against Planning Policy Wales Framework (2024), WCBC Planning Policy EC4 and PPG 17.

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 application site contains redundant farm buildings that are partially derelict. The only trees present are those detailed within this report.

4.0 DEVELOPMENT PROPOSAL

4.1 Demolition and redevelopment works.

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

5.1 GENERAL

5.1.1 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.

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.

5.3.2 No access facilitation pruning is required as works are located clear of all canopy spreads.

5.4 CEZ 3: TREE DOMINANCE ZONE

5.4.1 N/A as trees are proposed for removal.

5.5 CEZ 4: NEW PLANTING ZONE

5.5.1 Refer to landscape proposals.

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:

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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 N/A as trees are proposed for removal.

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 roots are likely to extend beneath the adjacent lane and barn.

7.2 Underground Services

7.2.1 N/A as trees are proposed for removal.

8.0 DEVELOPMENT IMPACT TO TREES

8.1 Tree Solutions carried out a stage one preliminary tree survey and provided the project architect with a report in which all existing trees and their respective Root Protection Areas (RPA) were identified and plotted on a tree constraints and impact assessment plan.

8.2 As part of the redevelopment of the site, extensive new landscape works are proposed that will include new native trees and hedgerows. This will mitigate the loss of trees and ensure good quality tree cover to the locale well into the future whereby safeguarding the rural landscape character and setting. Whilst unfortunate to lose any trees, T1, 3 and G1 are small insignificant specimens that offer little if any amenity or landscape value, they will be coppiced as part of the boundary hedgerow reinstatement works. T2 is a small Oak of moderate value and is adversely impacted by the proposed garage foundations. The applicants intend to remove the tree and replace it with new Oaks planted on the boundaries.

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P1 – Trees & ancillary farm buildings viewed from within the site



P2 – Trees viewed from lane to NE

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 to inform the layout and design of the proposed development
- Trees removed will all be replaced by the extensive new landscape works that will radically enhance the landscape character and setting
- Taking the above into consideration, we can see no viable Arboricultural grounds for refusal.

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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.
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Appendix One

Tree Survey Schedule

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TREE SURVEY SCHEDULE (BS5837: 2012)

TREE SOLUTIONS

SITE:	THE BARN, COED DERWYN, ERBISTOCK
CLIENT:	MR & MRS EVANS
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	A. HENDERSON
ASSESSMENT DATE:	30 JULY 2024
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	24/AIA/WXM/322

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) N	S	E	W	STEM/ MULTI-STEM* DIA. (mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m^2)
T1	Holly	EM	7	3	2	2	3	200	G	• Small insignificant tree • E.R.C. 10	• Coppice as part of boundary hedgerow works	C3	2.4 18m²
T2	Oak	EM	12 1S	3	5.5	5.5	5.5	600	G	• Located on verge of lane and abuts northern gable of barn • Small cavity on stem to north • Ivy clad impeding inspection around base • Roots likely to extend beneath adjacent lane due to shallow subgrade • E.R.C. 20+	• Remove & replace as part of extensive new landscaping	B2	7.2 163m²
T3	Hawthorn	SM	6	1	1	1.5	1.5	100	M	• Overgrown boundary hedge plant • E.R.C. 10	• Coppice as part of boundary hedgerow works	C3	1.2 5m²
G1	Holly x 2	Y	≤4	1.5	1.5	1.5	1.5	≤90	M	• Small diameter naturally colonised trees of no value • Dieback & reduced vigour evident in crown • E.R.C. 10	• Remove	C3	1 4m²

HEADINGS & ABBREVIATIONS

TREE NO.	REFERENCE NUMBER. REFER TO PLAN OR NUMBERED TAGS WHERE APPLICABLE (T = TREE, G = GROUP, H = HEDGE)
SPECIES:	COMMON NAME (LATIN NAMES AVAILABLE ON REQUEST)
AGE RANGE/LIFE STAGE:	Y = YOUNG, SM = SEMI MATURE, EM = EARLY MATURE, M = MATURE, PM = POST MATURE
HEIGHT:	ESTIMATED AND RECORDED IN METRES. APPROXIMATELY 1 IN 10 TREES ARE MEASURED USING A CLINOMETER AND THE REMAINDER ESTIMATED AGAINST THE MEASURED TREES
CROWN SPREAD:	MAXIMUM CROWN RADIUS MEASURED TO THE FOUR CARDINAL COMPASS POINTS FOR SINGLE SPECIMENS ONLY (MEASUREMENT FOR TREE GROUPS - MAXIMUM RADIUS OF THE GROUP)
CROWN CLEARANCE & DIRECTION OF GROWTH:	HEIGHT IN METERS OF CROWN CLEARANCE ABOVE ADJACENT GROUND LEVEL (TO INFORM ON GROUND CLEARANCE, CROWN/STEM RATIO AND SHADING)
STEM DIA/MULTI-STEM DIA:	STEM DIAMETER - MEASURED AT APPROXIMATELY 1.5 METRES ABOVE GROUND LEVEL OR A COMBINATION OF STEMS FOR MULTI-STEMMED TREES
VITALITY:	A MEASURE OF PHYSIOLOGICAL CONDITION. D = DEAD, MD = MORIBUND, P = POOR, M = MODERATE, G = GOOD
E.R.C. = ESTIMATED REMAINING CONTRIBUTION:	RELATIVE USEFUL LIFE EXPECTANCY (YEARS)
BS 5837CATEGORY & SUB-CATEGORY GRADING:	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)
BS 5837 RADIUS & BS 5837 RPA:	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 M^2) NOTE – ALL CALCULATIONS ROUNDED TO NEAREST DECIMAL

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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			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

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Appendix Two

Preliminary Tree Constraints Plan

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Legend

Root Protection Area Modified to Account for Site Features

Category
Crown Spread
Tree Number
Root Protection Area

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

Client:
Mr & Mrs Evans

Project:
The Barn, Coed Derwyn, Erbistock, Wrexham, LL13 0DN

Title:
Preliminary Tree Constraints Plan

Scale:	Date:
1:250 at A3	August 2024
Drawn By:	**Revision:**
SD	-
Job Ref:	**Drawing No:**
24/AIA/WXM/322	01

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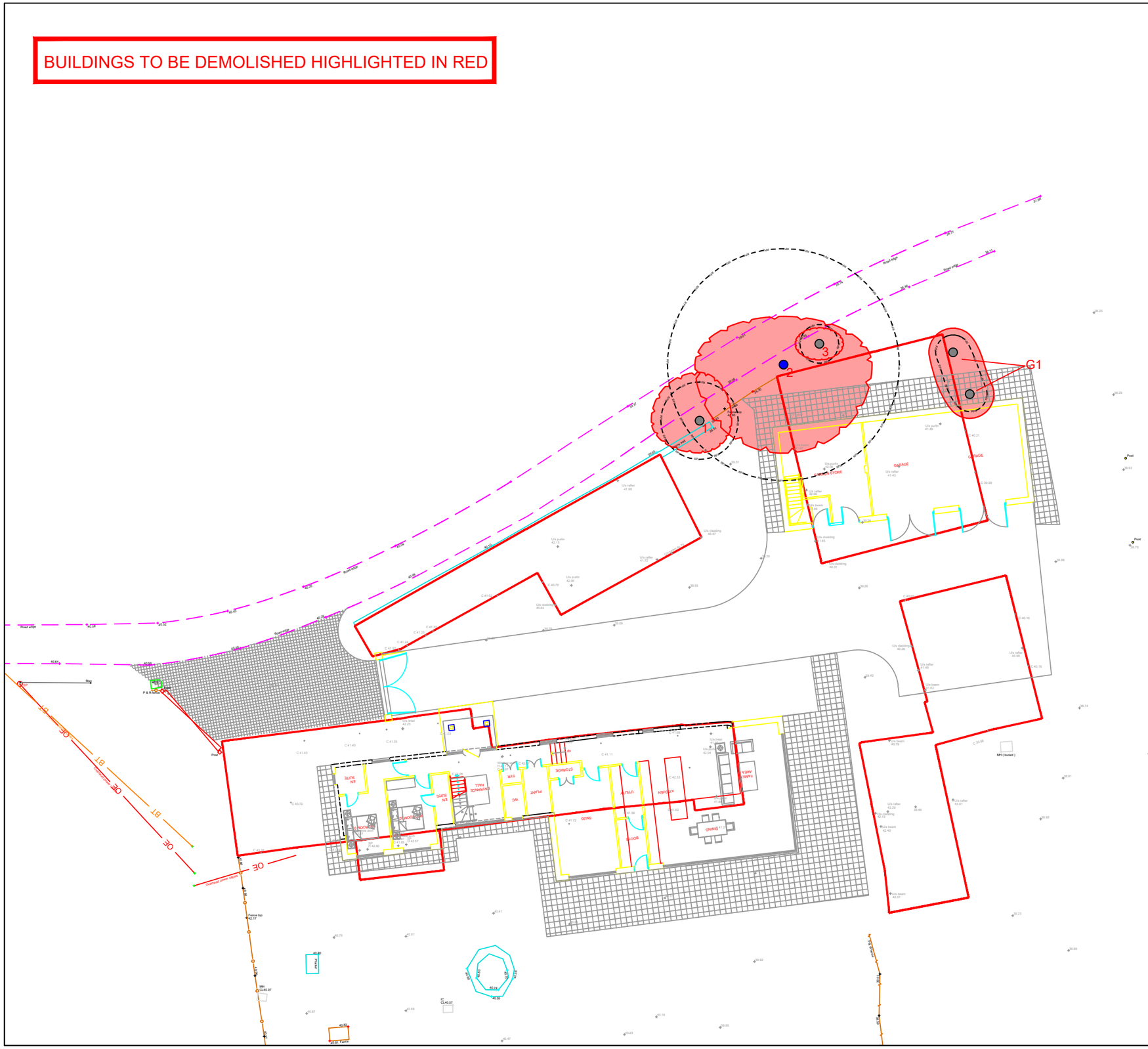
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Appendix Three

Impact Assessment Plan

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BUILDINGS TO BE DEMOLISHED HIGHLIGHTED IN RED



Legend

Root Protection Area Modified to Account for Site Features

Category — Crown Spread

Root Protection Area — Tree Number

- Category A (High Quality)
- Category B (Moderate Quality)
- Category C (Low Quality)
- Category U (Dead/Dying/In Decline)
- Tree Proposed for Removal

Client: Mr & Mrs Evans	
Project: The Barn, Coed Derwyn, Erbistock, Wrexham, LL13 0DN	
Title: Arboricultural Impact Assessment	
Scale: 1:250 at A3	Date: August 2024
Drawn By: SD	Revision: -
Job Ref: 24/AIA/WXM/322	Drawing No: 02

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