

## **Arboricultural Impact Assessment & Method Statement**

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### **Maes Emlyn, Rhyl**

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Prepared for:

DENBIGHSHIRE COUNCIL

Our Ref: 22/AIA/DEN/78

February 2023

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## 1.0 INSTRUCTION

- 1.1 We have been instructed by Denbighshire County Council to carry out an Arboricultural Impact Assessment (AIA) 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 development at Maes Emlyn, Rhyl. 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 08 November 2022 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 Thirty-nine individual trees (T1-T39) and four groups (G1-G4) were surveyed and mapped on a Preliminary Tree Constraints & Impact Assessment Plan Ref: 22/AIA/DEN/78, 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 site layout plan Ref: MEH-TACP-PS-ST-DR-A-701 (Rev D) provided by the TACP Architects.

## 2.0 STATUTORY CONTROLS & PLANNING POLICY

- 2.1 A search on Denbighshire County Council (DCC) interactive maps revealed that there is a Tree Preservation Order covering the western half of the site Ref: Rhyl Urban District Council TPO 1951. This is however listed as a Group Order but is incorrect as it does not specify the species or number of trees covered within the group and as such it is not possible to say with any certainty which ones are protected. Furthermore, the Order was served in 1952 so many of the trees within this group will not have been present at the time the Order was served making the Order almost completely unenforceable. The land does not fall within a designated Conservation Area. The applicant is advised to seek clarification on what trees are protected by the Order prior to undertaking any works not granted consent under this planning application.

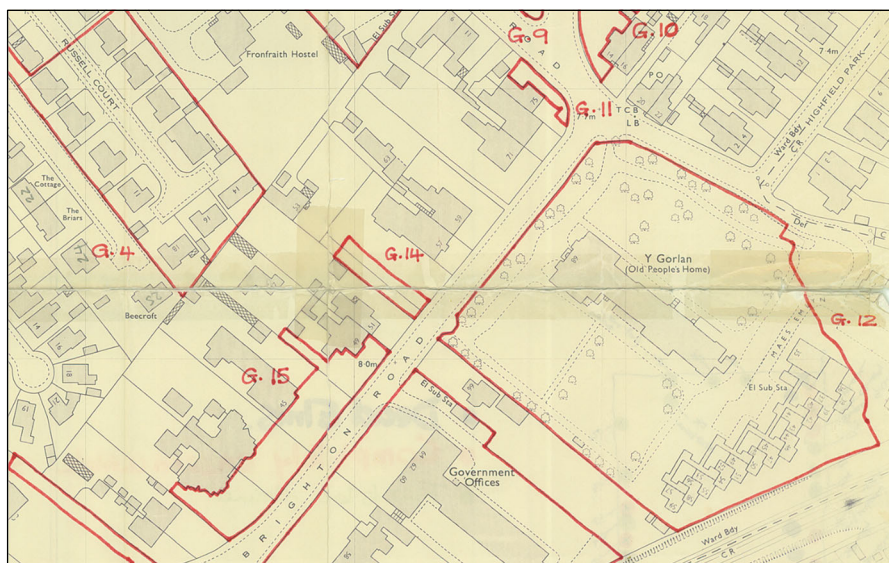


Plate 1 – Extract from TPO 1951 showing location of group 12

G.10	Mixed Hardwoods	"Abingdon", Churton Road, Rhyl.
G.11	Mixed Hardwoods	"Maybarn", Brighton Road, Rhyl.
G.12	Mixed Hardwoods	The William and John Jones' Convalescent Home, Brighton Road, Rhyl.
G.13	Mixed Hardwoods	"Heathville", "Chaddarsley", and

## 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. Refer to Ecology report.

## 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 Former sheltered housing site set within communal landscaped grounds. A railway line is located beyond the southern boundary with residential dwellings beyond all other boundaries. Trees are located within the areas of open space with the most notable in the northern corner adjacent to the site entrance.

## 4.0 DEVELOPMENT PROPOSAL

4.1 Demolition of existing sheltered housing and replacement with new residential dwellings with associated vehicular access and parking.

## 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 m<sup>2</sup>, 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 diameter<sup>2</sup>) 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. The canopies of retained trees are well clear of any new dwelling and given the mature age and species of the trees, we would not anticipate any requirement to undertake crown reduction work in the future.

### 5.4 CEZ 3: TREE DOMINANCE ZONE

- 5.4.1 Whilst trees are located to the south of some dwellings, they do offer an important visual screen to the railway line beyond. It is inevitable that these trees will cast shade to the rear gardens during some hours of the day, there is however sufficient gaps between the tree cover to allow direct light from the south and all dwellings along the southern boundary have an open aspect to the east and west allowing for morning and evening sunlight. Given the above we do not foresee any animosity towards the trees from future residents.

### 5.5 CEZ 4: NEW PLANTING ZONE

- 5.5.1 Refer to Above Zero 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:

**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 should be undertaken by a competent person to inform decisions relating to:

- the root protection area (RPA)
- tree protection
- new planting design; and
- foundation design to take account of retained, removed and new trees (potential soil subsidence/heave)

Tree Solutions do not undertake soil assessments and the client is advised to seek specialist advice in this respect.

## 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 trees adjacent to buildings have been modified and are shown running around the edge of the building and then extending further in the opposite direction where a more favourable rooting environment exists. All other RPA's have been plotted unmodified as there were no significant underground barriers to prevent good radial root spread.

### 7.2 Underground Services

- 7.2.1 We have considered the broad implications of the provision of underground services but the locations of existing and proposed were not identified on the plans supplied by the Project Architect and in this regard, our advice is of a general nature.
- 7.2.2 Drainage and service runs may need to be constructed within the rooting areas of retained trees. If this is a requirement of the development it will be necessary to retain significant roots and methods of excavation, such as thrust boring or hand digging, may need to be adopted to ensure that these impacts are acceptable.
- 7.2.3 As with foundation design, low impact construction methods for services installation are now well established. For more information regarding underground services, reference should be made to the National Joint Utilities Group (NJUG) Publication No. 10. Volume 4 '*Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*' 2007.

## 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. We are therefore satisfied that the application is in accordance with Denbighshire County Council Planning Policies and recommendations contained with BS5837: 2012.
- 8.2 In order to accommodate the proposed development it will be necessary to remove tree numbers 1, 2, 22, 27-29, 30, 31, 34 and group 4. Tree numbers 1, 2, 28, 29 and 30 are small insignificant specimens with low amenity or landscape value as they are not prominent from outside the site boundary. As such, they have been categorised as 'C' grade i.e. of low quality and value. The removal of these trees will have no significant adverse impact on the landscape character and setting of the locale as they can be easily replaced by new better-quality specimens with the areas of open space as detailed within the landscape proposals. Such trees should not form a material consideration of planning. Tree numbers 27, 31, 34 and group 4 have been categorised as 'B' grade i.e. of moderate quality and value. Unfortunately, many of these trees have undergone unsympathetic pruning in the past that has reduced the amenity value they afford and will ultimately diminish their long-term health and vitality. Tree numbers 27 and 31 are screened by the adjacent properties and are not visually prominent as a result. Their removal will largely be unnoticed. Tree number 34 has been badly topped in the past leaving large decay columns in the parent stem. It is an unsuitable specimen to retain within the context of a residential development particularly adjacent to any high target area such as POS. If retained it would need to be pollarded and kept as a pollard by repeated crown reduction work. It is our view that this tree is better removed now and replaced by new planting in order to ensure good quality/healthy tree cover in the area. Group 4 is a Hawthorn hedge that requires removal to facilitate the road widening. This will be replaced by a new hedgerow planted along the northern boundary in order to provide good green boundary treatment and screening for the dwellings beyond.

8.3 As an advisory, we have also recommended the removal of tree number 11 and group 1 as these trees are very poor-quality specimens with multiple physiological and morphological disorders. They cannot be realistically retained within the context of a residential development and should receive appropriate remedial tree surgery works irrespective of this development proposal. Tree numbers 12, 19, 20 and 24 are dead and have been categorised a 'U' grade.

8.4 There is one construction impact to retained trees as listed below:

1. The proposed new pedestrian footpaths and parking bays encroach within the RPA of tree numbers 14, 23, 32, 33, 36 and 38. In order to comply with the provisions of the BS these sections of new hard standing will be installed to a no-dig design specification using a three-dimensional cellular confinement system such as 'Cellweb' which will involve the installation of a layer of plastic cells appropriate for the perceived weight of traffic i.e. 75mm for pedestrian footpath and 150mm for parking bays. The cells will be back filled with a free draining washed stone that contains no fines in order to help maintain adequate gaseous diffusion for tree roots below. The top dressing will be a porous tarmac or other material to be agreed with the LPA. This specification complies with recommendations contained within para. 7.2 of BS5837: 2012. A detailed design and specification will be submitted by the project structural engineer for approval by the Council.

8.4 The best quality and most visually significant trees have been retained within the new development in order to ensure the amenity they afford the area is maintained well into the future. We are satisfied that with appropriate protection measures, these trees can be incorporated well into the new housing and construction is possible with no adverse impact to their current or future health and vitality.

## 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
- Ensuring the best quality and most visually significant trees are retained and appropriately protected within the context of this development
- Taking the above into consideration, we can see no valid arboricultural grounds for refusal

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 4**.

## 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)

<b>SITE:</b>	MAES EMLYN, RHYL
<b>CLIENT:</b>	DENBIGHSHIRE COUNCIL
<b>BRIEF:</b>	ARBORICULTURAL IMPACT ASSESSMENT

<b>SURVEYOR:</b>	A HENDERSON
<b>ASSESSMENT DATE:</b>	08/11/2022
<b>VIEWING CONDITIONS:</b>	GOOD
<b>JOB REFERENCE:</b>	22/AIA/DEN/78

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TREE NO. <small>T - Tree G - Group H - Hedge</small>	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 (m <sup>2</sup> )
				N	S	E	W						
T1	Whitebeam	SM	4	1	0.5	1.5	1.5	130	M/P	<ul style="list-style-type: none"> <li>Small insignificant tree</li> <li>E.R.C. 0</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C1	1.5 8m <sup>2</sup>
T2	Crab Apple	EM	5	2	3	4	1.5	280	G	<ul style="list-style-type: none"> <li>Leans 20° east of vertical</li> <li>Dead limb to east</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C2	3.4 35m <sup>2</sup>
T3	Whitebeam	SM	2.5	2	1.5	2	1	130	M	<ul style="list-style-type: none"> <li>As T1</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	C1	1.5 8m <sup>2</sup>
T4	Whitebeam	SM	3.5	1.5	2	1.5	1.5	180	G	<ul style="list-style-type: none"> <li>No obvious defects</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	C3	2 15m <sup>2</sup>
T5	Alder	EM	10	3	1	0.5	5	250	G	<ul style="list-style-type: none"> <li>Asymmetric crown form</li> <li>Group value only</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	3 28m <sup>2</sup>
T6	Alder	EM	11	3	3	1.5	3.5	320	G	<ul style="list-style-type: none"> <li>As T5</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	3.8 46m <sup>2</sup>
T7	Alder	EM	13	1	4	3	5	480	G	<ul style="list-style-type: none"> <li>As T5</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	5.7 104m <sup>2</sup>

## HEADINGS & ABBREVIATIONS

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

# TREE SURVEY SCHEDULE (BS5837: 2012)

<b>SITE:</b>	MAES EMLYN, RHYL
<b>CLIENT:</b>	DENBIGHSHIRE COUNCIL
<b>BRIEF:</b>	ARBORICULTURAL IMPACT ASSESSMENT

<b>SURVEYOR:</b>	A HENDERSON
<b>ASSESSMENT DATE:</b>	08/11/2022
<b>VIEWING CONDITIONS:</b>	GOOD
<b>JOB REFERENCE:</b>	22/AIA/DEN/78

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TREE NO. <small>T - Tree G - Group H - Hedge</small>	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 (m <sup>2</sup> )
				N	S	E	W						
T8	Sycamore	EM	14	5	3.5	2	2	≤500	M	<ul style="list-style-type: none"> <li>Multi-stem from past coppice</li> <li>Topped &amp; dead wood throughout crown</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Crown clean</li> </ul>	C2	6  113m <sup>2</sup>
T9	Sycamore	EM	13	4.5	3	3	2.5	≤460	G	<ul style="list-style-type: none"> <li>Off-site tree with no access to survey</li> <li>On railway siding</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>3<sup>rd</sup> party tree – no works</li> </ul>	B2	5.5  96m <sup>2</sup>
T10	Sycamore	EM	13	3	4	3	4	≤360	G	<ul style="list-style-type: none"> <li>As T9</li> </ul>	<ul style="list-style-type: none"> <li>As T9</li> </ul>	B2	4.3  59m <sup>2</sup>
T11	Maple	SM	13	4	0	1	1.5	180	P	<ul style="list-style-type: none"> <li>All crown bias north due to proximity to T12</li> <li>Low grade tree</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C2	2  15m <sup>2</sup>
T12	Elm									<ul style="list-style-type: none"> <li>Dead</li> </ul>	<ul style="list-style-type: none"> <li>Remove</li> </ul>	U	N/A
T13	Maple	EM	12	1	1	2	3	260	G	<ul style="list-style-type: none"> <li>Drawn crown form due to suppression</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove if required</li> </ul>	C2	3  31m <sup>2</sup>
T14	Sycamore	M	15	5	3	5	5.5	650	G	<ul style="list-style-type: none"> <li>Poor crown form due to poor past management</li> <li>Offers screen to railway</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	7.8  191m <sup>2</sup>
T15	Sycamore	EM	13	1.5	4.5	4	3	400	G	<ul style="list-style-type: none"> <li>Crown lifted, multiple pruning wounds and asymmetric form</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	C2	4.8  72m <sup>2</sup>
T16	Maple	Y	9	0.5	1	1	1	100	G	<ul style="list-style-type: none"> <li>Small insignificant tree</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove if required</li> </ul>	C3	1.2  5m <sup>2</sup>

# TREE SURVEY SCHEDULE (BS5837: 2012)

<b>SITE:</b>	MAES EMLYN, RHYL
<b>CLIENT:</b>	DENBIGHSHIRE COUNCIL
<b>BRIEF:</b>	ARBORICULTURAL IMPACT ASSESSMENT

<b>SURVEYOR:</b>	A HENDERSON
<b>ASSESSMENT DATE:</b>	08/11/2022
<b>VIEWING CONDITIONS:</b>	GOOD
<b>JOB REFERENCE:</b>	22/AIA/DEN/78

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TREE NO. <small>T - Tree G - Group H - Hedge</small>	SPECIES (COMMON NAME)	AGE	HEIGHT (m) + CROWN CLEARANCE/ DIRECTION OF GROWTH (N.S.E.W)	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* D/A (mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m)  RPA (m <sup>2</sup> )
				N	S	E	W						
T17	Sycamore	M	14	5.5	3	4	4.5	550	G	<ul style="list-style-type: none"> <li>No obvious defects</li> <li>Part of linear group that provides screen to railway line</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	6.6  137m <sup>2</sup>
T18	Sycamore	M	14	4	2.5	3	4	650	M	<ul style="list-style-type: none"> <li>Cavities on stem from past limb removals</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	7.8  191m <sup>2</sup>
T19	Elm								MD	<ul style="list-style-type: none"> <li>Moribund</li> </ul>	<ul style="list-style-type: none"> <li>Remove</li> </ul>	U	N/A
T20	Elm								MD	<ul style="list-style-type: none"> <li>Moribund</li> </ul>	<ul style="list-style-type: none"> <li>Remove</li> </ul>	U	N/A
T21	Maple	Y	5	1	1	1	3	100	M	<ul style="list-style-type: none"> <li>Small insignificant tree</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C2	1.2  5m <sup>2</sup>
T22	Sycamore	M	15	4.5	2	3	4.5	580	G	<ul style="list-style-type: none"> <li>Cavities on stem from past limb removals</li> <li>Topped in past</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C2	7  152m <sup>2</sup>
T23	Sycamore	M	12	1	4	4.5	4.5	520	G	<ul style="list-style-type: none"> <li>Forms closed canopy with T22</li> <li>Crown reduced in past</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	6.2  122m <sup>2</sup>
T24	Elm								D	<ul style="list-style-type: none"> <li>Dead</li> </ul>	<ul style="list-style-type: none"> <li>Remove</li> </ul>	U	N/A
T25	Sycamore	SM	14	2.5	2.5	2	2	270	G	<ul style="list-style-type: none"> <li>Small self-set tree located off-site</li> <li>E.R.C. 0</li> </ul>	<ul style="list-style-type: none"> <li>3<sup>rd</sup> party tree</li> </ul>	C1	3.2  33m <sup>2</sup>
T26	Horse Chestnut	M	16	7	5	7	3	600	G	<ul style="list-style-type: none"> <li>Located off site with no access to survey</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>3<sup>rd</sup> party tree – no works</li> </ul>	B2	7.2  163m <sup>2</sup>

**TREE SURVEY SCHEDULE (BS5837: 2012)**

<b>SITE:</b>	MAES EMLYN, RHYL
<b>CLIENT:</b>	DENBIGHSHIRE COUNCIL
<b>BRIEF:</b>	ARBORICULTURAL IMPACT ASSESSMENT

<b>SURVEYOR:</b>	A HENDERSON
<b>ASSESSMENT DATE:</b>	08/11/2022
<b>VIEWING CONDITIONS:</b>	GOOD
<b>JOB REFERENCE:</b>	22/AIA/DEN/78

TREE NO. <small>T - Tree G - Group H - Hedge</small>	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 (m <sup>2</sup> )
				N	S	E	W						
T27	Horse Chestnut	M	12	5.5	4	4	4	770	M	<ul style="list-style-type: none"> <li>Low canopy tree located too close to existing buildings</li> <li>Reduced vigour and appears stressed &amp; in decline</li> <li>Not visually prominent outside site boundary</li> <li>No long-term viability</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	B2	9.2  268m <sup>2</sup>
T28	Rowan	SM	5	4	1.5	1.5	3.5	160	G	<ul style="list-style-type: none"> <li>Small insignificant tree</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C2	51.9  12m <sup>2</sup>
T29	Cherry	EM	5	3	1.5	3	3	310	G	<ul style="list-style-type: none"> <li>As T28</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C2	3.7  43m <sup>2</sup>
T30	Cherry	SM	4	2.5	4	1.5	2.5	100	P	<ul style="list-style-type: none"> <li>Low grade tree of no existing or future value/viability</li> <li>Easily replaced with better quality specimen tree/s</li> <li>E.R.C. 0</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	C1	1.2  5m <sup>2</sup>
T31	Malus	EM	3.5	3	3	3	3	230	G	<ul style="list-style-type: none"> <li>Attractive small trees with no visual defects</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	B2	2.7  24m <sup>2</sup>
T32	Whitebeam	M	12	4	3	3	1	520	G	<ul style="list-style-type: none"> <li>Asymmetric crown form due to heavy suppression by T33</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	6.2  122m <sup>2</sup>
T33	Horse Chestnut	EM	12	5	3	3	3	390 400 260  (586)	M/G	<ul style="list-style-type: none"> <li>Multi-stemmed from base</li> <li>Topped in past</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>Crown reduce back to previous pruning points</li> </ul>	B2	7  155m <sup>2</sup>

# TREE SURVEY SCHEDULE (BS5837: 2012)

<b>SITE:</b>	MAES EMLYN, RHYL
<b>CLIENT:</b>	DENBIGHSHIRE COUNCIL
<b>BRIEF:</b>	ARBORICULTURAL IMPACT ASSESSMENT

<b>SURVEYOR:</b>	A HENDERSON
<b>ASSESSMENT DATE:</b>	08/11/2022
<b>VIEWING CONDITIONS:</b>	GOOD
<b>JOB REFERENCE:</b>	22/AIA/DEN/78

PAGE 5 OF 6
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TREE NO. <small>T - Tree G - Group H - Hedge</small>	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 (m <sup>2</sup> )
				N	S	E	W						
T34	Horse Chestnut	M	13	5	4	3	3.5	850	M/P	<ul style="list-style-type: none"> <li>Topped leaving large diameter decay column in main stem below wound</li> <li>Secondary crown formed above weak stem &amp; past pruning points</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>Remove for development</li> </ul>	B2	10 327m <sup>2</sup>
T35	Alder	EM	13	3	2.5	2.5	2.5	300	G	<ul style="list-style-type: none"> <li>Good quality tree – worth retaining</li> <li>E.R.C. 20</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	3.6 41m <sup>2</sup>
T36	Horse Chestnut	M	16	3	4.5	4	3	730	G	<ul style="list-style-type: none"> <li>Part of amenity group</li> <li>No obvious defects</li> <li>E.R.C. 20+</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	8.7 241m <sup>2</sup>
T37	Sycamore	EM	16	7	1	3	3.5	590	G	<ul style="list-style-type: none"> <li>As T36</li> <li>All crown bias north</li> <li>E.R.C. 20+</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	7 157m <sup>2</sup>
T38	Sycamore	EM	15	7	4	5	4	560	G	<ul style="list-style-type: none"> <li>Topped in past – secondary crown above</li> <li>E.R.C. 20+</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	B2	6.7 142m <sup>2</sup>
T39	Willow (Grey)	EM	9	3	5.5	4	4.5	380	G	<ul style="list-style-type: none"> <li>Main leader to north removed leaving decay in stool</li> <li>Remaining stem leans 20° south or vertical with bias south</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>Coppice</li> </ul>	C2	6 113m <sup>2</sup>
G1	Rowan	SM	≤3.5	1.5	1.5	1.5	1.5	≤190	M/P	<ul style="list-style-type: none"> <li>Low quality trees, some in advanced decline</li> <li>E.R.C. 0</li> </ul>	<ul style="list-style-type: none"> <li>Remove &amp; replace with better quality trees</li> </ul>	C1	4.5 65m <sup>2</sup>
G2	Sycamore	SM	≤10	2	2	2	2	≤250	G	<ul style="list-style-type: none"> <li>Linear group located off-site on railway land</li> <li>Provides screen to railway line</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>3<sup>rd</sup> party trees – no works</li> </ul>	C2	3 28m <sup>2</sup>
G3	Whitebeam	EM	3.5	1.5	1.5	1.5	1.5	≤200	M/P	<ul style="list-style-type: none"> <li>Small insignificant trees</li> <li>E.R.C. 10</li> </ul>	<ul style="list-style-type: none"> <li>No works</li> </ul>	C1	2.4 18m <sup>2</sup>

# TREE SURVEY SCHEDULE (BS5837: 2012)

<b>SITE:</b>	MAES EMLYN, RHYL
<b>CLIENT:</b>	DENBIGHSHIRE COUNCIL
<b>BRIEF:</b>	ARBORICULTURAL IMPACT ASSESSMENT

<b>SURVEYOR:</b>	A HENDERSON
<b>ASSESSMENT DATE:</b>	08/11/2022
<b>VIEWING CONDITIONS:</b>	GOOD
<b>JOB REFERENCE:</b>	22/AIA/DEN/78

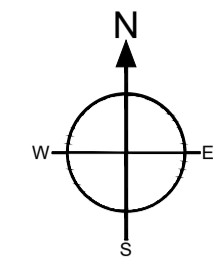
TREE NO. <small>T - Tree G - Group H - Hedge</small>	SPECIES (COMMON NAME)	AGE	HEIGHT (m) + CROWN CLEARANCE/ DIRECTION OF GROWTH (N.S.E.W)	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m)  RPA (m²)
				N	S	E	W						
G4	Hawthorn	EM	5	2.5	2.5	2.5	2.5	200	G	<ul style="list-style-type: none"> <li>Forms hedge feature along boundary</li> <li>E.R.C. 20+</li> </ul>	<ul style="list-style-type: none"> <li>Remove &amp; replace with new hedge along boundary</li> </ul>	B2	2.4  18m²

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
<b>Trees unsuitable for retention</b> (see Note)				
<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 unviable 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</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p>			See Table 2
	<b>1 Mainly arboricultural qualities</b>	<b>2 Mainly landscape qualities</b>	<b>3 Mainly cultural values, including conservation</b>	
<b>Trees to be considered for retention</b>				
<b>Category A</b> <b>Trees of high quality</b> 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
<b>Category B</b> <b>Trees of moderate quality</b> 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
<b>Category C</b> <b>Trees of low quality</b> 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**  
**Preliminary Tree Constraints Plan**





**Legend**

Root Protection Area Modified to Account for Site Features

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

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

Client:	Denbighshire Council		
Project:	Maes Emlyn, Rhyl		
Title:	Preliminary Tree Constraints Plan		
Scale:	1:250 @ A1	Date:	November 2022
Drawn By:	NB	Revision:	-
Job Ref:	22/ASIA/DEN/78	Drawing No:	01

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

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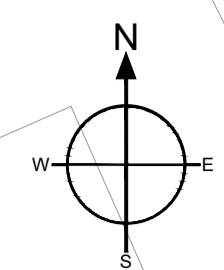


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**Appendix Three**  
**Impact Assessment Plan**



Y GORLAN



**Legend**

Root Protection Area Modified to Account for Site Features

Category A (High Quality) Crown Spread Tree Number

Category B (Moderate Quality)

Category C (Low Quality)

Category U (Dead/Dying/In Decline)

Tree Proposed for Removal

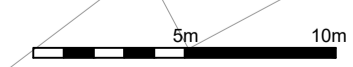
NOTE: Tree/group numbers marked with an \* have approximate locations.

Client:	Denbighshire Council		
Project:	Maes Emlyn, Rhyd		
Title:	Arboricultural Impact Assessment		
Scale:	1:250 @ A1	Date:	February 2023
Drawn By:	NB	Revision:	-
Job Ref:	22/ASIA/DEN/78	Drawing No:	02

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

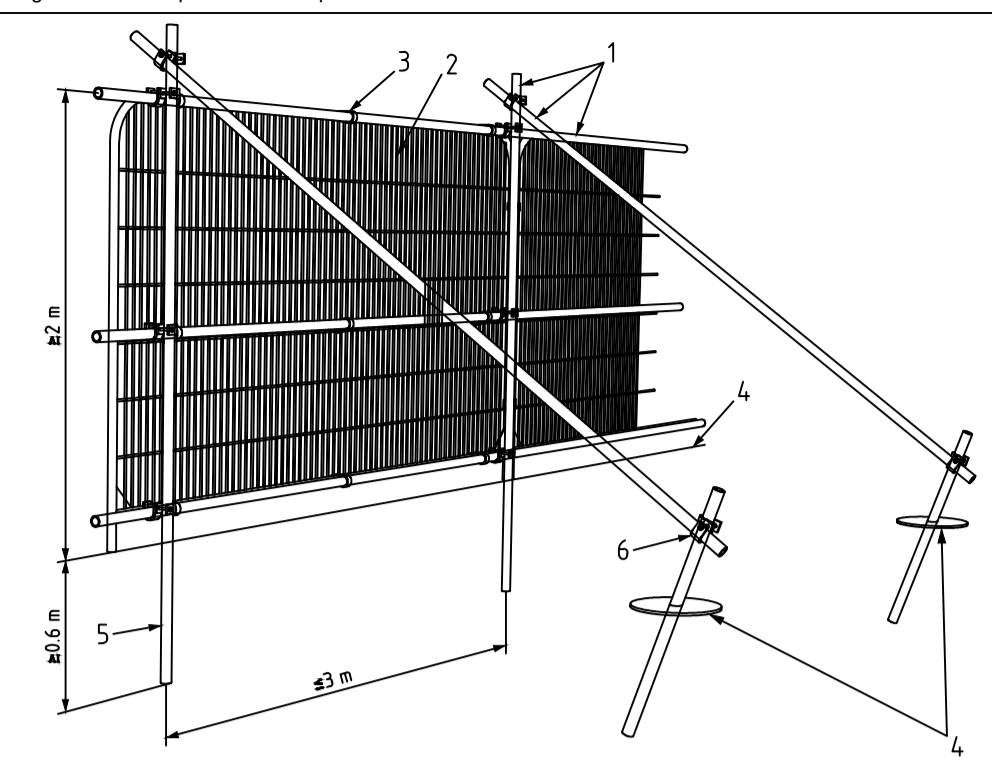
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**Appendix Four**  
**Tree Protection Plan**

Figure 2 Default specification for protective barrier



- Key
- 1 Standard scaffold poles
  - 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
  - 3 Panels secured to uprights and cross-members with wire ties
  - 4 Ground level
  - 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
  - 6 Standard scaffold clamps

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

**TREE PROTECTION AREA**  
**KEEP OUT!**  
(TOWN & COUNTRY PLANNING ACT 1990)  
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.  
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION.  
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY.

**'No-Dig' Hard Surface Construction**

The new hard surface section identified by hatching shall be constructed over the existing ground without excavation other than removal by hand, of surface vegetation and minor (<75mm high) surface irregularities or loose soil to a depth of not more than 150mm.

Any excavation of ground within the hatched area shall be by hand and shall be supervised by the Arboriculturalist.

The new surfacing in the hatched area shall be constructed using the "Geoweb" Cellular Confinement System to enable adequate load bearing capacity to be achieved with minimal depth of construction. All aggregates used in the construction shall contain no-fines, crushed gritstone or sandstone.

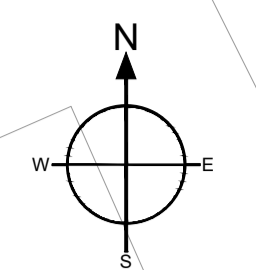
Limestone shall not be used.

The surface wearing course shall be material agreed with the Local Planning Authority.

The construction will be an Engineer designed specification.

Edge restraints or kerbs to the 'no-dig' sections or hard standing shall be constructed without excavation of ground other than that described above.

Final surface levels at either end of the 'no-dig' sections shall be dictated by the final surface levels of the 'no-dig' section, and not vice-versa.



**Legend**

Root Protection Area Modified to Account for Site Features

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

Tree Protection Fencing

Tree Protection Fencing - realigned to secondary location during installation of no-dig sections

No-Dig Surface Installation Areas - Refer to Structural Engineer's Drawing

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

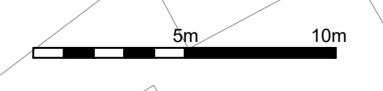
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Project: Maes Emlyn, Rhyl	
Title: Tree Protection Plan	
Scale: 1:250 @ A1	Date: February 2023
Drawn By: NB	Revision: -
Job Ref: 22/ASIA/DEN/78	Drawing No: 03

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**Appendix Five**  
**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 work
2. Erect temporary protective fencing
3. Main demolition/construction phase
4. Removal of bound surface within the RPA of trees
5. Installation of new surface treatment
6. Installation of No-Dig Parking Bays and Footpath Sections
7. Removal of temporary fencing
8. Landscaping within RPA's
9. Arboricultural site supervision

### 1. Tree Surgery Works

1. Before the erection of the temporary protective fencing, all tree removal shall be implemented in accordance with the approved 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
6. Any additional access facilitation pruning required shall be undertaken by qualified tree contractors and conform to the recommendations of BS 3998 (2010) 'Recommendations for Tree Work'

### 2. Erect Temporary Tree Protective Fencing

1. Prior to commencement of any demolition and subsequent 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.

### 3. Main Demolition/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. Removal of Bound Surface within the RPA of Trees

##### Works to be undertaken under supervision of the ACoW

The following steps shall be taken when breaking out the existing tarmac surface:

1. Breaking-out shall be by hand, avoiding damage to the protective bark covering larger underlying tree roots. Excavation will be carried out using pickaxes rather than pneumatic equipment. The use of a mechanical excavator is prohibited.
2. Roots, whist exposed, shall be wrapped in dry (winter), wet (summer) clean Hessian sacking to prevent desiccation and to protect from rapid temperature changes. Roots smaller than 25mm diameter and roots bound to arisings shall be pruned back preferably to a side branch, by use of sharp saw or secateurs. Roots larger than 25mm shall only be severed following consultation with the ACoW
3. No machinery shall pass over the surface once broken out. Arisings shall be picked and removed by manual means.
4. Prior to backfilling any Hessian wrapping shall be removed and retained roots shall be surrounded in at least 35mm of sharp sand or other loose granular fill before any soil is replaced
5. Existing concrete edge restraints should remain in-situ and not be removed

#### 5. Installation of New Surface Treatment within RPA of Trees

1. Upon completion of the removal of the existing bound surface the new surface treatment is to be installed above the existing subbase, any excavation within the RPA of trees is prohibited
2. Existing edge restraints should be utilised
3. Install a permeable wearing course, e.g. porous tarmac placed on the in-situ aggregate.

#### 6. Installation of No Dig Parking Bays and Footpath Sections within RPA of Trees

1. Upon completion of all construction work and removal of all plant and machinery from site, the no-dig section can be installed
2. Tree protective fencing to be realigned to secondary position indicated on Tree Protection Plan in yellow
3. The no-dig sections as indicated with a blue hatch on the Tree Protection Plan shall be constructed using a three-dimensional cellular confinement system in accordance with the project engineers and manufacturers recommendations.
4. Construction shall ideally be undertaken in dry weather when ground is driest and least prone to compaction
5. Ground vegetation should be killed using a translocated herbicide such as glyphosate. To prevent severe oxygen depletion in the soil during the process of decomposition, all dead organic material shall be removed
6. All major protrusions such as rocks and demolition material shall be removed minimizing ground disturbance. All hollows will be filled with sharp sand
7. Permeable matting will then be laid, and the cellular confinement system laid on top and pegged in place.
8. The cellular confinement system will then be installed in accordance with the manufacturer's guidelines using **no-fines** aggregate. Fill the cells working from the area furthest from the tree first. Further filling should be carried out using the filled Cellweb as a platform
9. Edging will be constructed with tantalised boards attached to pegs driven into the ground. Pegs should be long enough to give adequate support during construction
10. Install a permeable wearing course, e.g. porous tarmac or block paving or porous tarmac placed on the aggregate.

##### **11. Under no circumstances is limestone aggregate to be used**

#### 7. 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.



## 8. 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

## 9. Arboricultural Site Supervision – (ACoW)

- 1 The ACoW shall give toolbox talk training with the main contractor/sub-contractor on all tree protective measures and working practice within designated RPA's
- 2 The ACoW shall make visits to site to inspect all tree protection measures prior to works commencing on site and during all key development work within proximity to retained trees and when requested by the contractor.
- 3 A site inspection report with photographs will be submitted to the Council upon completion of all visits

### Useful Contacts

#### Arboricultural Clerk of Works (AcoW)

Name: Alistair Henderson (Tree Solutions Ltd)  
Tel: 01244 389114  
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Email: [alistair@tree-solutions.co.uk](mailto:alistair@tree-solutions.co.uk)

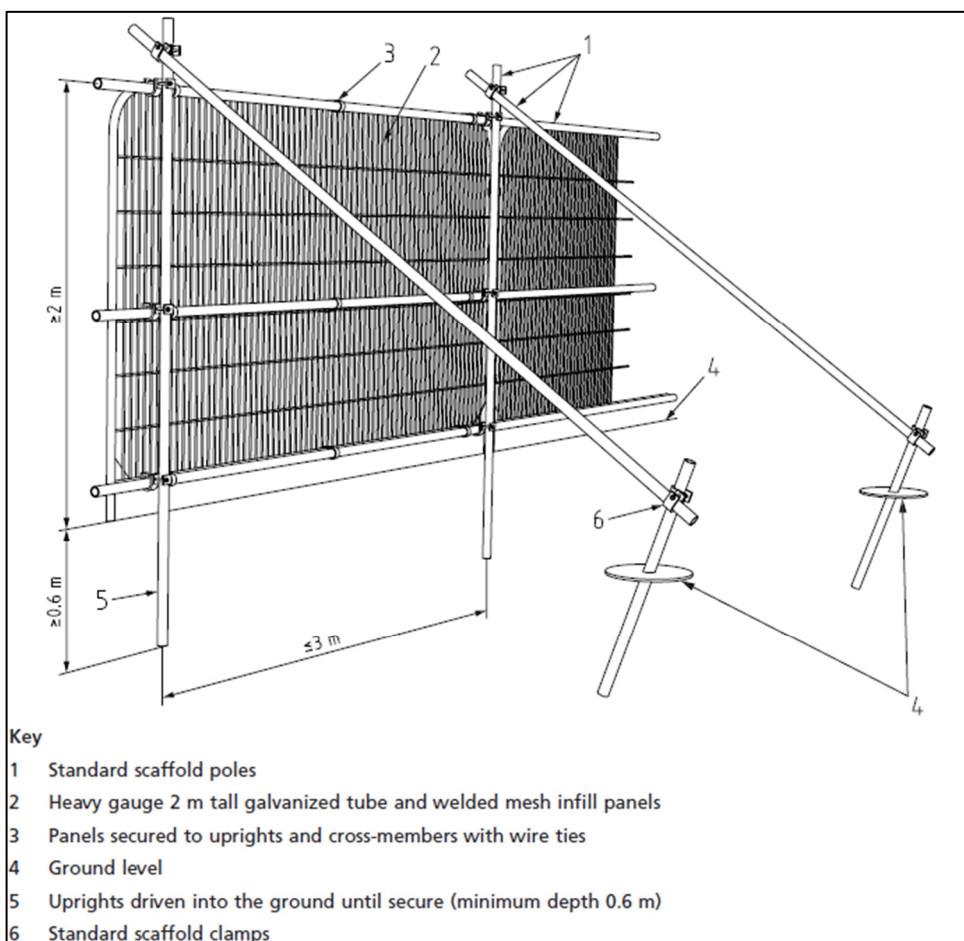
## TREE PROTECTIVE FENCING

- 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 in order 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 on a daily basis; 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**



### 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 !**

**(TOWN & COUNTRY PLANNING ACT 1990)  
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.  
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY**