BS 5837:2012 TREE SURVEY REPORT

DENBIGH QUARRY

FOR THE BREEDON GROUP

PREPARED BY PLEYDELL SMITHYMAN LIMITED

DECEMBER 2019

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Appendices

1.0 INTRODUCTION

1.1 Pleydell Smithyman Limited has been instructed by the Breedon Group to undertake a Tree Survey on land to the west of Denbigh Quarry, which is proposed to allow the expansion of extraction works westwards. Denbigh Quarry is located off Plas Chambres Road, to the north of the town of Denbigh, in Denbighshire.

1.2 The report has been produced to assess the likely impacts to the trees present on site which may be brought by the proposed extension of the quarry.

1.3 As part of this, the report provides details of the structure, condition and quality of individual trees, and tree groups present within the survey area. Specifically the report provides information concerning the approximate size of root protection areas (RPA) of relevant trees which may be affected by the proposed development.

1.4 The survey and assessment has been carried out in accordance with BS5837:2012 'Trees in relation to Design, Demolition and Construction'. A description of the methodology used and limitations and assumptions made during the survey is given in Sections 2 and 5 below.

2.0 LIMITATIONS

2.1 This survey should be regarded as an initial appraisal and observations, assessments or recommendations relating to foundation design, material specification or project design and methods of working are beyond the scope of the study.

2.2 Tree rooting characteristics and soils are both enormously variable, as are their interactions. This makes attempts to quantify subsidence risk assessment impossible. No effort has been made to assess subsidence risk potential nor should any be construed. Obvious structural damage may be noted in the text, but any observations of this nature will be cursory. Further reports from a suitably qualified surveyor or structural engineer will be required.

2.3 Whilst every effort has been made to detect defects relating to the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. Extreme climatic conditions can cause damage to even apparently healthy trees. All recommendations are given in the context of the site's current usage; any change will necessitate a re-inspection.

2.4 Please note that trees are living organisms which are subject to change and best practice dictates that they are inspected on an annual basis for reasons of safety, although lower inspection timescales may be given in the report where it is deemed necessary.

3.0 SITE VISIT

3.1 A site visit to carry out the BS 5837 survey was undertaken on the 11th October 2019 to assess the current condition of the trees present.

4.0 SITE DESCRIPTION

4.1 The land proposed for expansion of the quarry includes pastoral fields to the west of the quarry, as well as a band of trees located between the farmland and the quarry, and the northern extent of woodland which has established on a historic mound of quarry overburden. The survey includes all planting within and adjoining the extraction area and land affected by proposed quarry operations, including new earth mounds.

4.2 The area is located within the administrative area of Denbighshire County Council.

4.3 The site is located at grid reference E:304771, N:367052.

5.0 SURVEY METHODOLOGY

5.1 The following survey is based upon the findings of the visit and the conditions found on the day. This survey provides quantitative data relating to tree species, height, stem, diameter, height and direction of first significant branch, crown spread, age class and a brief qualitative assessment on tree condition and future potential.

5.2 With reference to BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations', an assessment of the tree resource has been undertaken following guidance in BS 5837:2012 and a calculation has been made for the theoretical Root Protection Areas (RPA) as noted in the survey schedule in metres.

5.3 The locations of the trees surveyed are illustrated on the Tree Survey Plan which is included in Appendix 2 of this report.

5.4 Information recorded in the BS 5837 survey includes the following:

- **Sequential Survey Reference Number** – Recorded on the survey plan. Individual trees recorded have been given the prefix 'T' followed by 1,2,3 etc. Tree groups have been given the prefix 'G' followed by 1,2,3 etc. Hedgerows have been given the prefix 'H' followed by 1,2,3 etc.
- **Species** – The species identification is based on visual observations and the common English name is listed first, followed by the botanical name.
- **Tree Heights** – These are estimated in metres.
- **Stem Diameters** – Measured by and recorded in millimetres to the nearest 10mm. In the case of groups of trees, the maximum diameter is recorded.
- **Crown Radius** – Recorded in metres along each cardinal point. In the case of groups the maximum peripheral spread is recorded.
- **Existing Height Above Ground Level** – This is measured in metres, and relates to the first significant branch and direction of growth (e.g 2.5 West) to inform ground clearance, crown stem/ratio and shading.
- **Life Stage –** Recorded as prescribed in BS 5837:2012 (e.g Young (Y), Semi Mature (SM), Early Mature (EM), Mature (M), Over Mature (OM), Veteran (V)).
- **Condition** – Individual assessment of Crown, Stem & Basal area. Overall assessments are made relating to the trees Structural and Physiological Condition (e.g. the presence of any decay and physical defect). In the case of groups and/or woodlands the condition stated will be typical of the feature.
- **Life Expectancy** – estimated; and recorded as follows: Less than 10 years, 10-20 years, 20-40 years, more than 40 years.
- **Retention Category** – given as follows and corresponds with Table 1 of BS 5837:2012 (included within the Appendices section of this report).
    - **A-** **Trees of high quality and value**, including visual amenity value (sub categories 1,2,3). It is usual for such trees to be retained unless the planning merits of a particular scheme or layout over-ride.
    - **B-** **Trees of moderate quality and value**, including visual amenity value (sub categories 1,2,3). Such trees should be considered for retention.

C- **Trees of low quality and value**, including visual amenity value (sub categories 1,2,3).

U- Trees 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.

Sub categories – trees in categories A to C will qualify under one or more of three sub categories (1,2,3). Sub categories 1, 2 & 3 are intended to reflect Arboricultural, Landscape Qualities, and Cultural Values respectively.

The tree survey schedule will list which sub category applies. It is intended that each sub category has equal weight such that, for example, an A1 tree has the same retention priority as an A2 tree. It is possible for a tree to qualify under more than one criterion.

- **Root Protection Area (RPA)** – This is calculated based on the average measure of the trees stem diameter in mm. In respect of all Category A, B and C trees which are proposed to be retained, the RPA has been calculated and is given in the Tree Survey Schedule, and is also be illustrated in the Tree Protection drawing. The figure given represents the radial distance, from the trees trunk, at which the barriers should be erected. The RPA is calculated in accordance with section 4.6 of BS 5837:2012.

  For single stemmed trees, the RPA should be calculated as an area equivalent to a circle with the radius 12 times the stem diameter. For trees with more than one stem, one of the two calculation methods below should be used. The calculated RPA for each tree should be capped at 707m^2.

  (a) For trees with two to five stems, the combined stem diameter should be calculated as follows:

  $$\sqrt{(\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 + (\text{stem diameter 5})^2}$$

  (b) For trees with more than five stems, the combined stem diameter should be calculated as follows:

  $$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

  The RPA for each tree will initially be plotted as a circle 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 will be produced. Modifications to the shape of the RPA will reflect a soundly based arboricultural assessment of likely root distribution. Any deviation in the RPA from the original circular plot will take account of the following factors whilst still providing adequate protection for the root system:

a) The morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus);
b) Topography and drainage;
c) The soil type and structure;
d) The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

5.5 The trees were initially inspected from the ground using 'Visual Tree Assessment' techniques; this is the method generally adopted and is appropriate in this instance. All trees and groups of trees inspected are listed in the Tree Survey Schedule (included in Appendix 1 of this report) and are numbered on the plans which accompany this report (included in Appendix 2 of this report).

5.6 Trees which have been assessed as exhibiting similar characteristics have been defined as a tree group in accordance with recommendations included in BS5837:2012 which defines tree groups as, "Trees that form cohesive arboricultural features either aerodynamically, visually or culturally." Where this is the case, qualities considered to be representative of the group (e.g. the average stem diameter, average height etc.) have been recorded. Any marked differences noted within a grouped area (e.g. qualities that are not indicative of the group as a whole, or where individual trees present within a group may pose a specific hazard), have been highlighted in the appropriate section of the schedule (under relevant group reference) to ensure that all relevant information is recorded. The same approach has been taken in relation to recording the condition of woodlands.

5.7 Individual trees present within a group which are worthy of note or comment have been highlighted in the Tree Survey Schedule, to ensure that notable aspects relating to the condition of individual trees are covered, even if these do not relate to all trees present within the wider defined group or woodland.

6.0 SUMMARY OF FINDINGS

6.1 In total, 35 No individual trees, 6 No. tree groups, and 4 No. hedgerows were surveyed.

6.2 The individual trees included 1 No. Category A tree (T29), 3 No. Category B trees (T16, T34, T35), 26 No. Category C trees (T1, T2, T5 to T9, T11, T13, T14, T15, T17 to T20, T22 to T28, T30 to T33), and 5 No. Category U trees (T3, T4, T10, T12, T21).

6.3 The tree groups included 1 No. Category B tree group (G2), and 5 No. Category C tree groups (G1, G3, G4, G5, G6).

6.4 The individual trees present predominantly include Ash and Oak, as well as Hawthorn, Crab Apple, and Sycamore. Species present within the tree groups and woodland included Oak, Ash, Hawthorn, Blackthorn, Hazel, Sycamore, Horse Chestnut, Scots Pine, Holly, Elm, Elder, Silver Birch, Guelder Rose, and Willow.

6.5 Please note that all recommendations relating to the trees surveyed are included in the Survey Schedule, included in Appendix 1 of this report.

7.0 LEGISLATION & PROTECTION

Tree Preservation Orders:

7.1 Trees in the United Kingdom may be protected by a Tree Preservation Order (TPO).

7.2 Government guidance in relation to Tree Preservation Orders and trees in Conservation Areas states that: "*Tree Preservation Orders are made by the Local Planning Authority to protect specific trees, groups of trees or woodlands in the interests of amenity. An order prohibits the:*

- *cutting down;*
- *topping;*
- *lopping;*
- *uprooting;*
- *wilful damage; and*
- *wilful destruction*

of trees without the Local Planning Authorities written consent." "In the

Secretary of State's view, cutting roots is also a prohibited activity and requires the authorities consent."

7.3 Prior to undertaking work on trees protected by a TPO, permission must be sought from the Local Planning Authority by submitting a standard application form.

Conservation Areas:

7.4 Trees in the United Kingdom may be protected if they are situated within a Conservation Area.

7.5 In order to undertake any work to trees present within Conservation Areas, it is a requirement to notify the Local Planning Authority of the work proposed using a Section 211 Notice. The Council must be notified 6 weeks before undertaking the work. The work may go ahead at the end of the 6 week period if the Local Planning Authority gives consent.

7.6 Note: trees within Conservation Areas which are already protected by a TPO are subject to the normal procedures and controls relating to the TPO.

Ancient Woodland and Trees

Ancient Woodland

7.7 Government guidance defines **Ancient Woodland** as *"any area that's been wooded continuously since at least 1600 AD. It includes:*

- *Ancient semi natural woodland mainly made up of trees and shrubs native to the site, usually arising from natural regeneration*
- *Plantations on ancient woodland sites – replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi.*
- *Wood pastures identified as ancient*
- *Historic parkland, which is protected as a heritage asset in the NPPF."*

Ancient Trees

7.8 **Ancient Trees** are defined as individual trees of groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks or other areas.

7.9 The Woodland Trust states that *"a tree is defined as ancient if it is:*

- *in the third or final stage of its life (this stage can go on for decades or centuries)*
- [an] *old relative to others of the same species*
- *interesting biologically, aesthetically or culturally because of its great age."*

Veteran Trees

7.10 The Woodland Trust states that all *"ancient trees are **Veteran Trees**, but not all veteran trees are old enough to be ancient."* And that, *"Veteran trees are usually only in their second or mature stage of life."*

7.11 Government guidance states that, *"a veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value."*

Designations Relating to the Site:

7.12 A band of trees within woodland located to the south of the quarry are protected by a TPO ref. W9 (Borough of Denbigh). Please see Appendix 4 for an extract of a plan showing the extent of the TPO, taken from the Denbighshire County Council website, as well as a map showing protected trees, received from the council.

7.13 The site is not located within a Conservation Area.

7.14 The Woodland Trust Ancient Tree Inventory records no ancient or veteran trees within the site.

8.0 DEVELOPMENT PROPOSALS

8.1 It is proposed to undertake sequential mineral extraction across the site.

8.2 The development proposals are illustrated in drawing M18.155.D.025, which is included in Appendix 3 of this report.

9.0 ARBORICULTURAL IMPACT ASSESSMENT

9.1 A series of Tree Protection Plans are included in Appendix 2 of this report which identify trees proposed for retention, protection and removal in relation to the proposed development.

9.2 In total, 25 No. individual trees, 4 No. tree groups and 3 No. hedgerows require removal to facilitate the scheme.

9.3 Of these, the individual trees proposed for removal comprise 1 No. Category A tree (T29), 1 No. Category B tree (T16), 20 No. Category C trees (T8, T9, T11, T13, T14, T15, T17, T18, T19, T20, T22, T23, T24, T25, T26, T27, T28, T30, T31, T33, and 3 No. Category U trees (T10, T12, T21).

9.4 The tree groups comprising part of G3, as well as G4, G5 and G6, have all been assessed as being Category C.

9.5 The hedgerows proposed for removal include Category B hedgerow H4, and Category C hedgerows H2 and H3.

9.6 The impact of removing Category A tree T29 has been assessed as being **High** due to its categorisation and overall Good assessed physiological and structural condition.

9.7 Given its categorisation as a Category B tree, the impact of removing T16 reduced in comparison. Overall the impact is considered to be **Moderate**.

9.8 The removal of the Category C trees is considered to be reduced due to their low assessed value and poor forms. A number of defects were recorded including presence of Inonotus fungus (T15, T22, T23, T24, T26, T28), poor basal areas (T9, T12, T18, T20, T24, T27, T28, T30, T33), poor stems (T9, T13, T17, T18, T20, T23, T24, T28, T30, T33), and stem failure (T22, T28). Such defects are considered to be significant and are likely to reduce the lifespan of the trees. In addition, T11 was considered to be in decline, and other defects such as sparse canopies and failed branches were noted in relating to trees T11, T14, T23 and T13, T19, T24, T25 respectively.

9.9 It is important to note that of the 20 No. Category C trees proposed for removal, 6 No. are Hawthorn trees (T8, T9, T18, T20, T30 and T31). All were assessed as being mature, and overall are considered to be in decline due to presence of defects.

9.10 Taking into account the above, overall the impacts relating to the removal of Category C trees T8, T9, T11, T13, T14, T15, T17, T18, T19, T20, T22, T23, T24, T25, T26, T27, T28, T30, T31, T33, are considered to be **Low**.

9.11 Given the limited future potential of the Category U trees T10, T12, and T21, which all have poor assessed canopies, stems and basal areas, the impacts of the removal of these trees are considered to be **Negligible**.

9.12 The impacts relating to the partial removal of the Category C trees present within tree group G3, as well as the removal of tree groups G4, G5 and G6 are considered to be **Low** due to their semi mature age class, lack of management and defects present including poor unions, compression forks, as well as the presence of some dead specimens present within.

9.13 The impacts of the removal of Category C hedgerows H2 and H3 are considered to be minimal, with medium impact resulting from the removal of Category B hedge H4.

Trees Proposed for Retention

9.14 It is proposed that all other trees present on site are retained and protected by tree protection fencing in accordance with the requirements of BS 5837:2012, as part of the development proposals.

9.15 Please see the Arboricultural Method Statement below in combination with the Protection Plans included in Appendix 2 of this report, for recommendations relating to the protection of trees to be retained.

9.16 Subject to adherence with the tree protection measures recommended below and on the associated plans, it is not considered that the proposed works will adversely affect the trees proposed for retention.

9.17 Please see the Tree Survey Schedule, included in Appendix 1 of this report, which notes specific recommendations relating to arboricultural works to trees to be retained.

10.0 ARBORICULTURAL METHOD STATEMENT

10.1 The Tree Protection Plans included in Appendix 2 of this report illustrate the recommended RPA's of trees to be retained and recommended locations for tree protection fencing.

10.2 Prior to the commencement of construction works the RPA's relating to the trees to be retained will require marking out (encompassing a circle around the trees with a radii noted in the BS 5837 Tree Schedule in Appendix 1, and illustrated in the Tree Protection Plan in Appendix 2).

10.3 Note: where the RPA's are on adjacent third party land, facing away from the development site, just the section of RPA's present within the site area will require marking out.

10.4 Protective barrier fencing is to be erected in accordance with the requirements of BS5837:2012 (see specification included in Appendix 4 of this report), to the extent of the RPA's marked out, and to accord with the tree protection fencing illustrated in drawings M18.155.D.033 to 036. The fencing will define Construction Exclusion Zone's (CEZ) to ensure that all works access is prevented within tree RPA's and canopy spread's, to ensure that the works do not adversely affect the trees to be retained. The protective fencing is to be erected prior to the commencement of works on site, and is to remain in place for the duration of the works.

10.5 In addition, to ensure that the trees present along the southern extent of the application boundary (beyond the proposed limit of extraction and limit of operations), remain unaffected by the works it is proposed that a CEZ is defined to the south of the site.

10.6 All personnel are to be made aware of the restrictions to working within the RPA's and CEZ's, within which no works access is permitted. Personnel are to be made aware that such areas are to be fenced and maintained as construction exclusion zone's for the entirety of the works, in order to

protect the RPA's in accordance with BS 5837:2012. No mechanical equipment/vehicles are to be allowed within the RPA's, and storage of materials, vehicle tracking, storage of fuel/oil, soil stockpiling, and excavation works/alterations to ground levels are not permitted.

10.7 Given the close proximity of trees to be retained to the working area, it is imperative that tree canopies and aerial branches of these trees are not damaged by the works. Operatives are to be suitable briefed with respect of all locations where tree canopies may extend over the working area to take care to ensure than damage is not caused by vehicles or any operations associated with the works. In addition, any plant in close proximity to trees should be conducted under the supervision of a banks-man to ensure that adequate clearance from trees is maintained at all times.

10.8 No fires are to be lit within 20m of tree stems to be retained, and all new services and drainage are prohibited through tree RPA's.

Additional requirements:

10.9 Recommendations for works to be undertaken to improve the continued establishment of the trees present on site are included in the Tree Survey Schedule which is included in Appendix 1 of this report. All works, including the tree felling work, are to be undertaken in accordance with BS 3998:2010 by suitably qualified personnel, with adequate insurance and in accordance with up to date and relevant health and safety legislation.

10.10 All tree/scrub removal works are to be undertaken outside the bird nesting season (which runs from March to August).

10.11 Overhead lines present within close proximity to trees requiring work, or to be felled, are to be identified and appropriate measures taken to ensure safe working near to these lines, including the production of risk assessments and method statements. Please note that detailed locations of overhead lines have not been included as part of this survey, and any references to cables should be acknowledged as cursory.

10.12 In any calendar quarter you may fell up to 5 cubic metres on your property without the need to obtain a felling licence, as long as no more than 2 cubic

metres are sold. It is an offence to fell trees without a licence where one is required. A felling licence can be obtained from the Forestry Commission. Please note that certain types of felling do not need permission, please see the Forestry Act 1967 for the list of exemptions.

10.13 Please note that permission would need to be gained from the appropriate land owner to carry out works to trees which are present outside the site boundary, on third party land.

APPENDIX 1

BS 5837:2012 TREE SURVEY SCHEDULE

BS5837:2012 Tree Survey

Project: Denbigh Quarry
Survey Date: 11/10/2019

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
G1										Estimated Measurements	
A Group - -	15	0		N 9 E 9 S 9 W 9		M	A: 0 R: 0	Fair	C: Fair S: Fair B: Fair	Tree group including predominantly Oak, young self-set Ash, Hawthorn, Blackthorn, Hazel to the south (as hedge row). The full details of this tree group have not been recorded as it is beyond the area affected by the proposed development. The area appears to be unmanaged. Mature trees are located within this area (recorded as T34 and T35).	B.1.2 20 to 40 yrs
G2										Estimated Measurements	
A Group - -	18	1	570	N 8 E 8 S 8 W 8		M	A: 147 R: 6.84	Good	C: Fair S: Good B: Fair	Ivy :: Sever only Remove :: Major dead wood Tree group including predominently Oak. Ash, Sycamore, Hazel, Horse Chestnut, Elm, Scots Pine, Hawthorn, Blackthorn, Holly also present. Located immediately to the north of the stone wall. Trees are experiencing light suppression due to close proximities, and unbalanced canopies, with over extended branches to the south. Self set understory growth present. Ivy present, and some dead wood. The full details of this tree group have not been recorded as it is beyond the area affected by the proposed development.	B.1.2.3 20 to 40 yrs
G3										Estimated Measurements	
A Group - -	5	1	90	N 3 E 3 S 3 W 3		SM	A: 3.7 R: 1.08	Fair	C: Fair S: Fair B: Fair	Tree group including Hazel, Holly, Ash, Hawthorn, Elder, Field Rose, Blackthorn, Silver Birch, Guelder Rose. The group is located to the west of the bund (west of the track). Group appears to be unmanaged, with some self set species.	C.2 10 to 20 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
G4										Estimated Measurements	
A Group - -	5	1	90	N 2 E 2 S 2 W 2		SM	A: 3.7 R: 1.08	Fair	C: Fair S: Fair B: Fair	Tree group including Hawthorn, Hazel, Guelder Rose, Blackthorn, Willow, Ash, Lime. Located to the west of the boundary fence, on a west facing embankment. Group appears to be unmanaged. Trees are at 2-3m spacings.	C.2 10 to 20 yrs
G5										Estimated Measurements	
A Group - -	8	1	170	N 4 E 4 S 4 W 4		SM	A: 13.1 R: 2.04	Fair	C: Fair S: Fair B: Fair	Tree group located on embankment top. Species present include Ash, Lime, Rowan, Silver Birch at 2m spacings. Southern extent of group includes predominantly Lime with Ash, Hawthorn, Blackthorn at 3m spacings. Group appears to be unmanaged, with some dead specimens present. Defects present include poor unions, and compression forks.	C.2 10 to 20 yrs
G6										Estimated Measurements	
A Group - -	8	1	240	N 3 E 3 S 3 W 3		SM	A: 26.1 R: 2.88	Fair	C: Fair S: Fair B: Fair	Tree group runs parallel with the western field boundary. Trees present within are at 3m spacings. Species present include Rowan, Birch, Ash (many of the Ash are in poor condition), Lime, Hazel, Hawthorn, Spindle, Blackthorn, Rowan. Defects present include sparse canopies, failed branches, light suppression.	C.2 10 to 20 yrs
H1										Estimated Measurements	
A Group - -	2	1	30	N 1 E 1 S 1 W 1		M	A: 0.4 R: 0.35	Fair	C: Fair S: Fair B: Fair	Hedgerow including Hawthorn, Field Rose.	C.2.3 20 to 40 yrs
H2										Estimated Measurements	
A Group - -	2	1	30	N 1 E 1 S 1 W 1		M	A: 0.4 R: 0.35	Fair	C: Fair S: Fair B: Fair	Hedgerow including Hawthorn, Field Rose, Blackthorn, with Gorse to the south. Hedge is located to the west of the boundary fence, and is managed.	C.2 20 to 40 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
H3										Estimated Measurements	
A Group - -	3	3	30 (Eq)	N 1 E 1 S 1 W 1		M	A: 0.4 R: 0.35	Fair	C: Fair S: Fair B: Fair	Hedgerow including Hawthorn, Field Rose, Ash, Elder, Blackthorn, Bramble, Holly. Located to the west of the wood, to the east of the fence.	C.2.3 10 to 20 yrs
H4										Estimated Measurements	
A Group - -	4	5	30 (Eq)	N 1 E 1.5 S 1 W 1.5		M	A: 0.4 R: 0.35	Good	C: Good S: Fair B: Fair	Hedgerow including Hawthorn, Blackthorn, located to the east of the fence.	B.2.3 10 to 20 yrs
T1										Estimated Measurements	
Common Oak *Quercus robur*	18	1	960	N 7 E 9 S 11 W 8		M	A: 417 R: 11.52	Poor	C: Fair S: Fair B: Good	End weight reduction :: 20% Remove :: Faulted branch/limbs Located immediately to the north of the wall. Failed branch hanging at 10m height, another at 3m height. Large failed branch to the west has pruning wounds with poor occlusion. Tree has an over extended canopy to the south due to light suppression from neighbouring trees. Tree has a sparse canopy and advantageous growths, indicating that the tree is stressed. Recommendation to alleviate end loading weight to the south.	C.2 10 to 20 yrs
T2											
Common Ash *Fraxinus excelsior*	17	1	500	N 4 E 5 S 9 W 4		M	A: 113.1 R: 6	Fair	C: Fair S: Good B: Fair	Remove :: Major dead wood Tree is located immediately to the south of the stone wall. It has a sparse canopy and advantageous growths, indicating that the tree may be stressed. Pruning wounds present with poor occlusion generally. Bulging basal area with suckers present. Some major dead wood. Unbalanced canopy due to light suppression from neighbouring trees.	C.2 10 to 20 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T3										Estimated Measurements	
Common Ash *Fraxinus excelsior*	15	1	560	N 3 E 2 S 8 W 4		M	A: 141.9 R: 6.72	Poor	C: Poor S: Poor B:	Fell :: Fell to ground level There are signs of possible Inonotus fungus present on the bark. The tree has poor form and a sparse canopy. Major dead wood present. Bark wound approximately 1m in length to the western branch at 4m height. Tree is stressed and is considered to be in decline. As such it is recommended that it is felled.	**U** n/a
T4										Estimated Measurements	
Common Ash *Fraxinus excelsior*	16	1	510	N 2 E 5 S 3 W 0		M	A: 117.7 R: 6.12	Poor	C: Poor S: Poor B:	Fell :: Fell to ground level Tree is located to the north of the stone wall. Canopy is sparse, with approximately 20% canopy present. The tree has very poor vitality, and poor occlusion to pruning wounds, as well as a high proportion of dead wood. For these reasons it is recommended that it is felled.	**U** n/a
T5										Estimated Measurements	
Common Oak *Quercus robur*	12	2	574 (Eq)	N 5 E 5 S 7 W 6		M	A: 149 R: 6.88	Fair	C: Fair S: Fair B: Fair	Tree is located to the north of the stone wall. Multistems have fused at 1.6m height. Stubs present. Advantageous growths present, indicating that the tree may be stressed. Brash and rubbish dumped at the base of the tree to the south.	**C.2** 10 to 20 yrs
T6											
Common Ash *Fraxinus excelsior*	13	1	920	N 6 E 6 S 7 W 6		M	A: 383 R: 11.04	Fair	C: Fair S: Poor B: Poor	See Comment :: See Comment Tree is located immediately to the south of the fence. It has a sparse canopy, compression fork, rubbing branches at 1.5m height, stubs, major dead wood, a hazard beam to the southern branch. Good occlusion evident. Wooden fence and barbed wire embedded in to northern face of stem at 1m height. Consider removal, as this tree is likely to fail in the future.	**C.2** 10 to 20 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T7										Estimated Measurements	
Common Ash *Fraxinus excelsior*	13	1	810	N 4 E 6 S 7 W 5		M	A: 296.9 R: 9.72	Poor	C: Fair S: Poor B: Poor	See Comment :: See Comment Inonotus fungus present at 4m height to the south, which will ultimately bring about the failure of this tree. Bark damage due to previous growth of Inonotus bracket 6m height. Large roots to the north have been cut to accommodate fencing. Presence of large dead branch at 6m height to the north. It is recommended that this tree is considered for removal as it is in decline.	**C.2** <10 yrs
T8											
Common Hawthorn *Crataegus monogyna*	5	5	80 (Eq)	N 2 E 2 S 2 W 2		M	A: 2.9 R: 0.96	Fair	C: Fair S: Fair B: Fair		**C.2** 10 to 20 yrs
T9											
Common Hawthorn *Crataegus monogyna*	3	1	160	N 1 E 2 S 2 W 3		M	A: 11.6 R: 1.92	Fair	C: Fair S: Poor B: Poor		**C.2** <10 yrs
T10											
Common Ash *Fraxinus excelsior*	6	1	410	N 3 E 3 S 3 W 3		M	A: 76.1 R: 4.92	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level Tree has lost a major stem to the east in the past. Good occlusion present, but the stem is hollow as a result to the east. There is included bark between the union at 1.5m height. Recommendation to fell.	**U** n/a
T11 529											
Common Oak *Quercus robur*	10	1	500	N 6 E 6 S 6 W 6		M	A: 113.1 R: 6	Fair	C: Fair S: Fair B: Good	Tree has a sparse canopy, and presence of major dead wood. Overall it is considered that this tree is in decline.	**C.2** 10 to 20 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
T12 528											
Common Oak *Quercus robur*	8	1	460	N 4 E 2 S 2 W 5		M	A: 95.7 R: 5.51	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level This tree has very little vitality, and a high proportion of dead wood. As such it is recommended that it is felled.	U n/a
T13 527											
Common Ash *Fraxinus excelsior*	10	1	330	N 5 E 3 S 1 W 3		M	A: 49.3 R: 3.96	Fair	C: Poor S: Poor B: Fair	Remove :: Faulted branch/limbs End weight reduction :: 20% Tree has a sparse canopy, which is over extended to the north. Wound present at 1.5m height to the north, approximately 600mm high, and is located beneath the union. Dead wood present within the wound, with good occlusion evident to edges. Failed branch at 2m height to the south.	C.2 10 to 20 yrs
T14 526											
Common Oak *Quercus robur*	11	1	580	N 7 E 4 S 3 W 3		M	A: 152.2 R: 6.96	Fair	C: Fair S: Fair B: Fair	Tree is leaning to the north. Cavity present at 3m height to the east. Sparse canopy. Poor occlusion to large pruning wounds.	C.2 10 to 20 yrs
T15 530											
Common Ash *Fraxinus excelsior*	13	1	440	N 3 E 3 S 4 W 3		M	A: 87.6 R: 5.28	Poor	C: Poor S: Poor B: Fair	Inonotus fungal bracket at 8m height.	C.2 <10 yrs
T16 531											
Common Ash *Fraxinus excelsior*	15	1	660	N 6 E 6 S 6 W 7		M	A: 197.1 R: 7.92	Fair	C: Good S: Good B: Good	Major dead wood present and stubs.	B.1.2 20 to 40 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
T17 532											
Crab Apple *Malus sylvestris*	6	1	330	N E S W	4 5 4 3	M	A: 49.3 R: 3.96	Fair	C: Fair S: Poor B: Fair	Corrected branch growth to the south. Deep cavity present at base to the north, at 0.5m height. Included bark present, rubbing branches, and advantageous growths.	C.2 10 to 20 yrs
T18											
Common Hawthorn *Crataegus monogyna*	4	5	140 (Eq)	N E S W	2 2 2 3	M	A: 8.9 R: 1.68	Fair	C: Poor S: Poor B: Poor		C.2 <10 yrs
T19 517											
Common Oak *Quercus robur*	11	1	710	N E S W	6 3 5 6	M	A: 228.1 R: 8.52	Fair	C: Fair S: Fair B: Fair	Large branch failure to the south at 4m height and to the north at 6m height. Stubs present.	C.1.2 10 to 20 yrs
T20											
Common Hawthorn *Crataegus monogyna*	4	3	200 (Eq)	N E S W	3 1 2 2	M	A: 18.1 R: 2.4	Fair	C: Poor S: Poor B: Poor		C.2 <10 yrs
T21 516											
Common Ash *Fraxinus excelsior*	11	1	1550	N E S W	5 4 3 6	M	A: 707 R: 15	Poor	C: Poor S: Poor B: Poor	See Comment :: See Comment Tree has a hollow stem. Heartwood has decayed from the base, and sapwood is holding the stem together. Signs of Inonotus fungus to branch at 6m height. Tree has lost its main leader in the past at 6m height. This tree is likely to fail in the future due to its significant structural defects.	U n/a

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
T22 525 Common Ash *Fraxinus excelsior*	16	1	570	N 5 E 7 S 3 W 4		M	A: 147 R: 6.84	Fair	C: Poor S: Fair B: Fair	Inonotus bracket present of the floor to the east of the tree. Die back present to upper crown. Hazard beam to eastern limb at 4m height. Stem failure to the south at 5m height. Minor dead wood present.	C.2 10 to 20 yrs
T23 523 Common Ash *Fraxinus excelsior*	16	1	710	N 3 E 5 S 4 W 4		M	A: 228.1 R: 8.52	Poor	C: Poor S: Poor B: Fair	Inonotus fungal bracket present on the ground, appears to have fallen from the tree stem at 1.8m height to the north. Tree has a sparse canopy.	C.2 <10 yrs
T24 522 Common Ash *Fraxinus excelsior*	10	1	520	N 2 E 3 S 7 W 3		M	A: 122.3 R: 6.23	Poor	C: Poor S: Poor B: Poor	Inonotus fungal bracket to base to the east, and evidence of previous brackets to the main stem to the south. Branch failure at 1.5m height to the east, hazard beam present.	C.2 <10 yrs
T25 521 Common Ash *Fraxinus excelsior*	13	1	550	N 3 E 4 S 8 W 4		M	A: 136.9 R: 6.6	Fair	C: Fair S: Fair B: Fair	Branch failure to the south at 5m height. Major dead wood present and advantageous growths.	C.2 10 to 20 yrs
T26 524 Common Ash *Fraxinus excelsior*	16	1	570	N 4 E 4 S 7 W 4		M	A: 147 R: 6.84	Poor	C: Fair S: Fair B: Good	Inonotus fungal bracket present at 3m height to the north west.	C.2 <10 yrs
T27 520 Sycamore *Acer pseudoplatanus*	12	1	610	N 6 E 4 S 5 W 3		M	A: 168.4 R: 7.32	Fair	C: Fair S: Fair B: Poor	Tree is located to the south of the fence. There is a 300mm high decay pocket at base.	C.2 10 to 20 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T28 519											
Common Ash *Fraxinus excelsior*	16	1	510	N 6 E 3 S 7 W 3		M	A: 117.7 R: 6.12	Poor	C: Fair S: Poor B: Poor	Inonotus fungal bracket present at 6m height to the west. Evidence of a previous fungal bracket at 2m height to the east due to presence of bark damage. Co-dominant stem to the east has failed and a cavity remains at the base.	C.2 <10 yrs
T29 518											
Common Oak *Quercus robur*	11	1	880	N 8 E 7 S 6 W 6		M	A: 350.4 R: 10.56	Good	C: Good S: Good B: Good	Bark damage at 2m height to the south. Major dead wood present and stubs.	A.1.2.3 20 to 40 yrs
T30											
Common Hawthorn *Crataegus monogyna*	4	1	230	N 3 E 3 S 1 W 1		M	A: 23.9 R: 2.75	Poor	C: Poor S: Poor B: Poor	Fell :: Fell to ground level Tree is one-sided due to close proximity to the adjacent tree. Recommendation to fell.	C <10 yrs
T31											
Common Hawthorn *Crataegus monogyna*	6	5	200 (Eq)	N 3 E 3 S 3 W 4		M	A: 18.1 R: 2.4	Fair	C: Fair S: Fair B: Fair		C.2 10 to 20 yrs
T32										Estimated Measurements	
Common Oak *Quercus robur*	8	1	360	N 4 E 0 S 1 W 5		M	A: 58.6 R: 4.31	Fair	C: Fair S: Fair B: Fair	Tree is leaning to the north west and has a poor branch at 3m height to the south. Canopy is unbalanced. Presence of stubs.	C.2 10 to 20 yrs
T33											
Common Ash *Fraxinus excelsior*	8	2	291 (Eq)	N 3 E 3 S 3 W 3		SM	A: 38.2 R: 3.48	Fair	C: Fair S: Poor B: Poor	Tree is located on to eastern edge of the tree group. Presence of included bark at base at the compression fork between co-dominant stems. This will eventually will fail.	C.2 10 to 20 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

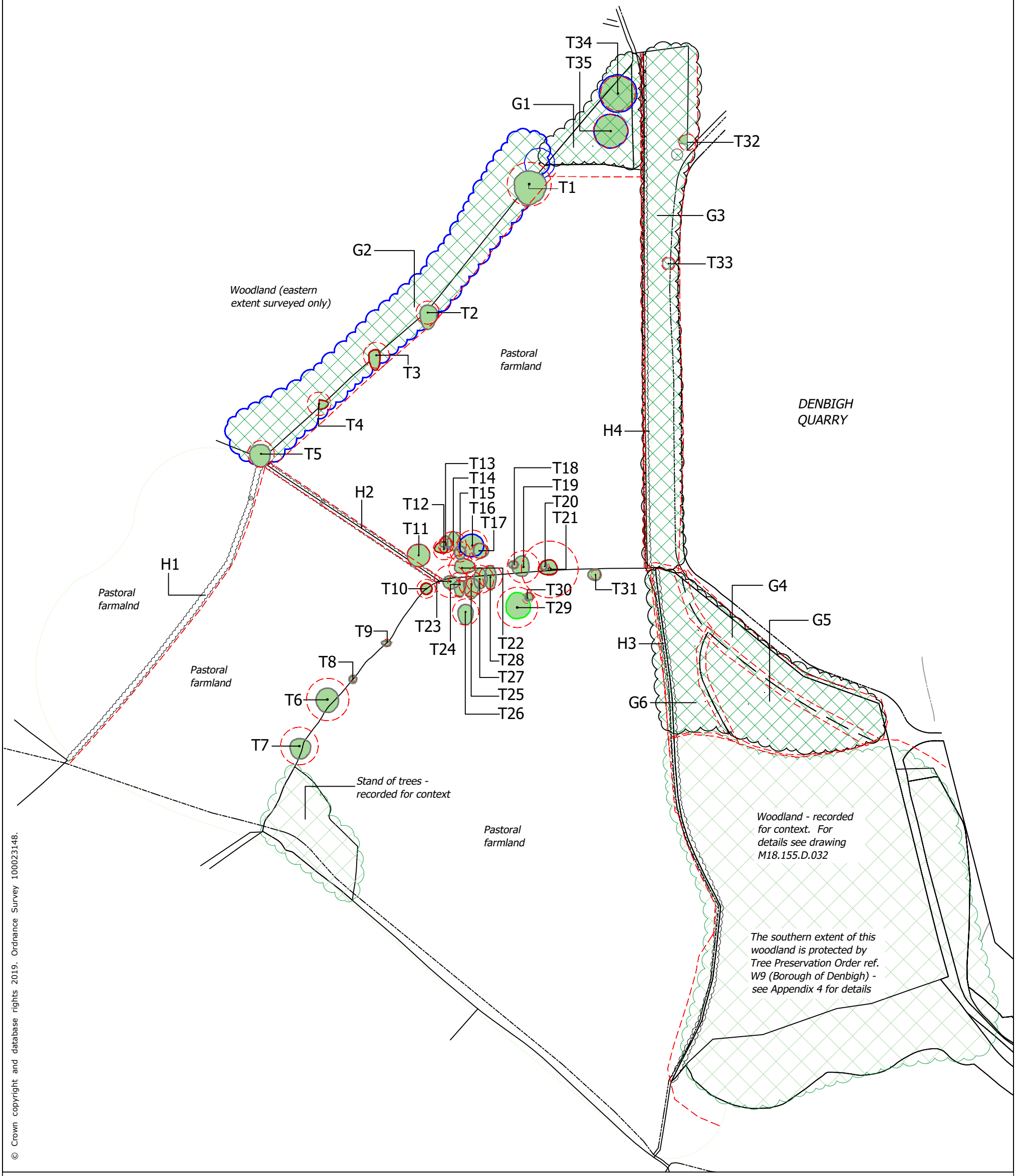
Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T34											
Common Oak *Quercus robur*	15	1	760	N 10 E 10 S 10 W 10		M	A: 261.3 R: 9.11	Good	C: Fair S: Good B: Fair	Individual Oak located to the west of the boundary fence, to the south of the stone wall.	**B.1.2.3** 20 to 40 yrs
T35											
Common Oak *Quercus robur*	16	1	750	N 9 E 9 S 9 W 9		M	A: 254.5 R: 9	Good	C: Good S: Good B: Good		**B.1.2.3** 20 to 40 yrs

Age Classifications:	N	Newly planted	EM	Early Mature	**Condition:**	C	Crown	**Stems:** Ø Diameter
	Y	Young	M	Mature		S	Stem	(Eq) Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature		B	Basal area	**ERC:** Estimated Remaining Contributio

APPENDIX 2

DRAWINGS:

- TREE SURVEY PLANS



Category B Tree

Category C Tree

Tree Group

Hedgerow

Root Protection Area (RPA)

Scrub/Trees recorded for context

Note:

1. *The original of this drawing was produced in colour - a monochrome copy should not be relied upon*

DRAWING STATUS: PLANNING

PROJECT: DENBIGH QUARRY

CLIENT: BREEDON GROUP

TITLE: Tree Survey Context Plan

DATE:	SCALE:
Dec 2019	1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.028	REVISION: 02

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EMAIL: psl@pleydellsmithyman.co.uk
WEBSITE: www.pleydellsmithyman.co.uk

T34
T35
G1
T32
T1
G3
G2
(eastern
veyed only)
T2
T3
Pastoral
farmland
T4
H4
T5
T13
T14
T15
T16
T17
T18
T19
T20
T21
H2
T12
T11
T10
T30
T31
T29
G4

Category B Tree

Category C Tree

Tree Group

Hedgerow

Root Protection Area (RPA)

Scrub/Trees recorded for context

Note:
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DRAWING STATUS: PLANNING	
PROJECT: DENBIGH QUARRY	
CLIENT: BREEDON GROUP	
TITLE: Tree Survey Detail Plan 1	
DATE: Dec 2019	SCALE: 1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.029	REVISION: 01

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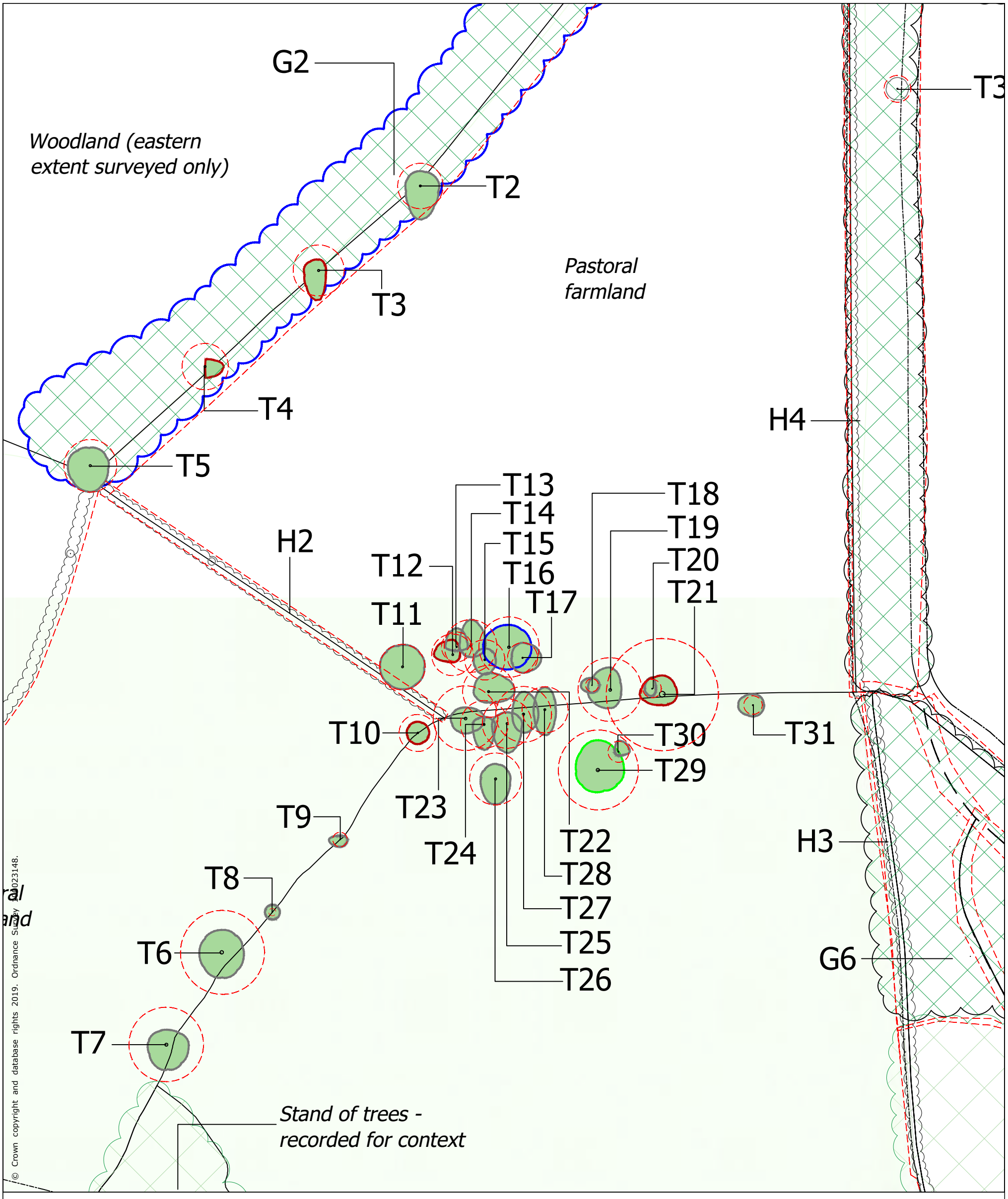

Category B Tree

Category C Tree

Tree Group

Hedgerow

Root Protection Area (RPA)

Scrub/Trees recorded for context

Note:

1. *The original of this drawing was produced in colour - a monochrome copy should not be relied upon*

DRAWING STATUS: PLANNING

PROJECT: DENBIGH QUARRY

CLIENT: BREEDON GROUP

TITLE: Tree Survey Detail Plan 2

DATE:	SCALE:
Dec 2019	1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.030	REVISION: 02

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T2

T3

Pastoral farmland

DENBIGH QUARRY

H4

T13
T14
T15
T16
T17
T18
T19
T20
T21

T12

T11

T30
T29

T31

G4

G5

T23

T24

T22
T28
T27
T25
T26

H3

G6

ees -
on context

Pastoral farmland

Woodland - recorded for context. For details see drawing M18.155.D.032

Category B Tree

Category C Tree

Tree Group

Hedgerow

Root Protection Area (RPA)

Scrub/Trees recorded for context

Note:
1. *The original of this drawing was produced in colour - a monochrome copy should not be relied upon*

DRAWING STATUS: PLANNING

PROJECT: DENBIGH QUARRY

CLIENT: BREEDON GROUP

TITLE: Tree Survey Detail Plan 3

DATE: Dec 2019

SCALE: 1:2000@A3

DRAWN: AP

CHECKED: JP

DRAWING N°: M18.155.D.031

REVISION: 02

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NOTES RELATING TO ASH PRESENT WITHIN WOODLAND TO THE SOUTH OF TREE GROUPS G4, G5, & G6

- The topography of the wooden area to the west of the quarry, south of tree groups G4, G5 & G6, rises upwards from the western edge of the quarry to a wide ridge (in the eastern portion of the area). From here the land drops westwards towards the pastoral fields.
- Further south, the land drops away to the south, in some places steep rocky outcrops form the level change.
- Dense semi mature native woodland trees flank these slopes, and include the following species: Ash, Hazel, Blackthorn, Hawthorn, Silver Birch, Lime, Spindle and Mountain Ash.
- There is a stand of large mature trees at the south western extent of the area which include Ash, Oak and Sycamore.
- Overall the proportion of Ash cover within the area is considered to be approximately 35%
- Defects present within the area are partly due to lack of management and also due to the close proximity of the trees here. Defects include sparse, unbalanced canopies, with little lower growth, poor basal areas, failed branches, major dead wood, included bark, and cavities.

T20
T21
H4
Stand of Rowan
T30
T31
T29
H3
Stand of Blackthorn
Stand of Silver Birch trees
Stand of Spindle bushes
G4
Area of Lime trees
Stand of semi mature mixed species including predominantly Lime with Ash, Hawthorn, Blackthorn, 3m spacings, semi mature area covers 15m radius.
G6
G5
Area of mixed Lime & Ash trees
Stand of Silver Birch trees
Stand of semi mature mixed species including Ash, Hazel, Lime. Ash are 8m high and are at approximately 3m spacings. The trees have sparse canopies due to light suppression. Defects present include cavities, included bark, wounds. Ivy present.
Stand of semi mature Ash trees (3m spacings). Trees have sparse canopies with little lower canopies due to light suppression.
Stand of mixed semi mature species including Blackthorn, Lime, Hazel, Mountain Ash (2m spacings). Area is unmanaged. Light suppression, little lower canopies. No Ash present.
Stand of semi mature Ash trees. Some trees are dead. Little lower canopies, sparse canopies. Ivy present.
Stand of Hazel
Stand of Hazel trees. Overall Hazel makes up approximately 35% of this area. The trees are unmanaged, many are multistemmed and have poor basal areas.
Stand of Ash saplings (1.5m spacings).
Stand of large mature trees including Oak (20 No.), Ash (5 No.) and Sycamore (1 No.) (Spacings approximately 6m). Trees appear to be unmanaged. Defects present include major dead wood, failed branches, stubs, failed dead stem hung up in tree.

DRAWING STATUS: PLANNING	
PROJECT: DENBIGH QUARRY	
CLIENT: BREEDON GROUP	
TITLE: Notes Relating to Ash within Western Screening Woodland	
DATE: Dec 2019	SCALE: 1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.032	REVISION: 02

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T34
T35
G1
T32
T1
G3
T33
G2
Woodland (eastern extent surveyed only)
T2
T3
T4
T5
PROPOSED QUARRY EXTENSION
H4
EXISTING DENBIGH QUARRY
T13
T14
T15
T16
T17
T18
T19
T20
T21
H2
T12
T11
H1
T31
G4
G5
Pastoral farmalnd
T10
T30
T29
T23
T24
T22
T28
T27
T25
T26
H3
T6
T8
T7
T9
G6
WORKS EXCLUSION ZONE
Stand of trees - recorded for context
WORKS EXCLUSION ZONE
Woodland - recorded for context. For details see drawing M18.155.D.032

Trees to be Retained:

- Category B Tree
- Category C Tree
- Tree Group
- Hedgerow
- Root Protection Area (RPA)
- Tree Protection Fencing

Trees to be Removed:

- Category A Tree
- Category B Tree
- Category C Tree
- Category U Tree
- Tree Group
- Hedgerow

Other:

- Scrub/Trees recorded for context

Note:

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DRAWING STATUS: PLANNING

PROJECT: DENBIGH QUARRY

CLIENT: BREEDON GROUP

TITLE: Tree Protection Context Plan

DATE:	SCALE:
Dec 2019	1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.033	REVISION: 02

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T34
T35
G1
T32
T1
G3
G2
T33
T2
T3
T4
T5
PROPOSED QUARRY EXTENSION
H4
T13
T14
T15
T16
T17
T18
T19
T20
T21
H2
T12
T11
T31
T10
T30
T29

Trees to be Retained:

- Category B Tree
- Category C Tree
- Tree Group
- Hedgerow
- Root Protection Area (RPA)
- Tree Protection Fencing

Trees to be Removed:

- Category A Tree
- Category B Tree
- Category C Tree
- Category U Tree
- Tree Group
- Hedgerow

Other:

- Scrub/Trees recorded for context

Note:

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DRAWING STATUS: PLANNING

PROJECT: DENBIGH QUARRY

CLIENT: BREEDON GROUP

TITLE: Tree Protection Detail Plan 1

DATE:	SCALE:
Dec 2019	1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.034	REVISION: 01

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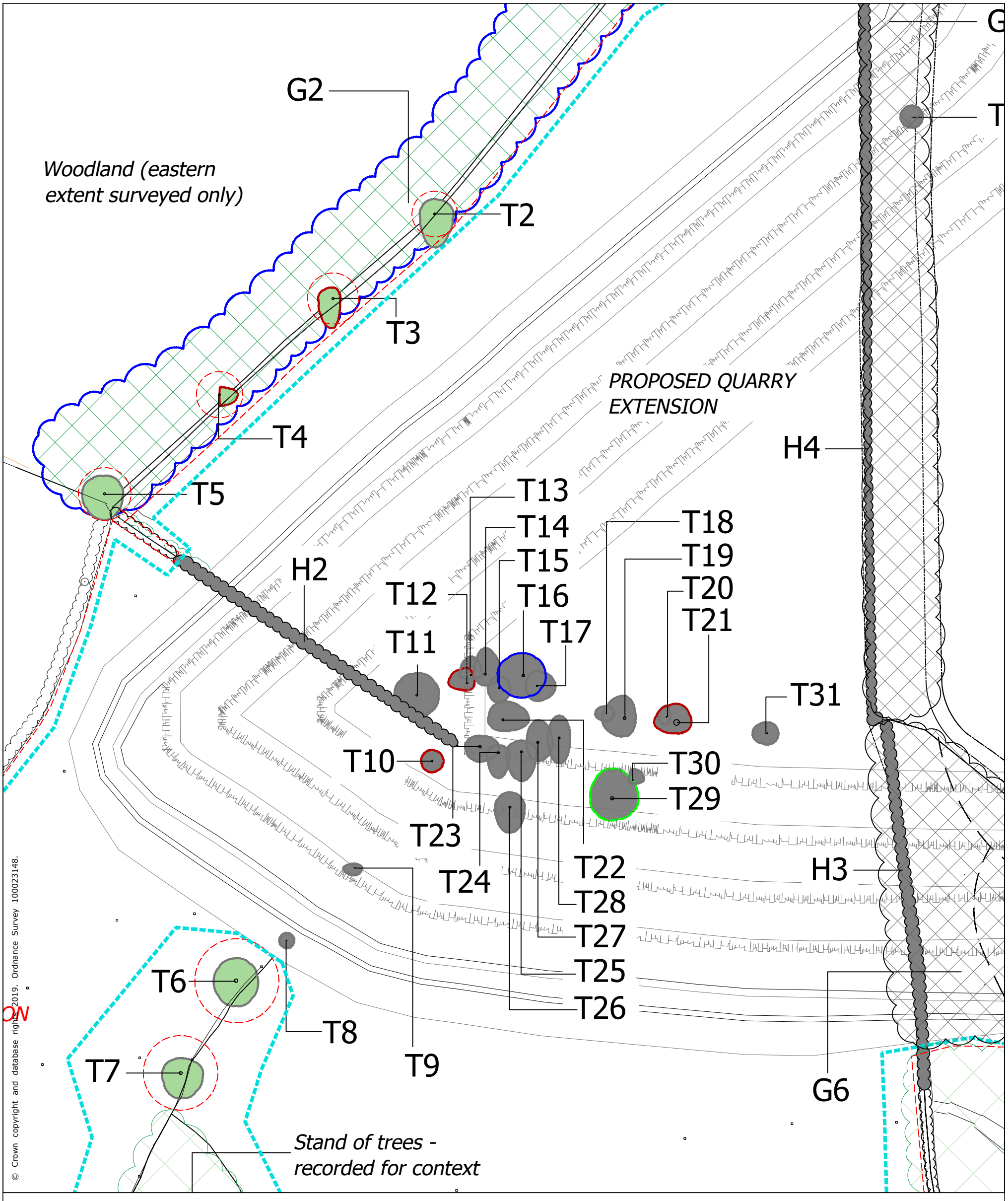

Trees to be Retained:

- Category B Tree
- Category C Tree
- Tree Group
- Hedgerow
- Root Protection Area (RPA)
- Tree Protection Fencing

Trees to be Removed:

- Category A Tree
- Category B Tree
- Category C Tree
- Category U Tree
- Tree Group
- Hedgerow

Other:

- Scrub/Trees recorded for context

Note:

1. *The original of this drawing was produced in colour - a monochrome copy should not be relied upon*

DRAWING STATUS: PLANNING	
PROJECT: DENBIGH QUARRY	
CLIENT: BREEDON GROUP	
TITLE: Tree Protection Detail Plan 2	
DATE: Dec 2019	SCALE: 1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.035	REVISION: 02

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T2

PROPOSED QUARRY EXTENSION

H4

EXISTING DENBIGH QUARRY

T13
T14
T15
T16
T17
T18
T19
T20
T21
T31
G4
G5
T30
T29
T22
T24
T28
T27
T25
T26
H3
G6

ontext

WORKS EXCLUSION ZONE

Woodland - recorded for context. For

Trees to be Retained:

- Category B Tree
- Category C Tree
- Tree Group
- Hedgerow
- Root Protection Area (RPA)
- Tree Protection Fencing

Trees to be Removed:

- Category A Tree
- Category B Tree
- Category C Tree
- Category U Tree
- Tree Group
- Hedgerow

Other:

- Scrub/Trees recorded for context

Note:

1. *The original of this drawing was produced in colour - a monochrome copy should not be relied upon*

DRAWING STATUS: PLANNING

PROJECT: DENBIGH QUARRY

CLIENT: BREEDON GROUP

TITLE: Tree Protection Detail Plan 3

DATE:	SCALE:
Dec 2019	1:2000@A3
DRAWN: AP	CHECKED: JP
DRAWING N°: M18.155.D.036	REVISION: 02

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APPENDIX 3

DEVELOPMENT PROPOSALS

Plas Clough Farm

Area of Material Placement for Restoration

Coed Parc-Pierce

Crest Mawr

Grass

Diverted Public Right of Way

Shrub

Proposed Mineral Extraction

Area of Overburden Placement

Insitu Overburden Mound Relocated to Quarry Floor

Screening Bund

Woodland and Indivdual Trees

Industrial Estate

Site Entrance

Plant Site

Offices and Weighbridge

Area of Overburden Placement

Bryn Seion

Ffordd Y Graig

DENBIGH

PHASE 2 - Explanatory Notes

- Each bench height is approximately 15m and, by the commencement of Phase 2, there will be four active benches at 1m, 16m, 31m and 46m below the original ground level. This phase will release xxx,000 tonnes of mineral.
- The lowest platform will, by this time, have breached the water table and consequently there will be a requirement for a sump in the base of the quarry with pumping of groundwater to the east to allow natural soakaway to occur.
- The quality of the deposit varies over the extension area and so it may be necessary, depending on the product end-use, to blend rock which has been sourced from different areas of the quarry.
- Haul roads will be extended on to the upper benches and part of the historic overburden located along the southern boundary will be removed to facilitate the extension. The overburden material will be stored on the quarry floor for use within the final restoration landform. The retained overburden and woodland along the southern boundary of the extension area will act as a noise barrier.
- Inert waste material produced from the extraction of the extension area will be placed at the northern and eastern margins of the quarry to form part of the restoration landform.

Legend

- Application Boundary
- Operational Site
- Mineral Extraction
- Material Placement
- Existing Buildings
- Existing Water Body
- Existing Woodland
- Proposed Woodland
- Proposed Shrub
- Proposed Grass
- Existing Public Right of Way
- Diverted Public Right of Way
- Original Public Right of Way

BREEDON

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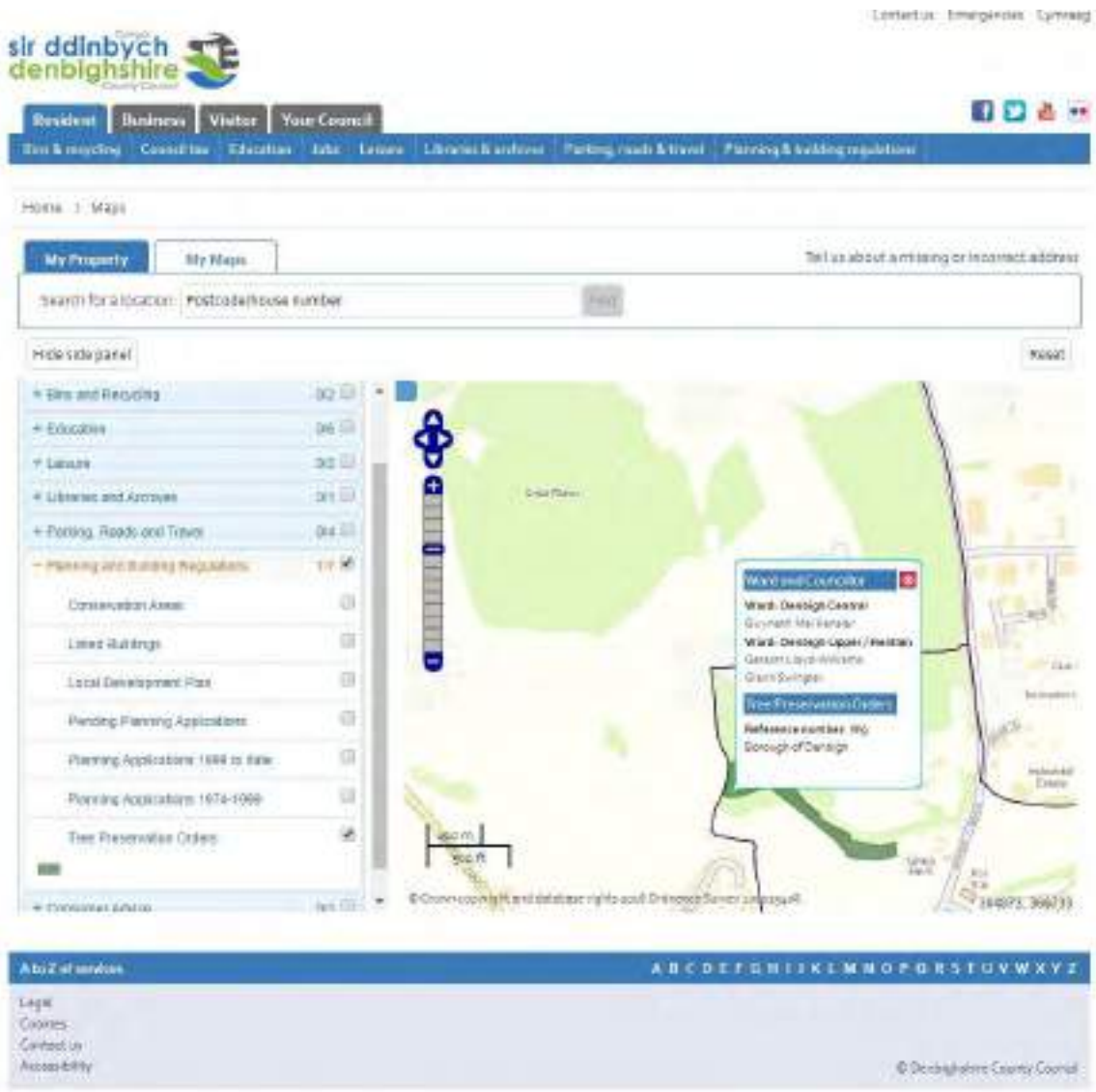
DRAWING STATUS	**PRELIMINARY**
PROJECT	**Denbigh Quarry**
CLIENT	**Breedon Southern Ltd**
TITLE	**Phase 2**
DATE	**October 2019**
SCALE	**1:4000**
DRAWN	**CAR**
CHECKED	**RH**
DRAW NO.	**M18.155.D.025**

APPENDIX 4

TREE PRESERVATION ORDER MAP

Extract from Denbighshire County Councils website:
https://maps.denbighshire.gov.uk/MyDenbighshire.aspx



DENBIGHSHIRE COUNTY COUNCIL — TREE PRESERVATION ORDER No 9 — BOROUGH OF DENBIGH.

W1
W2
W3
W4
W5
W6
W7
W9
W10
W12
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W31
W32
W33

HENLLAN URBAN CP

DENBIGH MB

DENBIGH (DINBYCH)

DENBIGH CP

LLANRHAEADR-YNG-GHINMERCH URBAN CP

N

KEY

APPROX. EXTENT OF PRESENT T.P.O.s

WOODLAND NUMBER W1

FILE No 101/6.
OCTOBER 1984.

GLYNDWR DISTRICT COUNCIL
Planning Department
Council Offices
Wynnstay Road
RUTHIN
Clwyd
LL15 1YN

Based upon the 19 70 + 71 Ordnance Survey ..... th scale map with the permission of the Controller of Her Majesty's Stationery Office.
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Ordnance Survey
Licence No. LA072745

(1:10,000 Scale

APPENDIX 5

BRITISH STANDARD 5837:2012 TREES IN RELATION TO CONSTRUCTION –
CASCADE CHART FOR TREE QUALITY ASSESSMENT

TREES FOR REMOVAL	
Category and Definition	**Criteria**
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 U Category trees (i.e. 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) e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality.

TREES TO BE CONSIDERED FOR RETENTION			
Catergory & Definition	**1. Mainly arboricultural values**	**2. Mainly Landscape values**	**3. Cultural Values**
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 essential components of groups, or of 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-pastures)
Category B **Those 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 area	Trees with clearly identifiable conservation or other cultural benefits
Category C **Those of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in the higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.	Trees with no material conservation or other cultural value