

TREE SOLUTIONS



Arboricultural Impact Assessment

Park View, Gatewen Road, New Broughton

Prepared for:

L HUGHES

Our Ref: 25/AIA/WXM/333

June 2025

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1.0 INSTRUCTION

- 1.1 We have been instructed by L Hughes (the applicant) to undertake an Arboricultural Impact Assessment (AIA) to evaluate the proposed development in relation to existing trees on site. This assessment has been carried out in accordance with the principles and guidance set out in British Standard 5837:2012 *'Trees in Relation to Design, Demolition and Construction – Recommendations'*.
- 1.2 We have been instructed to prepare this report to assist all parties involved in the planning process in making informed and balanced judgements regarding arboricultural features in relation to the proposed development at Park View, Gatewen Road, New Broughton. Accordingly, all trees within influencing distance of the proposed works both on-site and on adjacent land have been surveyed. These trees are detailed within the Tree Survey Schedule (Appendix 1) and are plotted on all relevant accompanying plans.
- 1.3 A Stage 1 tree survey was carried out in May 2025 by Alistair Henderson, Principal Consultant at Tree Solutions Ltd. The appraisal of the mechanical integrity of the trees on site is considered sufficient to inform the current development proposal.

The assessment was conducted from ground level and did not involve any invasive investigations. Consequently, the potential presence of concealed or subsurface defects cannot be fully ruled out. While the primary purpose of the survey was not to assess tree safety, any obvious structural defects considered significant in the context of the existing or proposed land use have been recorded.

It should be noted that detailed tree safety inspections fall outside the scope of this report, unless such assessments were explicitly instructed in writing.

- 1.4 Three individual trees (T1-T3) and two groups (G1-G2) were surveyed and mapped on a Preliminary Tree Constraints & Impact Assessment Plan Ref: 25/AIA/WXM/333, Drawing No. 1 & 2 at **Appendix 2**. All arboricultural information recorded during the survey is presented within a schedule at **Appendix 1**.
- 1.5 The Arboricultural Impact Assessment is based on the proposed layout plan, Drawing No: 14-007 PL02-1 provided by Sustain Architecture.

2.0 STATUTORY CONTROLS & PLANNING POLICY

- 2.1 Unfortunately Wrexham County Borough Council do not provide Tree Preservation Order or Conservation Area designations online and as such we have been unable to confirm if any trees are protected. You are advised to seek confirmation on this from the Council prior to undertaking any tree works not granted consent under this planning application.

2.2 Protected Species

- 2.2.1 Mature trees often feature cavities, crevices, and hollows that provide potential roosting or nesting sites for protected species, notably bats and barn owls. Both species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), as well as The Conservation of Habitats and Species Regulations 2017 (as amended), which incorporates the provisions of the former 2007 Regulations. Any works affecting such trees must be preceded by appropriate ecological surveys and, if necessary, mitigation measures to ensure legal compliance.

2.3 Wildlife Habitats

- 2.3.1 Trees and hedgerows of various species offer valuable nesting habitat for a wide range of birds. It is likely that nesting birds will be present on site during the breeding season, typically from March to September. As such, any vegetation clearance or tree works during this period should be preceded by a nesting bird check conducted by a suitably qualified ecologist. Works should be delayed if active nests are identified, in line with wildlife protection legislation.

3.0 THE SITE

- 3.1 The site contains a detached bungalow with unkempt grounds due to lack of any ongoing management. There are no trees of any merit.



P1 – Overgrown, unkempt site viewed from south

4.0 DEVELOPMENT PROPOSAL

- 4.1 Replacement dwelling with associated vehicular access and parking.

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

5.1 GENERAL

- 5.1.1 *During the development process, there may be three or even four key constraints to consider in relation to retained trees. These include:*

1. **Construction Exclusion Zones (CEZ):** Areas around retained trees where no construction activity, ground compaction, or material storage is permitted, to protect the root system and overall tree health.
2. **Crown Protection Areas (or CEZ 2):** Above-ground space required to accommodate the tree's existing and future crown spread, including allowances for safe working distances and potential pruning limits.
3. **Root Protection Areas (RPA):** Below-ground zones defined to safeguard the tree's root system, as per BS5837:2012 guidelines, where development and soil disturbance are strictly limited.
4. **Working Space Buffers (if applicable):** Additional space around CEZ or RPA boundaries required to ensure safe access for construction personnel and machinery, without compromising tree protection measures.

5.2 ROOT PROTECTION AREA (RPA)

- 5.2.1 The Root Protection Area (RPA), expressed in square metres (m²), must be protected both prior to and throughout any demolition or construction activities. This protection is essential to ensure the successful retention of trees by safeguarding a sufficient quantity of viable, functioning roots.

The RPA is derived from a radial measurement taken from the centre of the tree stem. For single-stemmed trees, this is calculated by multiplying the stem diameter (measured at 1.5 m above ground level) by a factor of 12. For multi-stemmed trees, the calculation is based on the formula: (mean stem diameter²) × number of stems.

- 5.2.2 During the Arboricultural Impact Assessment (AIA) process, this radial distance is converted by the Arboriculturalist into an actual area to be protected, considering the specific site conditions and any environmental or developmental influences that may have impacted the tree's rooting pattern.

Initially, the RPA for each tree should be represented as a circle centred on the base of the stem. However, where site conditions suggest asymmetric rooting—due to factors such as physical obstructions, topography, or historic ground disturbance—a polygon of equivalent area may be substituted. Any deviation from a circular RPA must be underpinned by a robust arboricultural assessment, accurately reflecting the likely distribution of roots.

- 5.2.3 The Root Protection Area (RPA) must be safeguarded through the installation of appropriate tree protection fencing prior to the commencement of any demolition or construction activities on site. This fencing should remain in place and be respected for the duration of the works.

A strict prohibition on potentially harmful activities within the RPA must be observed. These include, but are not limited to:

- Mechanical excavation
- Soil stripping
- Fire lighting
- Storage of materials, equipment, or waste
- Ground level reduction
- The installation of impermeable or excessively sealed surfaces

Where construction activity is proposed in close proximity to retained trees or within the RPA, additional protective measures may be required. These may include the use of temporary ground protection to prevent soil compaction, or the implementation of special engineering solutions—such as elevated surfaces or low-impact foundations—designed to minimise disturbance to the rooting environment

5.3 CEZ 2: TREE CROWN PROTECTION ZONE

- 5.3.1 This is the area above ground occupied by the crown (branches) of the tree, along with allowances for working space (safe working area) and if appropriate, for future growth. The extent of CEZ 2 is determined by considering the existing and future crown spread of the tree(s), bearing in mind the possibility of this being modified by an acceptable quantum of pruning.
- 5.3.2 Tree canopies are well clear of any construction and site operational works and as such access facilitation pruning is not required.

5.4 CEZ 3: TREE DOMINANCE ZONE

- 5.4.1 N/A as application is for a replacement dwelling on similar footprint as existing. Most trees on site are to be removed.

5.5 CEZ 4: NEW PLANTING ZONE

- 5.5.1 Refer to landscape proposals.

6.0 SURVEY METHODOLOGY

- 6.1 The method used in the preparation of this report is based on the principles of BS 5837: 2012.
1. Tree heights were surveyed to the nearest 1m
 2. Trunk diameters were measured by use of forestry girth tape
 3. The category assessment (Table 1) on which the trees is based include current and long-term arboricultural, landscape, cultural and conservation values (BS5837: 2012). This table can be found at **Appendix 1**
 4. For clarity, the grading system is summarised from **Table 2** of the BS as follows:

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

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

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

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

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

6.2 SOIL ASSESSMENT

- 6.2.1 N/A due to nature of development being a replacement dwelling.

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 Root Protection Areas (RPAs) 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 In accordance with BS 5837:2012, the RPAs have been determined based on stem diameter measurements and adjusted to reflect on-site conditions that are likely to influence root morphology. Root development is affected by both site topography and the physical characteristics of the soil or substrate. Where trees are located adjacent to existing hard surfaces or below-ground obstructions, lateral root spread may be constrained due to compacted subgrades and structural barriers.
- 7.1.4 The RPA of all trees have been plotted unmodified as there were no significant underground barriers present to prevent good radial root spread.

7.2 Underground Services

- 7.2.1 There are no proposed new services runs within the RPA of any retained trees.

8.0 IMPACT ASSESSMENT SUMMARY

- 8.1.1 Tree Solutions Ltd undertook a Stage One Preliminary Tree Survey in accordance with *BS 5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations*. The survey identified all existing trees on site and calculated their respective Root Protection Areas (RPAs). These RPAs were incorporated into a Tree Constraints and Impact Assessment Plan (TCIAP), which directly informed the design development process.
- 8.1.2 Following on-site consultation with Tree Solutions and a detailed review of the survey and constraints plan, the proposed site layout has been carefully refined to broadly align with the footprint of a previously approved scheme. This approach minimises adverse impacts on retained trees and reflects a responsible and coordinated design strategy, incorporating arboricultural constraints from an early stage.
- 8.1.3 To facilitate the proposed development and support appropriate site management, it will be necessary to clear the area of overgrown, naturally colonised scrub (Group G1) located within the site boundary. These comprise low-quality, small-diameter stems ($\leq 50\text{mm}$), offering negligible arboricultural or landscape value. Their removal is considered appropriate and would be required regardless of the current development proposal to restore the area as usable garden space. There is no identified planning justification for their retention.
- 8.1.4 Whilst Tree Numbers 1 and 2 are currently shown for retention, these specimens are low-quality conifers with limited arboricultural or landscape value. As such, we have recommended that their removal be considered as part of wider site management, with the potential for replacement planting if appropriate. Their removal would not adversely affect the character of the site and may offer long-term benefits in terms of amenity and species suitability.
- 8.1.4 The proposal demonstrates compliance with the relevant provisions of *Planning Policy Wales (2024)*, the adopted *Wrexham Local Development Plan (LDP)*, and the recommendations of *BS 5837:2012*, particularly in relation to the retention, protection, and integration of existing trees throughout both the design and construction phases.



P2 – T1 & T2 viewed from outside site to south



P3 – G2 beyond adjacent road to south



P4 – Site viewed from NW

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 Compliance with BS 5837:2012 – Trees in Relation to Design, Demolition and Construction

BS 5837:2012 provides current best practice recommendations for the assessment, retention, and protection of trees on development sites. The proposed development has adhered to this guidance through the following measures:

- Arboricultural input from the outset, including the commissioning of a Phase 1 Preliminary Tree Survey, which informed the site layout and early design decisions.
- Respecting the constraints posed by high- and moderate-quality trees, ensuring their retention and sensitive integration within the proposed scheme.
- Ongoing arboricultural involvement throughout the design process, supporting the delivery of a balanced layout that meets both development objectives and long-term tree protection requirements.
- No adverse impacts to retained trees, as all works are located outside designated Root Protection Areas and Construction Exclusion Zones.
- Detailed tree protection measures are set out within an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) that accompanies this report.

Considering the above, we believe there to be no valid arboricultural grounds for refusal of the application.

11.0 LIMITING CONDITIONS

- The information contained in this report pertains only to the trees that were inspected and reflects their condition at the time of the survey.
- The findings and recommendations within this report are considered valid for a period of two years from the date of inspection.
- The inspection was limited to a visual assessment from ground level only. No invasive investigations—such as dissection, excavation, probing, or coring—were undertaken. As such, no warranty or guarantee, express or implied, is offered that undetected issues may not arise in the future.
- This report has been prepared solely for the use and benefit of the client. Tree Solutions Ltd accepts no liability or responsibility to any third party.
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Appendix One
Tree Survey Schedule

TREE SURVEY SCHEDULE (BS5837: 2012)

TREE SOLUTIONS

SITE:	PARK VIEW, GATEWEN ROAD, NEW BROUGHTON, LL11 6YZ
CLIENT:	L HUGHES
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	A. HENDERSON
ASSESSMENT DATE:	MAY 2025
VIEWING CONDITIONS:	CLEAR
JOB REFERENCE:	25/AIA/WXM/333

PAGE 1 OF 1

TREE NO. T - Tree G - Group H - Hedge	SPECIES (COMMON NAME)	AGE	HEIGHT (m) + CROWN CLEARANCE/ DIRECTION OF GROWTH (N.S.E.W)	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA. (mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T1	Lawson Cypress	EM	13 0	1.5	2.5	2	1.5	210 150 (325)	G	- Unremarkable tree on boundary - Trifurcates at base - Forms closed canopy with T2 - Provides screen to road - E.R.C. 0	Consider removing and replacing with better quality tree/s	C3	4 48m²
T2	Lawson Cypress	EM	13 0	1.5	1.5	1.5	1.5	250 200 (320)	G	- As T1 - Twin stem - High pruned during boundary hedge treatment - E.R.C. 0	Consider removing and replacing with better quality tree/s	C3	3.8 46m²
T3	Ash	SM	7 4S	1	3	1.5	1.5	190	P	- Self-set small tree with poor structural form - In decline due to spread of Chalara Ash Dieback - E.R.C. 0	Remove	U	N/A
G1	Lilac, Goat Willow, Privet, Sycamore, Ash (mixed shrubs)	Y	≤5					≤50	G	- Mass of naturally colonised scrub due to lack of any ground's maintenance - E.R.C. 0	Remove	C1 & 3	0.5
G2	Sycamore	M	16 5N	6	3.5	5	5	≤550	G	- Linear group within agricultural field beyond access road & retaining wall - Prominent in landscape - E.R.C. 40+	3rd party tree – no works	A2	6.6 136m²

HEADINGS & ABBREVIATIONS

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

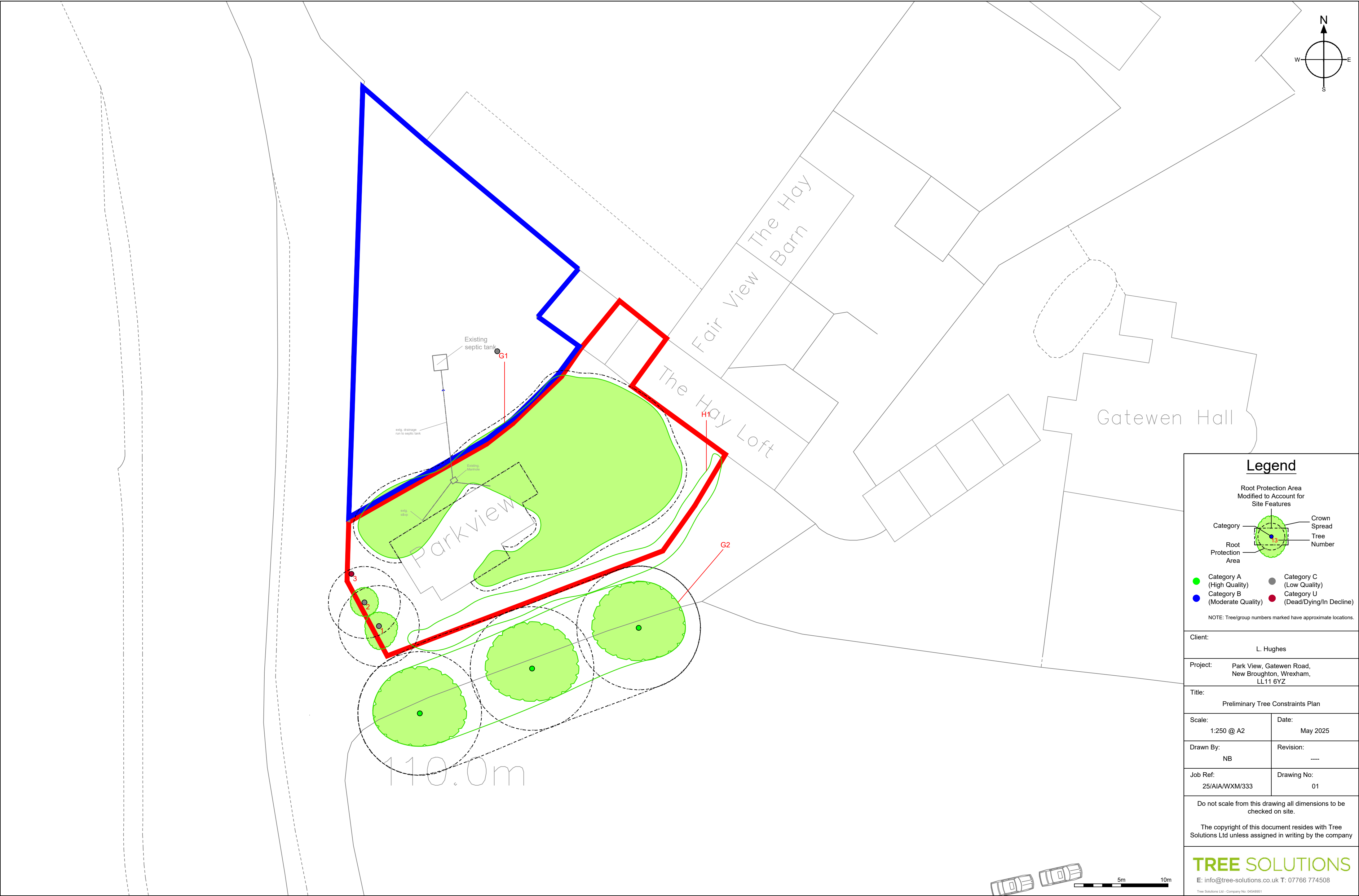
REFERENCE NUMBER. REFER TO PLAN OR NUMBERED TAGS WHERE APPLICABLE (T = TREE, G = GROUP, H = HEDGE)
COMMON NAME (LATIN NAMES AVAILABLE ON REQUEST)
Y = YOUNG, SM = SEMI MATURE, EM = EARLY MATURE, M = MATURE, PM = POST MATURE
ESTIMATED AND RECORDED IN METRES. APPROXIMATELY 1 IN 10 TREES ARE MEASURED USING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

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix Two

Preliminary Tree Constraints Plan



Legend

Root Protection Area
Modified to Account for
Site Features

Category

Root Protection Area

Crown Spread

Tree Number

Category A (High Quality)

Category B (Moderate Quality)

Category C (Low Quality)

Category U (Dead/Dying/In Decline)

NOTE: Tree/group numbers marked have approximate locations.

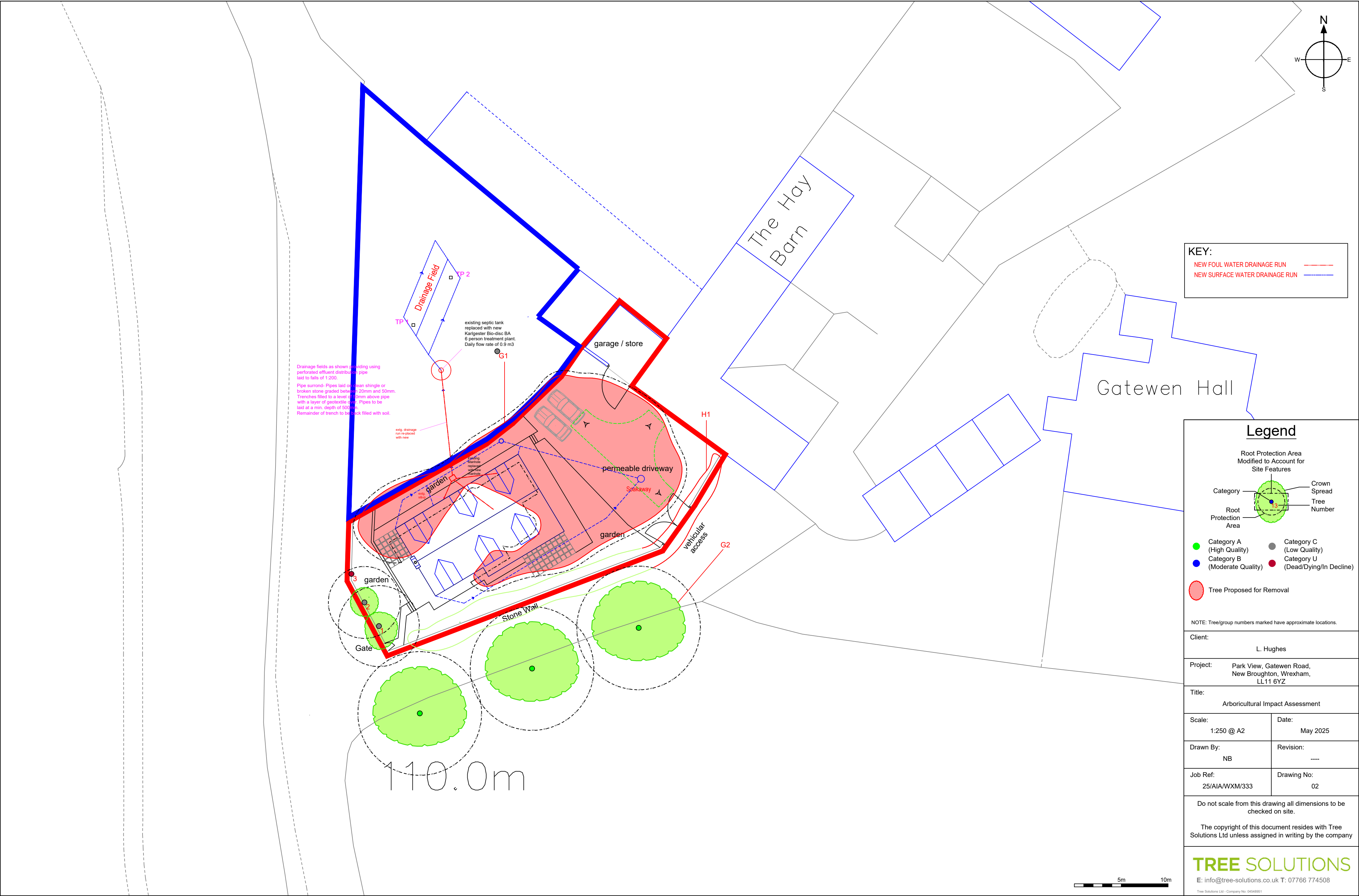
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L. Hughes	
Project:	
Park View, Gatewen Road, New Broughton, Wrexham, LL11 6YZ	
Title:	
Preliminary Tree Constraints Plan	
Scale:	Date:
1:250 @ A2	May 2025
Drawn By:	Revision:
NB	----
Job Ref:	Drawing No:
25/AIA/WXM/333	01

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Appendix Three

Impact Assessment Plan



KEY:

NEW FOUL WATER DRAINAGE RUN

NEW SURFACE WATER DRAINAGE RUN

Legend

Root Protection Area
Modified to Account for
Site Features

Category

Root Protection Area

Crown Spread

Tree Number

Category A
(High Quality)

Category B
(Moderate Quality)

Category C
(Low Quality)

Category U
(Dead/Dying/In Decline)

Tree Proposed for Removal

NOTE: Tree/group numbers marked have approximate locations.

Client:	
L. Hughes	
Project:	
Park View, Gatewen Road, New Broughton, Wrexham, LL11 6YZ	
Title:	
Arboricultural Impact Assessment	
Scale:	Date:
1:250 @ A2	May 2025
Drawn By:	Revision:
NB	----
Job Ref:	Drawing No:
25/AIA/WXM/333	02

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