

<b>TREE SURVEY SCHEDULE FOR ARBORICULTURAL CONSTRAINTS APPRAISAL</b>	
<b>Site:</b>	Land off Clitheroe Road, Barrow, Lancashire, BB7 9AQ
<b>Agent for Client:</b>	PWA Planning

<b>Surveyor:</b>	Jennie Keighley PhD MSc MArborA
<b>Survey Date:</b>	30 August 2017
<b>Job Ref:</b>	BTC1416

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m <sup>2</sup> )	RPA Radius (m)	
T1	Rowan	7	110	N E S W	2 2 2 2	1.5-N&S 1.5	Y	G	▪ Leader removed at base in past.	▪	20+	C1	5	1.32
T2	River Birch	13	270	N E S W	2 2 3 3	3-W 1.25	EM	G	▪ Slight lower stem curvature north. ▪ Grass clippings piled around base.	▪	20+	B1	33	3.24
T3	Common Ash	15	1x310 1x270 (ts)	N E S W	5.5 5.5 5.5 5.5	1.75-S 1.75	EM	M	▪ Growing on opposite side of wet ditch. ▪ Bifurcates at a height of 1.25m with a slightly included bark union. ▪ Various partially occluded pruning wounds from where crown lifted from over neighbouring access to industrial estate.	▪	10+	C1	76	4.93
T4	River Birch	17	280	N E S W	3.5 3.5 3.5 3.5	5-NE 1.5	EM	G	▪ Growing on opposite side of wet ditch. ▪ No significant visible defects.	▪	20+	B1	35	3.36
T5	Common Ash	18	240	N E S W	3 3 3 3	6-E 3	SM	M	▪ Partially occluded wound at a height of 2m on northern side, potentially where a codominant leader has been removed in past. ▪ Frequent twig dieback in lower crown. ▪ Crown evidently attenuated due to presence of neighbouring trees, which have since been felled.	▪	10+	C1	26	2.88
T6	Common Ash	18	260	N E S W	2 4 4 2	4-NE&SW 1.75	EM	G	▪ Bifurcates at a height of 3m. ▪ Crown slightly biased south. ▪ Crown evidently attenuated due to presence of neighbouring trees, which have since been felled.	▪	20+	B1	31	3.12

**Headings and Abbreviations:**

<b>No.</b>	Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
<b>Species:</b>	Common name
<b>Height:</b>	In metres, to nearest half metre - where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
<b>Stem Diam.:</b>	Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
<b>Branch Spread:</b>	Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
<b>Branch &amp; Canopy Clearances:</b>	Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point - to inform on crown to height ratio, potential for shading, etc.
<b>Life Stage:</b>	Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
<b>PC:</b>	Physiological Condition - a measure of the tree's overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
<b>General Observations and Comments:</b>	Comments relating to the tree's overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
<b>Management Recommendations:</b>	Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take existing site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
<b>ERC:</b>	Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
<b>Cat. Grade:</b>	Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
<b>RPA m<sup>2</sup>:</b>	Root Protection Area in m <sup>2</sup> - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage
<b>RPA Radius (m):</b>	Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
<b># (Estimated Dimensions):</b>	Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#" symbol

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m <sup>2</sup> )	RPA Radius (m)
T7	River Birch	18	290	N 2 E 2 S 2.5 W 1	10-S 10	EM	G	<ul style="list-style-type: none"> <li>Occasional deadwood in lower crown to a diameter of 30mm.</li> <li>Crown evidently attenuated due to presence of neighbouring trees, which have since been felled.</li> </ul>	▪	20+	B1	38	3.48
T8	Norway Maple	15	1x420 1x380 1x230 1x220 1x210 (ms)	N 6 E 6 S 6 W 6	1.5-S 1.75	M	M/G	<ul style="list-style-type: none"> <li>Growing on opposite side of wet ditch.</li> <li>Growing at top of banking, at a higher level to site, and RPA offset accordingly on attached Tree Constraints Plan.</li> <li>Multi-stemmed from ground level with included bark unions.</li> <li>Poorly crown lifted in past, with wounds unoccluded.</li> </ul>	▪	20+	B1	211	8.19
G1	5no. Rowan, 2no. Beech, 2no. Cypress	≤ 6	≤ 1x90 3x50 (ms)	N ≤ 2 E ≤ 2 S ≤ 2 W ≤ 2	1.25 ≥ 1.5	Y	G	<ul style="list-style-type: none"> <li>Series of closely spaced to widely spaced smaller, young trees growing beneath canopies of larger trees.</li> <li>No significant visible defects.</li> </ul>	▪	20+	C1	≤ 7	≤ 1.5
G2	2no. Rowan	≤ 9	≤ 180	N ≤ 3 E ≤ 3 S ≤ 3 W ≤ 3	1-S ≥ 1.5	SM- EM	G	<ul style="list-style-type: none"> <li>Closely spaced pair growing on opposite side of wet ditch.</li> <li>No significant visible defects.</li> </ul>	▪	20+	C1	≤ 15	≤ 2.16
G3	2no. Hazel, 1no. Norway Maple 'Crimson King'	≤ 15	≤ 410	N ≤ 5 E ≤ 5 S ≤ 5 W ≤ 5	N/A ≥ 0	M	M	<ul style="list-style-type: none"> <li>Moderately spaced group growing on opposite side of wet ditch.</li> <li>Growing at top of banking, at a higher level to site, and RPA offset accordingly on attached Tree Constraints Plan.</li> <li>Hazels both multi-stemmed from base.</li> <li>Light ivy growing up many of stems.</li> <li>Light understorey of smaller Hawthorn, Parsley-Leaved Elder, and Sea Buckthorn.</li> </ul>	▪	10+	C2	≤ 76	≤ 4.92

**BS5837:2012 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)							
<p><b>Category U</b></p> <p>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</p>	<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: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see BS5837:2012 paragraph 4.5.7.</i></p>			Red			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;"><b>1. Mainly arboricultural qualities</b></td> <td style="width: 33%; text-align: center;"><b>2. Mainly landscape qualities</b></td> <td style="width: 33%; text-align: center;"><b>3. Mainly cultural values, including conservation</b></td> </tr> </table>					<b>1. Mainly arboricultural qualities</b>	<b>2. Mainly landscape qualities</b>	<b>3. Mainly cultural values, including conservation</b>
<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>							
<p><b>Category A</b></p> <p><b>Trees of high quality</b> with an estimated remaining life expectancy of at least 40 years</p>	<p>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)</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	Green			
<p><b>Category B</b></p> <p>Those of moderate quality and value: those in such a condition as to make a significant contribution. A minimum of 20 years is suggested.</p>	<p>Trees that might be included in the high category, but are downgraded because of impaired condition. Examples include the presence of remediable defects including unsympathetic past management and minor storm damage</p>	<p>Trees present in numbers, usually as groups or woodlands, so they form distinct landscape features which attract a higher collective rating than they might as individuals. But which are not, individually, essential components of formal or semi-formal arboricultural features. For example, trees of moderate quality within an avenue that includes better, A category specimens. Or trees which are internal to the site, therefore individually having little visual impact on the wider locality</p>	<p>Trees with clearly identifiable conservation or other cultural benefits</p>	Blue			
<p><b>Category C</b></p> <p>Those trees of low quality and value: currently in adequate condition to remain until new planting could be established - a minimum of 10 years is suggested - or young trees with a stem diameter below 150 mm</p>	<p>Trees not qualifying in higher categories</p>	<p>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</p>	<p>Trees with very limited conservation or other cultural benefits</p>	Grey			
	<p>Note – Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation</p>						

## **DISCLAIMER**

**Survey Limitations:** Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or in areas of ground vegetation, cannot therefore be expected. All obvious defects, however, are reported. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only.

Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regards tree structural integrity and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

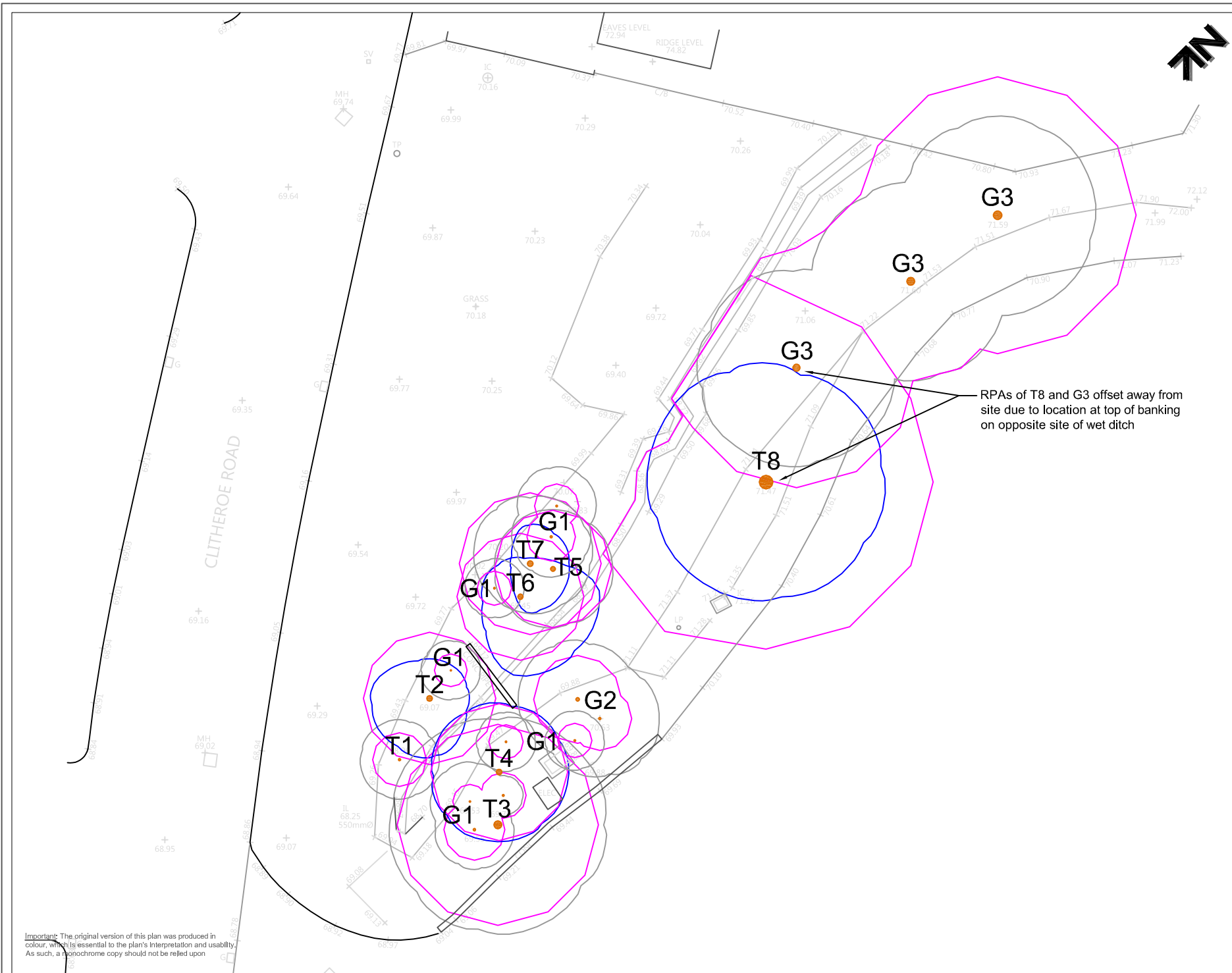
Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potentially unacceptable risk to persons and/or property has been identified during our survey. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will first attempt to inform the site occupier of the issues and, if not possible, then inform the relevant Council. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

The tree survey and any report information provided is intended as a guide to identify key tree related constraints to site development only. As such, the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

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**KEY**

T = Individual Tree  
G = Group of Trees


Please refer to associated Tree Survey Schedule for specific details in respect of items below

**Tree Categorisations:**

Those to be Considered for Retention:


-  Category 'A' Tree/Group  
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years
-  Category 'B' Tree/Group  
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years
-  Category 'C' Tree/Group  
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Unsuitable for Retention:

-  Category 'U' Tree/Group  
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

Note: The stem locations of some of the trees in group G1 were not included on the topographical site plan provided and were subsequently plotted by the arboricultural surveyor at the time of the survey using GPS siting and measurement triangulation from existing land features. As such, the locations of these trees cannot be considered to be entirely accurate.

**Root Protection Areas (RPAs):**

-  RPAs  
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone

RPAs of T8 and G3 offset away from site due to location at top of banking on opposite side of wet ditch

**Project:**  
LAND OFF CLITHEROE ROAD  
BARROW  
LANCASHIRE  
BB7 9AQ

**Agent for Client:**  
PWA PLANNING

**Title:**  
**TREE CONSTRAINTS PLAN**  
In Relation to Proposed Residential Development

Scale: 1:250@A4  
Date: August 2017  
Drawn by: JK  
Checked by: RG



Important: The original version of this plan was produced in colour, which is essential to the plan's interpretation and usability. As such, a monochrome copy should not be relied upon