



**ArbTS - Arboricultural Technician Services Ltd**

(Tree Consultancy Services)

Stephen Lucocq *BSc (Hons), Tech Cert (ArborA), M.Arbor.A*  
*Professional Member of the Arboricultural Association*

Web site: [www.ArbTS.co.uk](http://www.ArbTS.co.uk)

Email: [info@ArbTS.co.uk](mailto:info@ArbTS.co.uk)

Mobile: 07789 551 591

## Arboricultural Report

Including:

Tree Survey Data &

Tree Constraints Plan,

Arboricultural Impact Assessment,

Tree Protection Plan and Arboricultural Method Statement

To the British Standard 5837:2012  
*(Trees in relation to design, demolition  
and construction. Recommendations)*

Date – 6<sup>th</sup> March 2024

Site – Frontier Site, Newbridge Industrial Estate, Pontllanfraith

Project Reference – ArbTS\_715.7\_Frontier Site

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## 1.0 Introduction

- 1.1 The purpose of this report is to assess the quality of the trees at Frontier Site, Newbridge Industrial Estate, Pontllanfraith, assess the arboricultural impact of the proposed development design and provide details regarding the protection of retained trees during construction work.
- 1.2 This report identifies the quality of the trees on this site as categorised by the *British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations*. The survey and findings, as reported here, represent an unbiased third-party opinion offering professional advice on the value of the trees on or adjacent to this site. To illustrate the constraints identified trees pose to the design of future development, a Tree Constraints Plan (TCP) has been drawn, as found in Appendix 2.
- 1.3 Arboricultural constraints within the surveyed site relate primarily to the preservation of trees recommended for retention. Identified trees must be protected during the construction phase by employing a combination of tree protection methods as illustrated in Appendix 4, Tree Protection Plan and detailed within Section 6 - Arboricultural Method Statement.
- 1.4 The trees' root system and the associated soil structure is often overlooked during the construction process and can be damaged or altered by compaction, causing significant damage to the health of the tree. Generally, the tree's entire root system is within the top 600mm of soil, where it can be easily damaged. A calculated ground area around the tree should be protected during the onsite construction phase. In this report, it is referred to as the Root Protection Area (RPA).

## 2.0 The Tree Survey

- 2.1 The tree survey was conducted by *Stephen Lucocq BSc (Hons), Tech Cert (ArborA), M.Arbor.A* on 12<sup>th</sup> February 2024.
- 2.2 Trees over 75mm were tagged where appropriate with numbered metal identification tags at around 2.0 metres above ground level.
- 2.3 All observations were made from the ground with an acoustic-sounding hammer. No invasive decay detective instruments were used.
- 2.4 The survey was carried out per *British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations*. This standard gives a systematic, consistent, transparent evaluation method for tree surveying.
- 2.5 The tree survey was conducted with the aid of a topographical survey.
- 2.6 **Preliminary management recommendations:** The survey has identified preliminary management recommendations for the trees on or adjacent to this site. Details regarding these specified operations are given in this report (See Appendix 1 - Tree Survey Data). Where work priority is stated to be H – High due to safety reasons, these operations should be carried out as soon as possible. Where work priority is

said to be M/H – medium/high or higher, these operations should be undertaken before the commencement of any works on site.

- 2.7 **Limitations of the tree survey:** Whilst every effort is made to ensure an accurate assessment of the tree's condition during the survey, no responsibility can be taken for resultant damage or injury that occurred by a failing tree. The survey only gives a snapshot of what is visible and is not obscured on the day of the survey. The survey identifies trees of varying quality and their above-ground/below-ground constraints. This survey does not constitute a full tree condition survey/tree risk assessment of the site, and this report is only valid for 24 months from the date of the tree survey.

### 3.0 The Trees

- 3.1 The complete tree survey data can be found in Appendix 1A Tree Survey Data

- 3.2 Tree Survey Summary Table (See Appendix 3 for BS5837 category definitions).  
(A more detailed Tree Survey Data Summary can be found in Appendix 1B)

BS5837:2012 Quality Category	Total Number of Individual Trees Surveyed	Total Number of Tree Groups Surveyed	Total Number of Tree Areas Surveyed	Total Number of Woodland Areas Surveyed	Total Number of Hedgerows Surveyed	Total
<b>A</b> (High - Most desirable for retention)	0	0	0	0	0	0
<b>B</b> (Moderate - Desirable for retention)	7	2	0	0	0	9
<b>C</b> (Low - Optional for retention)	5	0	0	0	0	5
<b>U</b> (Poor - Unsuitable for retention)	0	0	0	0	0	0
<b>Total A,B,C,U</b>	12	2	0	0	0	14

### 4.0 Tree Constraints Plan (TCP) Information

- 4.1 A Tree Constraints Plan (TCP) can be found in Appendix 2 of this report. An introduction to TCP can also be found at the start of this Appendix Section. For further information and details regarding TCP, please see the *British Standard 5837:2012, Trees in relation to design, demolition and construction – Recommendations*.



## 5.0 Arboricultural Impact Assessment (AIA)

5.1 The following Arboricultural Impact Assessment has been made for the proposed development design.

5.2.1 Tree Loss – AIA – MODERATE - The following trees are required to be removed to facilitate the construction of the proposed development design.

5.2.2 Individual Tree Loss –

- Tree T406 – Sycamore – Moderate quality (B category) - roadside tree
- Tree T407 – Crack Willow – Moderate quality (B category) - roadside tree
- Tree T408 – Aspen – Moderate quality (B category) - roadside tree
- Tree T3 – Cherry – Low quality (C category)

5.2.3 Overall Tree Loss –

Four trees are identified to be removed to facilitate the construction of the proposed development design. One of these trees identified for removal is low-quality trees (C Category). This tree should not present a constraint on developing the site.

Removing the three moderate-quality roadside trees (B Category) will require mitigation by suitable compensatory tree planting and surrounding practical woodland management (i.e. invasive species removal etc.).

5.3 Root Protection Area (RPA) – AIA - LOW - RPA potential damage can all be managed through the installation of tree protective fencing, as designed by an Arboriculturist will ensure no significant long-term adverse impact will occur to any of the retained trees.

5.4 Tree surgery work – AIA – LOW - Some branch/stem reduction pruning work will be required to facilitate this proposed scheme, as detailed in the tree protection plan (Appendix 4). This work will be carried out to the *British Standard 3998:2010 tree work recommendations*. Adhering to this standard will ensure no adverse impact on these trees' long-term health or visual amenity.

5.5 Future Tree Pressures – AIA – LOW - Overall, the design has considered the size and value of the trees on this site to minimise any future pressures to heavily prune or fell the higher-value trees.

5.6.1 Conclusion – AIA – LOW (including landscape planting mitigation) - The site has several Arboricultural constraints that must be considered in the development design phase. Four trees are identified to be removed to facilitate the construction of the proposed development design. One of these trees identified for removal is low-quality trees (C Category). This tree should not present a constraint on developing the site. Removing the three moderate-quality roadside trees (B Category) will require mitigation by suitable compensatory tree planting and surrounding practical woodland management (i.e. invasive species removal etc.).

- 5.6.2 This proposed development design aims to retain a high proportion of the higher-value trees (B Category) that form part of the site whilst sustainably using them for commercial development.
- 5.6.3 The proposal will not cause a long-term adverse impact on the local amenity of the area through tree loss. Mitigative tree, hedgerow and shrub planting will be required for the loss of the trees on this site through a combination of different diverse tree/shrub species and varied nursery-aged stock.
- 5.6.4 The construction of the proposed development, whilst complying with the tree protection scheme as detailed in section 6, will ensure that no significant long-term adverse Arboricultural impact occurs on the health of any retained trees on or adjacent to this site or the long-term amenity of the area.

## 6.0 Arboricultural Method Statement

- 6.1 The Tree Protection Plan to facilitate the construction of the development design can be found in Appendix 4 of this report. The Tree Protection Plan must comply with all of the following:
- Be regarded as sacrosanct and follow the sequence of events as detailed in the table below
  - Be installed before commencement of any demolishing or construction works on site
  - Must not be removed or altered without prior approval of the local planning authority
- 6.2 The following table below provides a detailed sequence of events that must occur to protect the retained trees during all stages of the construction process. These methods must be communicated to the entire construction team before any work on site.

Stage	Arboricultural Method Statement (In the sequence of events)
<b>1.) Preconstruction</b> (Prior to any on-site construction work, including demolition work, site material storage etc.)	<b>1.1 – Design</b> areas for <b>construction site storage</b> by the site supervisor and the appointed Arboriculturist.
	<b>1.2 – Design</b> position, form and construction methods of <b>all utility services</b> with Arboricultural consideration. All underground service designs <b>MUST</b> conform to the NJUG Volume 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. The full document is available at <a href="http://www.njug.org.uk/">http://www.njug.org.uk/</a> and <b>BS5837:2012</b> . Local Planning Authority to be consulted on utility service design details and, if satisfied, to be approved in writing before installation during the construction phase.
	<b>1.3– Tree surgery work</b> to be carried out is detailed in the Tree Protection Plan (Appendix 4) of this report and to the <i>British Standard:3998:2010: Recommendation for tree works</i> .
	<b>1.4 – Tree protective fencing installed</b> in the position and form as detailed in the Tree Protection Plan (Appendix - 4). Installation is to be supervised by the appointed Arboriculturist. All weather tree construction exclusion zone posters are to be secured to fencing at regular intervals.

	<b>1.5 – Site storage area containers</b> installed as designed and supervised by the site supervisor and the appointed Arboriculturist.
	<b>1.6 – Appointed Arboriculturist to document</b> all tree protection methods in situ and photographs taken for reference purposes. Copy of document report sent to all parties.
<b>2.) Construction</b>	<b>2.1 – The site supervisor is to be briefed</b> by the appointed Arboriculturist regarding the Tree Protection Plan/Methods, and a laminated copy of the plan/methods is to be secured onto the wall in the site supervisor's office. Contact details of the appointed Arboriculturist, Council's Tree Officer, to be included. Emphasis is to be made to the site supervisor on the importance of the Tree Protection Plan/Methods and possible planning enforcement action (Stop Notice), problems with discharging tree protection conditions and/or legal action for noncompliance with these tree protection methods.
	<b>2.2 – All contractors are to be briefed</b> by the site supervisor and/or the appointed Arboriculturist regarding the tree protection plan and methods before starting work on site. Emphasis made to contractors on the importance of the Tree Protection Plan/Methods and possible planning enforcement action (Stop Notice), problems with discharging tree protection conditions and/or legal action for noncompliance with these tree protection methods.
	<b>2.3 – The construction phase begins</b> with regular <b>site inspection visits</b> from the appointed Arboriculturist (frequency of visits to be agreed with the LPA) to ensure all tree protection methods are being adhered to. Arboriculturist to document findings from the site visits, including any issues identified, how to resolve and photographic evidence. Document report to be sent to all parties within 1 week after the site visit.
	<b>2.4- Tree Safe Construction</b> (Throughout site) – areas outside of the construction exclusion zones, as shown on the tree protection plan, must adhere to the following: <ul style="list-style-type: none"> <li>• Building materials and fuels such as oil, bitumen or cement should not be stacked or discharged within 20 metres of the tree's stem.</li> <li>• Fires will not be lit beneath any tree or in a place where flames could extend to within 10 metres of the tree.</li> <li>• Trees to be retained and protected should not be used as anchorage for services or equipment.</li> <li>• The use of cranes and large machinery on site should be planned and care taken not to damage the trees during the process.</li> </ul>
	<b>2.5 – Unforeseen issues</b> which require the alteration of the Tree Protection Plan/Methods, required tree surgery work or immediate remedial work will be submitted to the Local Planning Authority for approval in writing.
<b>3.) Post Construction</b> ( <i>Once all construction work has been completed, this includes all utility services</i> )	<b>3.1 – Tree Protection fencing Removed.</b>
	<b>3.2 – Hard and soft landscaping commence</b> - All landscape team members are to be briefed regarding tree protections by an Arboriculturist.
	<b>3.3 – Any required remedial tree action is taken</b> , such as Leaf Mulch Application, soil de-compaction methods, contamination clean up etc., to be carried out.

## 7.0 Conclusion

- 7.1 Adhering to the tree protection details in this report, the proposed development can be constructed without any significant long-term adverse impact on the retained trees or the area's amenity.

## 8.0 Further Information & Qualifications

Stephen Lucocq has been involved in Arboriculture within South Wales for over twenty years. He has worked as an Arborist for many of these years and has an excellent working knowledge of the practical side of the profession. He has always taken an active interest in all areas of Arboriculture and kept up to date with current research and developments.

### Qualifications

- First Class BSc (Hons) Degree – Combined Studies - Biology and IT
- Arboricultural Association Technicians Certificate – Level 4 - (Merit)
- PTI - Professional Tree Inspection (Lantra Awards)
- 2D Computer-Aided Design (City and Guilds - Level 3)
- Quantified Tree Risk Assessment (QTRA) – Mike Ellison
- Visual Tree Assessment (VTA) – Mike Ellison
- Arboriculture and Bats (Lantra)
- Industrial Rope Access Trade Association (IRATA)
- Practical Arboriculture Qualifications (NPTC)

### Membership

- Arboricultural Association Professional Member (M.Arbor.A)

## 9.0 Web Information & Bibliography

### Web Information

- Arboricultural Association  
<http://www.trees.org.uk/>
- Cellular Confinement System  
**GeoWeb** - [GreenFix](#)  
**CellWeb** - [Geosynthetics](#) [Cellweb](#)
- Underground Utilises Installation  
<http://www.njug.org.uk/>

### Bibliography

- British Standards 3998 (2010) Recommendations for Tree Work UK; British Standards Intuition
- British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations UK; British Standards Intuition
- Coombes, A.J (1992) Trees London; Dorling Kindersley
- Lonsdale, D (1999) Principle of Tree Hazard Assessment and Management Edinburgh; Forestry Commission
- Mattheck, C (2007) Field Guide for Visual Tree Assessment Germany; Karlsruhe Research Centre
- Shigo, A.L (1991) Modern Arboriculture USA; Shigo and Trees, Association
- Sterry, P (2007) Collins Complete British Trees London; Collins
- Strouts, R.G (2000) Diagnosis of ill-health in trees Edinburgh; Forestry Commission
- Weber, K & Mattheck, C (2003) Manual of wood decay UK; Arboricultural Association

## **10.0 Appendix 1A -Tree Survey Data**

Tree ID #	Tree Species	Age	Stems	Stem Diam (mm)	Cat	Height + (Lower Branch Height)	Nrth	Est	Sth	Wst	Phys Cond	Struc Cond	Est. Remain Contrib	Comments	Preliminary Management Recommendations	Work Priority	RPR (m)	RPA (m2)
G3	Populus hybrid spp (Poplar hybrid spp),Acer pseudoplatanus (Sycamore),Corylus avellana (Hazel),Quercus robur (Common Oak),Prunus spinosa (Blackthorn),Prunus avium (Wild Cherry),Alnus glutinosa (Common Alder),Ilex aquifolium (Holly)	M	1	450	B2	17(0)	5	5	5	5	G/F	F	20+	low B category. Boundary group of trees of fair to poor form and health, mostly early mature in age, appears to have received little recent management, some gaps noted with little regeneration and ground flora noted, some collapsing edge trees/stems noted, site levels have been altered along side this group with some edge trees removed leaving some slender upright trees exposed	create a graded edge to woodland by some tree felling, laying and planting		5.4	91.62
G7	Acer saccharinum (Silver Maple),Populus hybrid spp (Poplar hybrid spp),Prunus avium (Wild Cherry)	M	1	575	B2	25(5)	6	6	6	6	G/F	F	20+	road side boundary group of trees			6.9	149.6
T1	Populus hybrid spp (Poplar hybrid spp)	M	1	500	C2	14(4)	5	5	5	5	G/F	F	10+	tree of fair to Good form, fast growing species prone to stem and branch failure			6	113.1
T2	Populus hybrid spp (Poplar hybrid spp)	EM	1	400	C2	12(3)	4	4	4	4	G/F	N/A	10+	Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated.			4.8	72.39
T3	Prunus avium (Wild Cherry)	M	1	320	C2	9(4)	4	4	1	3	F	F	10+	Unbalanced crown shape. Suppressed growth from surrounding trees.			3.84	46.33
T393	Betula pendula (Silver Birch)	M	1	450	B2	10(4)	5	7	5	5	G/F	G/F	20+	roadside tree of fair to Good form, multistemmed, hanging branch over foot path	remove hanging branch	H/M	5.4	91.62
T394	Betula pendula (Silver Birch)	M	1	450	C2	10(4)	6	5	3	5	F	F	10+	roadside tree of fair form, multistemmed, some lower branches pruned			5.4	91.62
T404	Acer pseudoplatanus (Sycamore)	M	1	475	B2	10(4)	5	7	5	6	G/F	G/F	20+	roadside tree of fair to Good form and health, forms part of group of trees			5.7	102.1
T405	Acer platanoides (Norway Maple Crimson King)	M	1	350	B2	10(4)	4	4	4	4	G/F	G/F	20+	roadside tree of fair to Good form and health			4.2	55.42
T406	Acer pseudoplatanus (Sycamore)	M	3	#####	B2	14(4)	5	7	6	6	G/F	G/F	20+	roadside tree of fair to Good form and health, multistemmed from 1metre,forms part of group of trees			6.14	118.5

Tree ID #	Tree Species	Age	Stems	Stem Diam (mm)	Cat	Height + (Lower Branch Height)	Nrth	Est	Sth	Wst	Phys Cond	Struc Cond	Est. Remain Contrib	Comments		Preliminary Management Recommendations		Work Priority	RPR (m)	RPA (m2)
T407	Salix fragilis (Crack Willow)	M	1	700	B2	18(4)	4	8	6	7	G/F	F	20+		roadside tree of fair form and health, multistemmed from 2metre, fast growing species prone to stem and branch failure, forms part of group of trees				8.4	221.7
T408	Populus tremula (Aspen)	M	1	700	B2	14(4)	4	6	4	5	G/F	F	20+	low B category. Suppressed growth from surrounding trees.	roadside tree of fair form, fast growing species prone to stem and branch failure, forms part of group of trees				8.4	221.7
T409	Sorbus aucuparia (Rowan)	M	1	230	C2	6(2)	2	2	3	2	F	F	10+		small tree of fair form, form part of roadside group of trees, lower branches poorly pruned				2.76	23.93
T410	Prunus avium (Wild Cherry)	M	1	430	B2	12(4)	6	6	5	5	G/F	G/F	20+		roadside tree of fair to Good form and health, forms part of group of trees				5.16	83.66



## 10.0 Appendix 1B – Detailed Tree Survey Data Summary

(Please see Appendix 3 - Tree Survey Key)

Field Usage Results.		
Total Records: 14		
Type	Count	% of Total
T	12	85.7
G	2	14.3
Tree Species	Count	% of Total
Betula pendula (Silver Birch)	2	14.3
Populus hybrid spp (Poplar hybrid spp)	1	7.1
Acer pseudoplatanus (Sycamore)	2	14.3
Acer platanoides (Norway Maple Crimson King)	1	7.1
Salix fragilis (Crack Willow)	1	7.1
Populus tremula (Aspen)	1	7.1
Sorbus aucuparia (Rowan)	1	7.1
Prunus avium (Wild Cherry)	2	14.3
Populus trichocarpa (Western Balsam Popl	1	7.1
Average Stem Diameter	Count	% of Total
<250	1	7.1
<500	8	57.1
<750	5	35.7
Cat	Count	% of Total
B2	9	64.3
C2	5	35.7
Age	Count	% of Total
EM	1	7.1
M	13	92.9
Height	Count	% of Total
<10	2	14.3
<15	9	64.3
<20	2	14.3
<30	1	7.1

Phy Cond	Count	% of Total
G/F	11	78.6
F	3	21.4
Stuc Cond	Count	% of Total
G/F	5	35.7
F	8	57.1
N/A	1	7.1
Est. Remain Contrib	Count	% of Total
10+	5	35.7
20+	9	64.3
RPR	Count	% of Total
<5	4	28.6
<10	10	71.4
RPA	Count	% of Total
<25	1	7.1
other	13	92.9

## 10.0 Appendix 2 - Tree Constraints Plan

### An introduction to the Tree Constraints Plan (TCP)

Trees identified to be retained should be treated as constraints to the design of future development. A Tree Constraints Plan has been drawn and can be found over leaf.

- **Tree Quality** - The TCP highlights the above and below-ground constraints each tree poses to design future development schemes. Further, the BS5837 tree quality category (A - High, B - Moderate, C - Low and U- Unsuitable for retention) are coloured coded as solid circles at the centre of the tree's position.
- **Root Protection Area** – The magenta circle on the TCP sets out the root protection area (RPA). No construction work in this area, ground-level alteration or site traffic (machinery or persons) should occur. This prevents damage to tree roots and soil compaction. (Where possible, an Arboriculturist can design suitable tree protection methods to facilitate construction work/site traffic within these areas).
- **Tree Canopy** - The green circle/oval on the TCP sets out the above-ground constraints of tree canopy spread. Within this area, no construction work or site traffic (machinery or persons) should occur if the tree is to be retained. This prevents damage to the tree branches and trunk. (Where possible, an Arboriculturist can design suitable tree protection methods to facilitate construction work/site traffic within these areas).
- **Tree Shading** – Shade from the retained trees should be considered in the development design. Depending on the tree's height and width, the shade cast will be from a North West to East pattern through the central part of the day.
- **Tree Future growth** - Within future development design, consideration should also be given to the ultimate height and extent of the canopy spread of all trees within site identified to be retained.



# Tree Constraints Plan

Site - Frontier Medical Group Blackwood

Project Ref - 715.7

Scale 1:500 @ A2

- KEY BS 5837:2012 Tree Quality (Colour Coded)**
- Category A (High)**  
(\*Highly desirable for retention\*)
  - Category B (Moderate)**  
(\*Desirable for retention\*)
  - Category C (Low)**  
(\*Optional for retention\*)
  - Category U (Poor)**  
(\*Unsuitable for retention\*)

- Tree Key - Individual Trees**
- Branch Spread** (Measured on the North, East, South and West side of tree)
  - Tree Species** (Common Tree Name shown)
  - Tree ID#** (1 - Individual Tree)

**Root Protection Area (RPA)** (A layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.)

- Tree Key - Group/Area/Woodland/Hedgerow**
- Tree ID#** (G-Tree Group, A-Tree Area, W-Woodland, H-Hedgerow)
  - Tree Species** (Common Tree Name shown)
  - BS 5837:2012 Tree Quality** (Colour Coded as for individual trees)
  - Average Branch Spread**

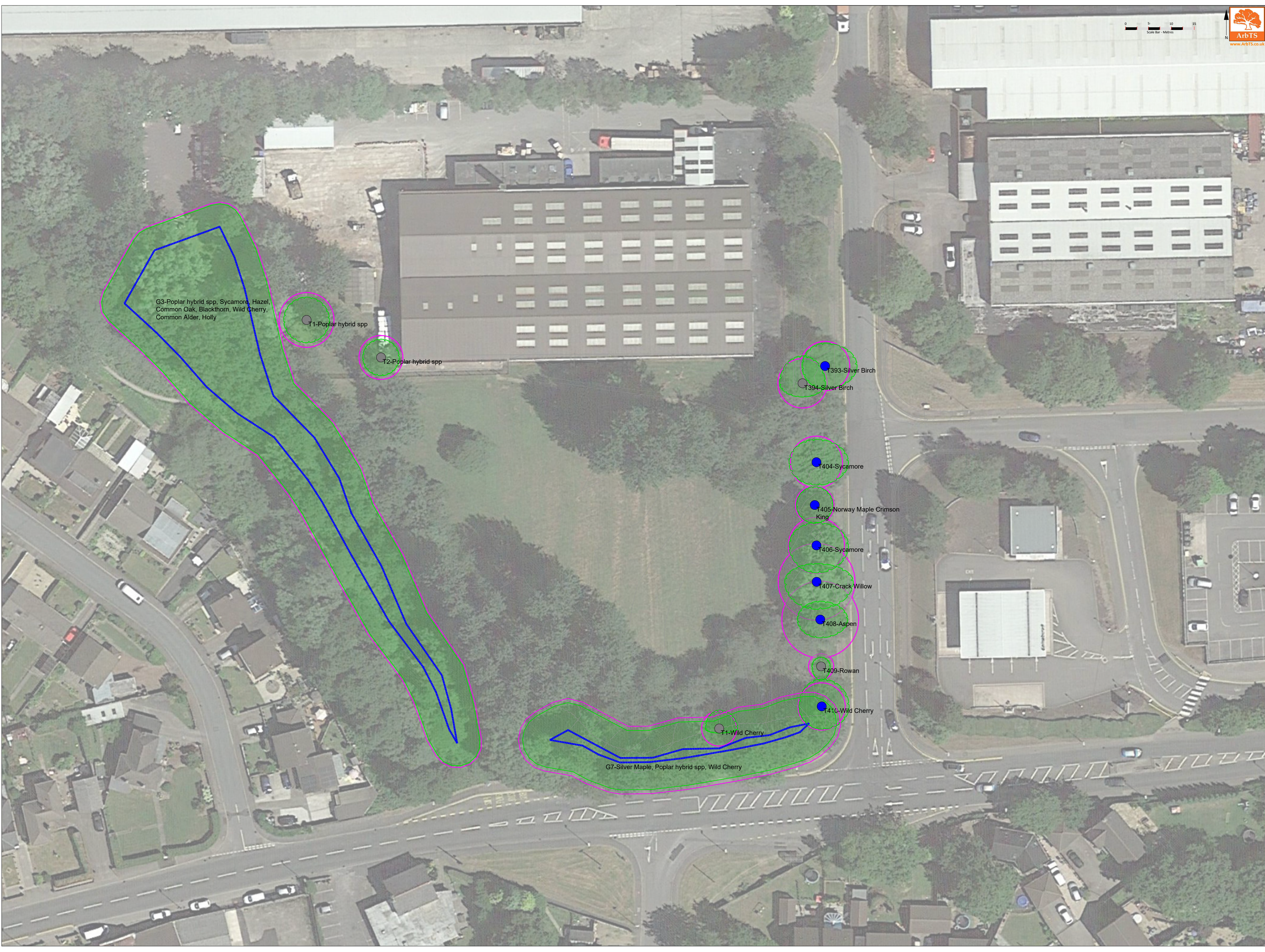
- Shade Pattern** - Shade pattern not shown on plan (Early morning shade starting South West through to evening shade to the East)

**Definitions of BS5837:2012 Categories for Trees, Woodlands and Hedgerows (Colour Coded):**

- A** - Those of high quality with an estimated remaining life expectancy of at least 40 years. (\*Highly desirable for retention\*)
- B** - Those of moderate quality with an estimated remaining life expectancy of at least 20 years. (\*Desirable for retention\*)
- 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. (\*Optional for retention\*)
- 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. (\*Unsuitable for retention unless provides high conservation value\*)

**Please Note:**  
Barriers and Ground Protection must be designed by an arboriculturist, installed before materials or machinery is brought onto site and before any demolition, development or stripping of soil commences. Once erected, barriers and ground protection should be regarded as sacrosanct, and should not be removed or altered without prior recommendation by an Arboriculturist and approval of the Local Planning Authority (LPA).





G3-Poplar hybrid spp, Sycamore, Hazel, Common Oak, Blackthorn, Wild Cherry, Common Alder, Holly

T1-Poplar hybrid spp

T2-Poplar hybrid spp

T393-Silver Birch  
T394-Silver Birch

T404-Sycamore

T405-Norway Maple Crimson King

T406-Sycamore

T407-Crack Willow

T408-Aspen

T409-Rowan

T410-Wild Cherry

T1-Wild Cherry

G7-Silver Maple, Poplar hybrid spp, Wild Cherry

Tree Constraints Plan

Site - Frontier Medical Group Blackwood

Project Ref - 715.7

Scale 1:500 @ A2

Key BS 5837:2012 Tree Quality (Colour Coded)

Category A (High)

Category B (Moderate)

Category C (Low)

Category U (Poor)

Tree Key - Individual Trees

Tree Key - Group/Area/Woodland/Hedgerow

BS 5837:2012 Tree Quality

Shade Pattern

Definitions of BS5837:2012 Categories for Trees, Woodlands and Hedgerows (Colour Coded):

A - Those of high quality with an estimated remaining life expectancy of at least 40 years. (\*Highly desirable for retention\*)

B - Those of moderate quality with an estimated remaining life expectancy of at least 20 years. (\*Desirable for retention\*)

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. (\*Optional for retention\*)

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. (\*Unsuitable for retention unless provides high conservation value\*)

Please Note:

Barriers and Ground Protection must be designed by an arboriculturist, installed before materials or machinery is brought onto site and before any demolition, development or stripping of soil commences. Once erected, barriers and ground protection should be regarded as sacrosanct, and should not be removed or altered without prior recommendation by an Arboriculturist and approval of the Local Planning Authority (LPA).



## 10.0 Appendix 3 - Tree Survey Data Key

- **Tree ID #** - Identifies the location of individual trees (T-ID Number), Groups of trees (G-ID Number), Area of trees (A-ID Number), Hedgerow (H-ID Number), Woodland (W-ID Number), Row of trees (R-ID Number) and tree Stumps (S-ID Number) on the accompanying plan. *(Please note: A group of trees here refers to two or more standing trees that form a visual whole, whereas an area of trees refers to dispersed individual trees standing within the site)*

- **Tree Species** - Scientific names and common tree name in brackets are generally shown.

- **Age**

- o (Y) Young – Less than 1/3 of life completed
- o (SM) Middle Aged - 1/3 - 2/3 of life completed
- o (EM) Early Mature – Just entering Maturity
- o (M) Mature – more than 2/3 of life completed
- o (OM) Over Mature - more than 3/3 of life completed and declining
- o (V) Veteran - (v) Veteran – Veteran trees have no precise definition but are trees considered to be of biological aesthetic or ecological value because of their age

- **Stems** – Number of tree stems used to calculate the RPR/RPA

- **Stem Diam** (mm) - Diameter of tree stem measured in millimetres for single stem trees or average stem diameter calculated for multi-stemmed trees as detailed in section 4.6 & Annex C of the British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations. The height above ground level where the stem measurement was taken will be shown if not measured at 1.5 metres above ground level. *(Please note: that the stem diameter of certain trees will have to be estimated due to difficulties in taking measurements or for trees with a large number of stems)*

- **Cat** – Tree Quality Category - British Standard 5837:2012 A, B, C, U + 1, 2, 3

Based on BS5837:2012, categories A, B, C, and U provide the basis for prioritising trees for retention:

- o A – Those of high quality with an estimated remaining life expectancy of at least 40 years. (\*Most desirable for retention\*)
- o B - Those of moderate quality with an estimated remaining life expectancy of at least 20 years. (\*Desirable for retention\*)
- o 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. (\*Optional for retention\*)
- o 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. (\*Unsuitable for retention unless provides high conservation value\*)

Retention Criteria Subcategories: Used for identifying subcategories

E.g. A2 = A high-quality tree with high landscape qualities (further details can be found in British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations UK; British Standards Intuition)

- o 1 – Mainly Arboricultural qualities
  - o 2 – Mainly landscape qualities
  - o 3 – Mainly cultural values, including conservation
- **Height + (Lower Branch Height)** - Tree height in metres and in brackets height in metres of the crown (tree branches) clearance at its lowest point above adjacent ground levels.
- **Nrth, Est, Sth, Wst** - Crown Spread (Metres) -Tree branch spread in metres measured in four directions (North, East, South, West) from the trunk.
- **Phys Cond** - Physiological Condition Indicating the health of the tree -
  - o (G) Good
  - o (F) Fair
  - o (P) Poor
  - o (D) Dead
- **Struc Cond** – Structural Condition indicating the structural integrity of the tree -
  - o (G) Good – No, or remediable physical defects or decay
  - o (F) Fair - Physical non-remediable defects or decay present, not presenting imminent danger but should be monitored
  - o (P) Poor - physical non-remediable defects or decay present, tree liable to imminent collapse or loss of major limbs.
  - o (D) Dead
- **Est. Remain Contrib - (<10, 10+, 20+, 40+)**

The trees estimated remaining contribution in years, recorded as:

  - o <10 – less than 10 years
  - o 10+ – at least 10 years
  - o 20+ – at least 20 years
  - o 40+ – at least 40 years
- **Comments** – Additional Comments, if required
- **Preliminary Management Recommendations** – Work Recommendations, including further investigation of suspected defects that require more detailed assessment and pose potential for wildlife habitat.

- **Work Priority** - Work Priority -This gives a work priority rating of preliminary management for each tree.
  - o H - High – Urgent work to be carried out as soon as practicable due to safety reasons (Within 14 days).
  - o H/M – High - Medium – Work to be carried out within 6 months/or before the construction phase begins
  - o M - Medium – Work to be carried out in 12 months
  - o L - Low – After consideration/Re-inspect in 18-24 months
  - o Blank – No work required.
- **RPR – Root protection radius / RPA - Root Protection Area** - Is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability and where the protection of the roots and soil structure is treated as a priority. RPR is a circular area measured as a radius in metres from the tree's centre, or RPA is an area in metres squared. This area may be changed in shape but not reduced in size, providing adequate protection for the tree's rooting system.



## **10.0 Appendix 4 – Tree Protection Plan**







## 10.0 Appendix 5 – Tree Photographs

Tree ID#T394 + T393



Tree ID#T404 – T410



Tree ID#G7



Tree ID#G7 + G3





Tree ID#G3



Tree ID#G3



Tree ID#T1 + T2



Tree ID#G3



