



ArbTS - Arboricultural Technician Services Ltd

(Tree Consultancy Services)

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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 – 24th April 2023

Site – Bishop Hedley Catholic High School

Project Reference – ArbTS_1492.4_ Bishop Hedley Catholic High School

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1.0 Introduction

- 1.1 The purpose of this report is to assess the quality of the trees at Bishop Hedley Catholic High School, 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 28th September 2022 and 21st April 2023.
- 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
A (High - Most desirable for retention)	3	0	0	0	0	3
B (Moderate - Desirable for retention)	20	2	0	1	0	23
C (Low - Optional for retention)	34	15	0	0	3	52
U (Poor - Unsuitable for retention)	7	0	0	0	0	7
Total A,B,C,U	64	17	0	1	3	85

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 / Hedgerow Loss – AIA – LOW / MODERATE - The following trees and hedgerows are required to be removed to facilitate the construction of the proposed development design.

5.2.2 Individual Tree Loss –

AIA - Individual trees removed to facilitate development						
BS5837 Quality Category	Tree ID# Removed	Tree Number Removed	Total Trees Surveyed	% Trees Removed From Total Surveyed	Mitigation Required	Arboricultural Adverse Impact (0-No Impact, 10-High Impact)
A (High)		0	3	0.0	N/A	
B (Medium)	T48, T36, T35, T3, T2, T17, T5, T39, T28	9	20	45.0	Y	4
C (Low)	T55, T45, T68, T67, T64, T38, T27, T19, T41, T34, T1, T16, T14, T6, T11, T26, T21, T33, T29, T32	20	34	58.8	Y	3
U (Poor)	T56, T40, T25, T18, T4, T7, T52	7	7	100.0	N	0
Total A,B,C,U Removed		36	64	56.3		

5.2.3 Grouped Tree Loss –

AIA - Tree Group, Tree Area and Woodland Area removed to facilitate development						
BS5837 Category	Group, Area or Wood ID# Removed	Number Removed	% Number of Group, Area & Wood Removed From Total Surveyed	Total Area of Group, Area & Wood Removed (Metres Squared)	Mitigation Required	Arboricultural Adverse Impact (0-No Impact, 10-High Impact)
A		0	0.0			
B	G47 (5 trees), G46 (5 trees)	2	66.7	250.0	Y	4
C	G50 (3 trees), G57 (2 trees), G10 (Approx 10 small trees), G15 (2 trees), G20 (4 trees), G53 (3 trees)	6	40.0	1590.0	Y	3
U		0	0.0			
Total A,B,C,U Removed		8	44.4	1840.0		

5.2.4 Hedgerow Loss –

AIA - Hedgerow removed to facilitate development						
BS5837 Category	Hedge ID# Removed	Number Removed	% Hedge Removed From Total Surveyed	Total Length of Hedgerow Removed (Metres)	Mitigation Required	Arboricultural Adverse Impact (0-No Impact, 10-High Impact)
A		0				
B		0				
C	H31, H30, H13	3	100.0	358.0	Y	2
U		0				
Total A,B,C,U Removed		3	100.0	358.0		

5.2.5 Overall Tree Loss –

Several trees and hedgerows are identified to be removed to facilitate the construction of the proposed development design (36 individual trees, 8 small tree groups/part of tree groups and 358 metres of hedgerow). 27 of these individual surveyed trees and 6 tree groups identified for removal are either low or poor-quality trees (C / U Category). These trees should not present a constraint on developing the site and shouldn't require replacement mitigation for their loss. The removal of the moderate quality trees (B Category = 9 individual Trees and 2 tree groups (made up of 10 trees) = a total of 19 moderate quality trees). These trees can be readily mitigated for by suitable compensatory tree planting. Further to this, the hedgerows proposed to be removed have the potential to be translocated within the site.

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.

5.5 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 on this site.

5.6.1 AIA – Conclusion – AIA – (Including landscape mitigative planting) – LOW - The site has several Arboricultural constraints that had to be considered in the development design phase. Several trees and hedgerows are identified to be removed to facilitate the construction of the proposed development design (36 individual trees, 8 small tree groups/part of tree groups and 358 metres of hedgerow). 27 of these individual surveyed trees and 6 tree groups identified for removal are either low or poor-

quality trees (C / U Category). These trees should not present a constraint on developing the site and shouldn't require replacement mitigation for their loss. The removal of the moderate quality trees (B Category = 9 individual Trees and 2 tree groups (made up of 10 trees) = a total of 19 moderate quality trees). These trees can be readily mitigated for by suitable compensatory tree planting. Further to this, the hedgerows proposed to be removed have the potential to be translocated within the site.

- 5.6.2 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.
- 5.6.3 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)
1.) Preconstruction (Prior to any on-site construction work, including demolition work, site material storage etc.)	1.1 – Design areas for construction site storage by the site supervisor and the appointed Arboriculturist.
	1.2 – Design position, form and construction methods of all utility services with Arboricultural consideration. All underground service designs MUST 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 http://www.njug.org.uk/ . 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.
	1.3– Tree surgery work 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>

	1.4 – Tree protective fencing and NO DIG CellWeb installed 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.
	1.5 – Site storage area containers installed as designed and supervised by the site supervisor and the appointed Arboriculturist.
	1.6 – Appointed Arboriculturist to document all tree protection methods in situ and photographs taken for reference purposes. Copy of document report sent to all parties.
2.) Construction	2.1 – The site supervisor is to be briefed 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.
	2.2 – All contractors are to be briefed 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.
	2.3 – The construction phase begins with regular site inspection visits from the appointed Arboriculturist (Once every three months for the entire duration) 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.
	2.4 - Tree Safe Construction (Throughout site) – areas outside of the construction exclusion zones, as shown on the tree protection plan, must adhere to the following: • Building materials and fuels such as oil, bitumen or cement should not be stacked or discharged within 20 metres of the tree's stem. • Fires will not be lit beneath any tree or in a place where flames could extend to within 10 metres of the tree. • Trees to be retained and protected should not be used as anchorage for services or equipment. • The use of cranes and large machinery on site should be planned and care taken not to damage the trees during the process.
	2.5 – Unforeseen issues 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.
3.) Post Construction <i>(Once all construction work has been completed, this includes all utility services)</i>	3.1 – Tree Protection fencing Removed.
	3.2 – Hard and soft landscaping commence - All landscape team members are to be briefed regarding tree protections by an Arboriculturist.
	3.3 – Any required remedial tree action is taken , 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/>

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- British Standard 5837:2012, Trees in relation to design, demolition and construction - Recommendations UK; British Standards Intuition
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- 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)
G10	Prunus spinosa (Blackthorn), Corylus avellana (Hazel), Prunus avium (Wild Cherry), Salix caprea (Goat Willow), Salix fragilis (Crack Willow), Fraxinus excelsior (Ash)	M	1	350	C2	8(0)	5	5	5	5	F	F	20+	high C category. mixture of thick sprawling scrub with some trees, tree of noted individually included			4.2	55.42
G15	X Cupressocyparis leylandii (Leyland Cyp)	M	1	700	C2	20(0)	5	5	5	5	F/P	F/P	10+	low C category. group of two large Leyland cypress limited value and future			8.4	221.7
G20	Crataegus monogyna (Hawthorn), Malus (Apple)	M	1	200	C2	4(0)	2	2	2	2	F	F	10+	group of mainly small hawthorn of varying condition			2.4	18.1
G46	Acer campestre (Field Maple), Salix caprea (Goat Willow), Tilia X europaea (Common Lime)	EM	1	300	B2	10(0)	4	4	4	4	G/F	F	20+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated. boundary row of trees			3.6	40.72
G47	Acer campestre (Field Maple), Salix caprea (Goat Willow), Tilia X europaea (Common Lime)	EM	1	350	B2	10(0)	4	4	4	4	G/F	F	20+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated. boundary row of trees			4.2	55.42
G49	Fraxinus excelsior (Ash)	EM	1	350	C2	12(4)	5	5	5	5	F	N/A	10+	Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated. offsite group of ash tree, leaf cover slightly sparse			4.2	55.42
G50	Salix caprea (Goat Willow)	M	1	250	C2	7(0)	4	4	4	4	F	F	10+	sprawling area of scrub			3	28.28
G51	X Cupressocyparis leylandii (Leyland Cyp)	EM	1	350	C2	12(0)	4	4	4	4	F	F	10+	Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated. boundary group of conifers			4.2	55.42
G53	Fraxinus excelsior (Ash), Acer pseudoplatanus (Sycamore)	M	1	350	C2	13(0)	6	6	6	6	F	F	10+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated. group of mainly ash, one multithemed sycamore was noted at the northern end of the group, ash showing varying signs of ash dieback disease			4.2	55.42
G57	Fraxinus excelsior (Ash)	EM	1	300	C2	10(2)	5	5	5	5	F	F	10+	group of two multithemed trees leave cover reasonable			3.6	40.72

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)
G59	Sorbus intermedia (Swedish Whitebeam),Prunus avium (Wild Cherry),Betula pendula (Silver Birch),Sorbus aucuparia (Rowan)	M	1	300	C2	8(0)	3	3	3	3	G/F	F	10+	high C category.	boundary group of trees, grown together a whole				3.6	40.72
G61	Salix caprea (Goat Willow)	M	1	250	C2	7(0)	3	3	3	3	F	F	10+		sprawling area of scrub				3	28.28
G62	Crataegus monogyna (Hawthorn),Acer pseudoplatanus (Sycamore),Sorbus intermedia (Swedish Whitebeam)	EM	1	300	C2	8(0)	3	3	3	3	G/F	F	10+		small group of trees, grown together as a group				3.6	40.72
G66	Sorbus aucuparia (Rowan),Tilia platyphyllos (Large-leaved Lime)	EM	1	350	C2	8(2)	3.5	3.5	3.5	3.5	G/F	F	10+		small group of trees, eastern end tree dead		fell eastern end tree	H/M	4.2	55.42
G70	Fraxinus excelsior (Ash)	M	1	500	C2	12(4)	5	5	5	5	F	N/A	10+	Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated.	group of two ash				6	113.1
G82	Crataegus monogyna (Hawthorn)	EM	1	100	C2	3(1)	2	2	2	2	G/F	F	10+		row of small hawthorn				1.2	4.52
G85	Salix caprea (Goat Willow)	SM	1	150	C2	5(0)	4	4	4	4	F	F	10+		area of sprawling scrub				1.8	10.18
H13	Crataegus monogyna (Hawthorn),Corylus avellana (Hazel),Fraxinus excelsior (Ash),Ilex aquifolium (Holly),Acer pseudoplatanus	M	1	50	C2	3(0)	1	1	1	1	G	G	20+	high C category.	well kept hedgerow				0.6	1.13
H30	Crataegus monogyna (Hawthorn),Corylus avellana (Hazel),Fraxinus excelsior (Ash),Ilex aquifolium (Holly),Acer pseudoplatanus (Sycamore)	M	1	50	C2	3(0)	1	1	1	1	G	G	20+	high C category.	well kept hedgerow				0.6	1.13
H31	Crataegus monogyna (Hawthorn),Corylus avellana (Hazel),Fraxinus excelsior (Ash),Ilex aquifolium (Holly),Acer pseudoplatanus (Sycamore)	M	1	50	C2	3(0)	1	1	1	1	G	G	20+	high C category.	well kept hedgerow				0.6	1.13
T1	Sorbus aucuparia (Rowan)	M	1	190	C2	5(2)	2	2	2	2	F	F	10+	Slightly sparse foliage cover.					2.28	16.33

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)
T2	Acer platanoides (Norway Maple Crimson King)	EM	1	400	B2	10(3)	4	4	4	4	G/F	G/F	20+						4.8	72.39
T3	Sorbus aria (Whitebeam)	EM	1	300	B2	7(1)	3	4	4	3	G/F	G/F	20+						3.6	40.72
T4	Acer platanoides (Norway Maple Crimson King)	EM	1	400	U	10(3)	4	4	4	4	F/P	F/P	<10	Sparse foliage cover. Dieback in crown.					4.8	72.39
T5	Betula pendula (Silver Birch)	M	1	350	B2	11(3)	4	4	3	4	G/F	G/F	20+						4.2	55.42
T6	Fagus sylvatica 'Purpurea' (Copper Beech)	EM	1	425	C2	10(3)	4	4	4	4	F	F	10+	Sparse foliage cover.	leaf cover slightly sparse, area of dysfunction noted at base with surrounding reactive growth noted				5.1	81.72
T7	Fraxinus excelsior (Ash)	OM	1	1000	U	14(3)	5	7	7	7	P	N/A	<10	Dieback in crown. Low bud/leaf density. Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	ash with signs of advanced ash dieback disease, tree position estimated		Fell	M/H	12	452.5
T8	Fagus sylvatica (Beech)	M	1	700	B2	14(1)	7	6	5	7	G/F	N/A	20+	Unbalanced crown shape. Suppressed growth from surrounding trees. Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	tree position estimated				8.4	221.7
T9	Acer saccharinum (Silver Maple)	M	5	400	C2	14(1)	6	8	8.5	8	G/F	F	10+	high C category.	multistemmed tree of fair form, bark included union noted between stems, reasonable potential for stem failure in the future				10.7	361.8
T11	Acer saccharinum (Silver Maple)	OM	5	500	C2	14(1)	8	10	10	12	F	F	10+	high C category.	multistemmed tree of fair form, bark included union noted between stems, large storm failure noted, a tree with a more limited future, some stem decay noted, consider pollarding to prolong the life of the tree				13.4	565.9
T12	Quercus robur (Common Oak)	M	1	600	B2	13(5)	8	7	5	4	G/F	N/A	20+	Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated.	boundary oak tree				7.2	162.9

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)
T14	Sorbus aria (Whitebeam)	EM	1	150	C2	4(2)	2	3	2	1	F	F	10+	Leaning East.			1.8	10.18
T16	Sorbus aria (Whitebeam)	EM	1	150	C2	5(2)	3	2	1	2	F	F	10+	Leaning North.			1.8	10.18
T17	Sorbus aria (Whitebeam)	EM	1	250	B2	6(2)	3	3	3	3	G/F	G/F	20+				3	28.28
T179	Quercus robur (Common Oak)	M	1	750	A2	15(4)	8	7	8	8	G	G/F	40+	mature open grown native oak tree			9	254.5
T18	Fraxinus excelsior (Ash)	EM	1	200	U	12(4)	3	3	3	3	F/P	F/P	<10	Sparse foliage cover. Dieback in crown.	fell	H/M	2.4	18.1
T19	Cypress spp (Cypress spp)	EM	1	300	C2	8(0)	3	3	3	3	G/F	G/F	10+				3.6	40.72
T21	Acer pseudoplatanus (Sycamore)	M	1	400	C2	6(2)	4	5.5	4	4	F	F/P	10+	topped sycamore of poor form, under electrical lines			4.8	72.39
T22	Quercus robur (Common Oak)	M	1	850	B2	13(5)	7	7	6	8	F	F	20+	Located on private land preventing a close inspection of the tree therefore all observations and measurements are estimated.	located on corner of adjacent garden, leaf cover slightly sparse, wide forming crown, some surface root damage noted		10.2	326.9
T23	Salix caprea (Goat Willow)	M	1	450	C2	8(3)	4	4	4	4	F	F	10+	fast growing species prone to stem and branch failure, some surrounding scrub noted			5.4	91.62
T24	Prunus (Cherry)	M	1	480	B2	9(2)	4	4	4	5	G/F	G/F	20+	tree of landscape interest, crown cut back from electrical lines			5.76	104.2
T25	Fraxinus excelsior (Ash)	M	1	350	U	14(3)	4	4	4	4	F/P	F/P	<10	Sparse foliage cover. Dieback in crown.			4.2	55.42
T26	Salix caprea (Goat Willow)	M	1	200	C2	6(3)	4	4	4	4	F	F	10+	fast growing species prone to stem and branch failure			2.4	18.1
T27	Fraxinus excelsior (Ash)	M	1	250	C2	11(2)	4	4	4	4	F	F	10+	Slightly sparse foliage cover.			3	28.28
T28	Carpinus betulus (Hornbeam)	EM	1	300	B2	7(2)	2.5	2.5	2.5	2.5	G/F	G/F	20+				3.6	40.72

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)
T289	Quercus robur (Common Oak)	M	1	750	A3	15(4)	3	3	6	8	G/F	G/F	40+	Unbalanced crown shape. Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	mature open grown native oak tree, burrs around base with epicormic growth		9	254.5
T29	Aesculus hippocastanum (Horse Chestnut)	EM	1	150	C2	5(1)	3	2	2	2	F/P	F/P	10+	low C category.	small multistemmed tree		1.8	10.18
T32	Fraxinus excelsior (Ash)	EM	1	200	C2	7(2)	2.5	2.5	2.5	2.5	F	F	10+				2.4	18.1
T33	Acer platanoides (Norway Maple Crimson King)	SM	1	175	C2	7(2)	3	3	3	3	G/F	G/F	10+		tree of fair to good form		2.1	13.86
T34	Sorbus aria (Whitebeam)	EM	1	300	C2	7(1)	3	3	3	3	G/F	F	10+	high C category.			3.6	40.72
T35	Acer platanoides (Norway Maple Crimson King)	M	2	350	B2	10(3)	5	5	5	5	G/F	G/F	20+		twin stems, tree of fair to good form		5.94	110.9
T36	Acer platanoides (Norway Maple Crimson King)	M	4	250	B2	11(3)	4	5	5	5	G/F	G/F	20+		multistemmed, tree of fair to good form		6	113.1
T37	Quercus robur (Common Oak)	M	1	800	A2	13(3)	7	8	8	7	G/F	G/F	40+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	native oak tree of fair to good form and health		9.6	289.6
T38	Sorbus aria (Whitebeam)	EM	1	150	C2	5(1.5)	3	3	3	3	F	F	10+				1.8	10.18
T39	Sorbus aria (Whitebeam)	EM	1	250	B2	7(1)	4	3	2	3	G/F	G/F	20+				3	28.28
T40	Prunus avium (Wild Cherry)	M	1	350	U	5(2)	2	2	2	3	P	P	<10	Dieback in crown.	fell	H/M	4.2	55.42
T41	Fruit tree spp (Fruit tree spp)	EM	1	150	C3	3.5(1)	2	2	2	2	F/P	F/P	10+				1.8	10.18
T42	Betula pendula (Silver Birch)	M	1	300	B2	9(2)	3	2	3	3	G/F	G/F	20+		tree of fair form		3.6	40.72
T43	Sorbus aucuparia (Rowan)	M	1	200	C2	10(4)	3	3	3	2	G/F	F	10+		twin stem bark included union		2.4	18.1
T44	Picea sitchensis (Sitka Spruce)	SM	1	300	C2	11(1)	3	3	3	3	G/F	G/F	10+		forestry tree with the potential to grow very large, wrong species for location		3.6	40.72

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)
T45	Prunus spp (Cherry spp)	EM	1	150	C2	2.5(1)	2	2	2	2	F	F	10+	very small tree			1.8	10.18
T48	Betula pendula (Silver Birch)	M	1	300	B2	9(2)	3	3	3	3	G/F	G/F	20+	tree of fair form			3.6	40.72
T52	Salix caprea (Goat Willow)	M	5	350	U	11(2)	7	7	7	7	F	F/P	<10	fast growing species prone to stem and branch failure, bark included union, likely to fail in near future			9.4	277.6
T54	Crataegus monogyna (Hawthorn)	M	1	250	C2	5(0)	3	3	3	3	F	F	10+				3	28.28
T55	Fraxinus excelsior (Ash)	SM	1	150	C2	6(0)	3	3	3	3	F	F	10+				1.8	10.18
T56	Fraxinus excelsior (Ash)	SM	1	100	U	6(0)	2	2	2	2	F/P	F	10+	Dieback in crown.			1.2	4.52
T58	Sorbus intermedia (Swedish Whitebeam)	M	1	450	B2	8(2)	4	4	4	4	G/F	G	20+	high B category. open grown tree of good form and health			5.4	91.62
T60	Sorbus aucuparia (Rowan)	M	1	150	C2	5(2)	2	2	2	2	F	F	10+				1.8	10.18
T63	Sorbus intermedia (Swedish Whitebeam)	M	1	400	B2	8(2)	4	4	4	4	G/F	G	20+	high B category. open grown tree of good form and health			4.8	72.39
T64	Sorbus aria (Whitebeam)	EM	1	250	C2	5(2)	3	3	3	3	F	F	10+				3	28.28
T65	Tilia cordata (Small-leaved Lime)	EM	1	450	B2	9(2)	4	4	4	4	G/F	G/F	10+				5.4	91.62
T67	Sorbus aria (Whitebeam)	EM	1	250	C2	5(2)	2.5	3	3.5	3	F	F	10+				3	28.28
T68	Quercus spp(Oak spp)	Y	1	100	C2	2.5(0)	2	2	2	2	G/F	G/F	10+				1.2	4.52

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)
T71	Crataegus monogyna (Hawthorn)	EM	1	150	C2	3(0)	3	3	3	3	F	N/A	10+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.					1.8	10.18
T72	Crataegus monogyna (Hawthorn)	EM	1	150	C2	3(0)	3	3	3	3	F	N/A	10+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.					1.8	10.18
T73	Prunus spinosa (Blackthorn)	EM	1	150	C2	3(0)	3	3	3	3	F	N/A	10+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.					1.8	10.18
T74	Salix caprea (Goat Willow)	M	1	300	C2	6(2)	5	5	5	5	G/F	F	10+		mutlistemmed goat willow				3.6	40.72
T75	Salix caprea (Goat Willow)	M	1	450	C2	6(2)	5	5	5	5	G/F	F	10+		mutlistemmed goat willow, some cavities noted with surrounding reactive growth				5.4	91.62
T76	Salix caprea (Goat Willow)	M	2	400	C2	6(2)	6	6	6	6	G/F	F	10+		mutlistemmed goat willow, fast growing species prone to stem and branch failure				6.79	144.9
T77	Sorbus aria (Whitebeam)	OM	1	400	C2	7(2)	4	4	4	4	G/F	F	10+		appears to be two trees compressing against each other				4.8	72.39
T79	Pinus sylvestris (Scots Pine)	M	1	540	B2	17(5)	5	7	5	4	F	F	20+		scot pine, needle cover slightly sparse, landscape tree				6.48	131.9
T80	Acer pseudoplatanus (Sycamore)	M	2	500	B2	15(5)	4	8	7	8	G	F	20+	low B category. Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	multistemmed sycamore				8.48	225.9
T81	Acer pseudoplatanus (Sycamore)	EM	1	400	B2	12(4)	4	5	4	4	G	G/F	20+	low B category. Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	upright sycamore, some surrounding hawthorn noted				4.8	72.39
T84	Fraxinus excelsior (Ash)	EM	3	300	C2	13(0)	5	4	4	5	F	N/A	10+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	multistemmed ash				6.24	122.3

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)
W69	Fraxinus excelsior (Ash), Salix caprea (Goat Willow), Prunus spinosa (Blackthorn)	M	1	550	B2	13(0)	7	7	7	7	G/F	N/A	40+	Surrounding vegetation prevented close inspection of the tree therefore all observations and measurements are estimated.	boundary area of woodland with sprawling edge scrub, some ash showing varying signs of ash dieback disease, more smaller thick scrub and tree regeneration in northern area noted		6.6	136.9

10.0 Appendix 1B – Detailed Tree Survey Data Summary

(Please see Appendix 3 - Tree Survey Key)

Field Usage Results.		
Total Records: 85		
Type	Count	% of Total
T	64	75.3
G	17	20
W	1	1.2
H	3	3.5
Tree Species	Count	% of Total
Sorbus aucuparia (Rowan)	3	3.5
Acer platanoides (Norway Maple Crimson King)	5	5.9
Sorbus aria (Whitebeam)	10	11.8
Betula pendula (Silver Birch)	3	3.5
Fagus sylvatica 'Purpurea' (Copper Beech)	1	1.2
Fraxinus excelsior (Ash)	11	12.9
Fagus sylvatica (Beech)	1	1.2
Acer saccharinum (Silver Maple)	2	2.4
Quercus robur (Common Oak)	5	5.9
X Cupressocyparis leylandii (Leyland Cyp)	2	2.4
Cypress spp (Cypress spp)	1	1.2
Acer pseudoplatanus (Sycamore)	3	3.5
Salix caprea (Goat Willow)	9	10.6
Prunus (Cherry)	1	1.2
Carpinus betulus (Hornbeam)	1	1.2
Aesculus hippocastanum (Horse Chestnut)	1	1.2
Prunus avium (Wild Cherry)	1	1.2
Fruit tree spp (Fruit tree spp)	1	1.2
Picea sitchensis (Sitka Spruce)	1	1.2
Prunus spp (Cherry spp)	1	1.2
Crataegus monogyna (Hawthorn)	4	4.7
Sorbus intermedia (Swedish Whitebeam)	2	2.4
Tilia cordata (Small-leaved Lime)	1	1.2
Quercus spp(Oak spp)	1	1.2
Prunus spinosa (Blackthorn)	1	1.2
Pinus sylvestris (Scots Pine)	1	1.2
Average Stem Diameter	Count	% of Total

<100	3	3.5
<150	3	3.5
<250	19	22.4
<500	42	49.4
<750	10	11.8
<1000	6	7.1
<2000	2	2.4
Cat	Count	% of Total
A2	2	2.4
A3	1	1.2
B2	23	27.1
C2	51	60
C3	1	1.2
U	7	8.2
Age	Count	% of Total
Y	1	1.2
SM	5	5.9
EM	33	38.8

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.



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.

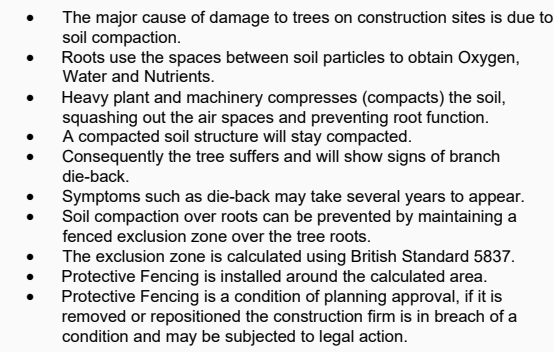
- **Work Priority** - Work Priority -This gives a work priority rating of preliminary management for each tree.
 - o H - High – Urgent work to be carried out as soon as practicable due to safety reasons (Within 14 days).
 - o H/M – High - Medium – Work to be carried out within 6 months/or before the 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

- Trees for removal to be identified from the drawing and marked by an arboriculturist.
- No vehicles to enter the grass verge or root protection zone during tree removal or fencing installation/removal.
- Fencing to be installed prior to any construction works (including demolition, materials delivery, works compound installation).
- The location of the tree protective fencing is indicative only and must not be directly measured from this plan. Its true location must be surveyed accurately on site and where applicable be measured from the tree centre by the stated dimension value.
- Fencing to remain in place until all construction works have ceased.

6.2.2.3 Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection an alternative specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority.

For example: 2 metre tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins. Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray. (See Diagram Below)



Permanent Ground protection
- NO DIG - 3D Cellweb

Please Note:
Arboricultural Method Statement:
MUST be followed in sequence, include
direct supervision by an Arboriculturist
where specified and adhered to at all
times. Details can be found in Section 6
of this report. Noncompliance with this
method statement may result in planning
enforcement action or prosecution.

10.0 Appendix 5 – Tree Photographs

Tree ID#T1 + T2



Tree ID#T17 + G15 + T19



Tree ID#T4



Tree ID#T5



Tree ID#T7 + T8



Tree ID#T9



Tree ID#T11



Tree ID#T12



Tree ID#H13



Tree ID#T9



Tree ID#G20



Tree ID#G20 + T21



Tree ID#T22



Tree ID#T24



Tree ID#T25, T27



Tree ID#H30



Tree ID#T34 + T35



Tree ID#T423, T43 + T44



Tree ID#G46



Tree ID#G47



Tree ID#T48



Tree ID#G49



Tree ID#G51



Tree ID#T52



Tree ID#G53



Tree ID#G57



Tree ID#T58 + G59



Tree ID#G62



Tree ID#W69 + T75



Tree ID#T76



Tree ID#T77



Tree ID#W69 – Northern end



Tree ID#T179



Tree ID#T81 – T179



Tree ID#T289



Tree ID#T179 – T81



