

**ARBORICULTURAL IMPACT ASSESSMENT
to BS 5837:2012
at
24 Viewlands
Barnsley
South Yorkshire
S75 4QP**

Client:
G McGrath Buildings Ltd

Client Address:
24 Viewlands
Silkstone Common
Barnsley
S75 4QP

JCA Ref:
16023a/DK

JCA Limited
Arboricultural & Ecological Consultants

Contents

1. Introduction	3
1.1 Purpose of the Report	3
1.2 Terms of Reference	3
1.3 Scope of the Report	3
1.4 Survey Details.....	3
2. Tree Descriptions and Recommendations	3
3. Arboricultural Impact Assessment (AIA).....	4
3.1 Proposed Development.....	4
3.2 Tree Removals for Development.....	4
3.3 Pruning for Development	4
3.4 Implications for Retained Trees	5
3.5 Remedial Measures.....	7
4. Conclusions	9
 Appendix 1: Tree Descriptions and Recommendations.....	 11
Appendix 2: Explanation of Tree Descriptions.....	12
Appendix 3: General Guidelines	15
Appendix 4: Glossary of Terms & Abbreviations	16
Appendix 5: Author Qualifications.....	18
Appendix 6: Tree Constraints Plan	20
Appendix 7: Arboricultural Implications Plan.....	21

1. Introduction

1.1 Purpose of the Report

- 1.1.1 This Arboricultural Impact Assessment is required in relation to the proposed development at **24 Viewlands, Barnsley, South Yorkshire, S75 4QP**.
- 1.1.2 The purpose of this report is to assess the impact of the proposals on the existing tree stock and outline mitigation actions, where appropriate, to minimise potential damage to retained trees.

1.2 Terms of Reference

- 1.2.1 JCA Ltd has been instructed by **G McGrath Buildings Ltd** to prepare an Arboricultural Impact Assessment, based on our Arboricultural Report dated 12th June 2020 (JCA Ref: **16023/DK**). The arboricultural survey and report conforms to the most recent specifications outlined in BS 5837: 2012 Trees in relation to design, demolition and construction - Recommendations.
- 1.2.2 I have been supplied with **Drawing: Planning DwgsB.dwg** which details the proposed development. The tree data has been overlaid onto the proposed designs to create the Arboricultural Implications Plan, which can be found at **Appendix 7**. This provides the basis for which this Arboricultural Impact Assessment has been prepared.

1.3 Scope of the Report

- 1.3.1 This report is compiled in accordance with *BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'* and is based on an objective assessment of the existing vegetation.
- 1.3.2 The specific design of the proposed development has been considered within the Arboricultural Implication Assessment in **Section 3** and is detailed on the Arboricultural Implications Plan at **Appendix 7**.

1.4 Survey Details

- 1.4.1 The original survey took place during the month of June 2020 and was conducted by **Dan Kemp FdSc (Arboriculture)**.

2. Tree Descriptions and Recommendations

- 2.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**. A full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

3. Arboricultural Impact Assessment (AIA)

3.1 Proposed Development

- 3.1.1 The proposed development will consist of the construction of three detached properties.
- 3.1.2 All tree works required to accommodate the proposals are detailed in *italics* in the recommendation columns of the tables at **Appendix 1**. Please note that any works recommended during the initial survey are also listed in these tables in non italics.

3.2 Tree Removals for Development

- 3.2.1 **17** trees/groups/hedges require removal to accommodate the proposals. These include **4** retention category 'B' trees/groups and **13** retention category 'C' trees/groups/hedges.
- 3.2.2 Most of the trees requiring removal are retention category 'C' and can be removed without significantly affecting the visual amenity of the surrounding area.
- 3.2.3 **T2, G4, T6 and T15** are category 'B' trees/groups which require removal to facilitate the proposed development. In this instance, the removal of these trees is unavoidable.
- 3.2.4 The removal of trees for development can often be mitigated (either partially or entirely) by the planting of suitable specimens within a landscaping scheme. Whilst not always necessary, the planting of trees can improve the aesthetic value of the surrounding area and may be conditioned in the usual manner.

3.3 Pruning for Development

- 3.3.1 To accommodate the proposals, it will be necessary to prune some of the retained groups/hedges, in order to provide suitable access and working distances for pedestrians and vehicles and to afford reasonable clearances from buildings, (if applicable). Also known as 'access facilitation pruning' this is relevant to **G3** and **G16**.
- 3.3.2 Where the footprint of the proposed structure passes proposed structures pass within the RPA of retained trees, root pruning will be required, under the supervision of an appointed arboriculturist. Root pruning will accommodate the proposed structure structures whilst preventing any 'ripping' damage, a problem commonly associated with mechanical excavations. Root pruning is relevant to **G3, G16 and H18**.

3.4 Implications for Retained Trees

3.4.1 The Protective Barrier

- 3.4.1.1 In order to ensure the effective protection of retained trees during development, a protective barrier will be installed, in accordance with BS5837: 2012 and may comprise of protective fencing and/or ground protection. This will be the first job on site following the tree removal and pruning works. The fencing should ideally be positioned to protect the entire **Root Protection Area (RPA)** of the retained trees, in order to create a **Construction Exclusion Zone (CEZ)**.
- 3.4.1.2 Routes for pedestrian and site traffic will be located outside, and diverted away from, the RPAs of the retained trees wherever possible. Where this is not practicable, temporary protective surfaces (ground protection) must be laid over the exposed RPAs which will distribute the weight of site vehicles, machinery or pedestrians whilst allowing moisture to reach the tree rooting area beneath. Such surfaces should be constructed in accordance with BS5837: 2012.

3.4.2 Access/Construction of Hard Surfacing

- 3.4.2.1 In this case, the proposed scheme does not require the construction of access roads, driveways or other hard surfaces within the RPA of retained trees. As such no specialised construction techniques/surface treatments will be required for this purpose.
- 3.4.2.2 Whilst no permanent surfaces are required within the RPA of retained trees, it will be necessary to lay temporary access routes during the construction phase. Where access is required within the RPA, a combination of protective barriers and ground protection (see **Section 3.4.1**) will be implemented to prevent damage to tree roots.
- 3.4.2.3 The chosen solution must be fit for purpose and suitable for its intended use, whether for pedestrian or vehicular access. It must dissipate compaction to the soil (which can damage roots), allow gaseous diffusion to/from the soil and allow water percolation through the soil surface. The specific construction principles of any required surfaces should be included in an Arboricultural Method Statement and confirmed by a suitably qualified engineer.
- 3.4.2.4 Proposed hard surfaces are present within the RPA of **8** of the retained trees/groups/hedges. In this case, the proposed surface is situated within the footprint of existing hard surfacing. Where this is applicable, the existing surface will be retained in situ to prevent damage to tree roots. If required, it may then be resurfaced as appropriate, providing that the base is retained and no excavation takes place within the RPA. Where the proposed hard surfacing enters open ground within the RPA, the principles highlighted in **Section 3.4.2.3** will be adopted (see the section above).

3.4.3 Demolition

- 3.4.3.1 In order to meet the needs of this proposal, demolition of existing structures is required. Whilst the structures in question are located outside the RPA of retained trees, no demolition will commence until full protective measures (e.g. barriers and/or ground protection) are installed. This is to prevent foreseeable damage to trees, either by the demolition itself, or relating to vehicular movement over RPAs.

3.4.4 Construction / Foundation Design

- 3.4.4.1 Prior to construction, all protective measures required and listed in **Section 3.4.1** (The Protective Barrier) and **Section 3.4.2** (Access/Construction of Hard Surfaces) need to be correctly installed to prevent unnecessary damage during development.
- 3.4.4.2 The footprint of proposed structures incurs the RPA of **2** of the retained trees/groups. In this case, because of the minimal nature of the incursion, it is considered appropriate to undertake root pruning. This will allow for the construction of the building, without causing ‘ripping’ damage to the roots, a problem commonly associated with mechanical excavation, whilst also preventing the need for specialist foundation designs.
- 3.4.4.3 Advice should always be sought from a suitably qualified Structural Engineer. The water demand of trees can be an important consideration when determining the appropriate foundation design. Due of this, water demands for the trees identified on this site are included in **Appendix 1**, in accordance with **NHBC chapter 4.2**, for use by the appointed structural expert.

3.4.5 Utilities

- 3.4.5.1 Details on service routes have not been provided to JCA at this time. Where utilities need to be brought onto the site, these should be routed away from the RPAs of retained trees. Where this is not possible, methodologies on the installation of underground services without damage to tree roots should be considered.
- 3.4.5.2 All service providers should be consulted prior to commencement of works with the aim of minimising the number of service runs on the site. Any foreseeable incursions to RPAs should be communicated to the appointed arboricultural consultant and the LPA at the earliest possible time to prevent breach of planning conditions and damage to retained trees.

3.4.6 Site Compound

- 3.4.6.1 The site compound, which typically includes the site office, mess facilities, toilets, storage of materials and parking, must be located away from all of the trees and outside their RPAs. Care should also be taken to prevent soil contamination from chemical spillages, including petrol, diesel and oils.

3.4.7 Tree Shade

- 3.4.7.1 Shade cast by surrounding trees to the proposals has been considered. The proposals should be designed to reduce the amount of shade cast into the rooms with a view to maximising light levels.
- 3.4.7.2 A shade cast diagram can be provided by JCA which will show the general expected areas being shaded from trees being retained, however, if any further investigation and information is required, a shade cast analysis expert should be sought.

3.4.8 Landscaping

- 3.4.8.1 Any proposed fence lines may be constructed within the RPA if necessary, providing that appropriate considerations are made to the protection of the tree. This is providing that no continual trenching is undertaken (e.g. for small walls onto which panel fencing is installed). Excavation must be kept to a minimum and therefore only fence designs requiring intermittent posts will be acceptable within the RPA of retained trees.
- 3.4.8.2 Any patios, garden paths or other hard surfaces within RPAs which may not be shown on the projected layout (**Appendix 7**), and in addition to those mentioned in **Section 3.4.2** (Access/Construction of Hard Surfaces), may be constructed using no-dig techniques, and are implemented in accordance with BS5837: 2012. If there is any concern of damaging retained trees, further advice should be sought from a qualified Arboriculturalist.
- 3.4.8.3 No ground level changes are to be undertaken within the RPA of retained trees, unless otherwise stated or agreed with the appointed Arboricultural consultant or the LPA. The requirement to raise/lower ground levels within RPAs should be communicated to these parties at the earliest practical convenience.

3.5 Remedial Measures

- 3.5.1 In order to protect the retained trees during the construction phase, protective fencing needs to be installed. Protective fencing specifications and on site positioning, along with details of any necessary specialist construction methods can be provided in an Arboricultural Method Statement (AMS).
- 3.5.2 Part of the proposed development will encroach into the RPAs of retained trees, resulting in possible root loss. It would therefore be prudent to apply appropriate mycorrhizal fungi to the soils around these trees after the construction phase is complete. Certain mycorrhizal fungi form a symbiotic relationship with tree roots. A tree root associated with such mycorrhizae will take up nutrients more effectively and this will therefore help the tree to produce new roots more effectively, so benefitting their recovery.

- 3.5.3 The site offers scope for landscaping and tree planting. All areas identified for the new planting should also be protected by fencing during the construction phase to prevent the compaction of the soil.
- 3.5.4 In addition to any new planting, where there are existing young trees which require removal in order to facilitate the proposed development, consideration should be given to transplanting such trees to a more suitable location elsewhere on site.

4. Conclusions

- 4.1 The trees surveyed were generally found to be in good condition.
- 4.2 Some tree works were recommended during the original survey, irrespective of the development proposals. This is to manage potential risks or for general maintenance purposes. These are detailed in **non-italics** in the tables at **Appendix 1**.
- 4.3 The proposed development will consist of the construction of three detached properties.
- 4.4 The arboricultural implications of the development have been considered and are discussed in **Section 3**.
- 4.5 Some trees require removal or pruning works in order to facilitate the proposed development. Tree works required to accommodate the proposals are detailed in *italics* in the tables at **Appendix 1**. Those trees requiring removal are shown in red on the Arboricultural Implications Plan at **Appendix 7**, where the proposals can also be viewed.
- 4.6 All development work carried out in close proximity to trees should be done so in a manner sympathetic to their needs. Otherwise the condition of the trees may deteriorate in the months and years following the development, leading to a loss of amenity and potentially hazardous trees.
- 4.7 The protection of retained trees can be achieved by the creation of a Construction Exclusion Zone based on the Root Protection Area of a tree. The Root Protection Area of each tree or group is marked on the Tree Constraints Plan at **Appendix 6**.
- 4.8 The proposed development should be accompanied by an Arboricultural Method Statement (AMS) detailing the specific protection measures necessary for each tree. This should specify the required fencing standard and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.
- 4.9 Upon instruction JCA are able to provide a comprehensive Arboricultural Method Statement in order to ensure the continued health of trees throughout the proposed development. We are also able to provide tree planting schemes and organise tree works.
- 4.10 The data gained during the original survey provides an indication of the health of the vegetation. However, it does not enable a comprehensive assessment of their condition over time. Trees are living organisms which are affected by many factors including weather conditions, diseases/disorders, light levels and human activities. Due to this, the report is only valid for a period of 1 year from the date of issuing. Should an update or revision of this report be required outside of this time period, JCA may require a further site visit to ensure that the condition of the trees has not significantly changed. It is advised that the trees are inspected regularly, in the interests of risk management.

Appendices

Appendix 1: Tree Descriptions and Recommendations

Tree Ref.	Age	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
	Common Name <i>Botanical Name</i>					N	W	E								
T 1	Mature Wild Cherry <i>Prunus avium</i>	12 #	1 to 2 #	1 to 2 # N/A	35	5 # 5 # 5 #			Vertical main stem with spreading crown. Telephone cable through western side of crown. Slightly cankerous-fairly open/thin crown.	No action required. N/A	FAIR	FAIR	MOD	MOD	20+	B 1
T 2	Mature Common Beech <i>Fagus sylvatica</i>	13 #	1 to 2 #	1 to 2 # N/A	63	6 # 6 # 6 #			Vertical main stem with spreading crown. Topped at 2 metres with extensive regrowth, numerous vertical stems. Surface rooting.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	FAIR	FAIR	MOD	MOD	20+	B 1
G 3	Mature Lombardy Poplar <i>Populus nigra 'Italica'</i>	20+	1 to 2 #	1 to 2 # N/A	60 avg	See plan			About 15 vertical main stems including four fractured stumps at about 2 to 4 metres high, with one stump leaning over. <i>Ceriporus squamosus</i> on stumps. Four large Wild Cherry trees growing amongst linear group of Poplars, with poor form, low crown breaks, main limbs from main stems widely parted. Cherry Laurel understorey. Other species noted include Holly and Birch. One Poplar with hollow in secondary stem fracture, hollowing possibly extending into current main stem.	<i>Cut back to facilitate development.</i> Recommend further investigation (Picus/Resistograph). Single Lombardy Poplar tree with hollowing stem, see plan for location. HIGH	FAIR	FAIR	MOD	HIGH	20+	B 1
G 4	Mature Lawson Cypress <i>Chamaecyparis lawsoniana</i>	To 20 #	0	0	35, 30, 30, 35, 40 avg	See plan			Vertical, multiple stemmed trees with crown spreads widest at ground level and tapering to apexes	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	HIGH	40+	B 1
G 5	Early mature Wild Cherry <i>Prunus avium</i>	6 #	1 to 2 #	1 to 2 # N/A	16, 19, 18	2.5 # 2.5 # 2.5 #			Three vertical main stems topped at 2 to 3 metres with about 2 metres regrowth and epicormic. Cankorous.	No action required. N/A	FAIR	POOR	LOW	MOD	20+	C 1
T 6	Early mature Downy Birch <i>Betula pubescens</i>	13 #	1 to 2 #	1 to 2 # N/A	30	4 # 2 # 2 #			Vertical main stem and spreading crown growth. Growing in shallow, raised stone planter.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	LOW	20+	B 1
T 7	Semi mature Sycamore <i>Acer pseudoplatanus</i>	3 #	1 #	1 # N/A	9	2 # 1 # 1 #		1.5 #	Vertical main stem with spreading crown. Growing in shallow, raised stone planter.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	MOD	40+	C 1
T 8	Early mature Chinese Juniper <i>Juniperus chinensis</i>	4 #	0	0	15 #	0.5 # 0.5 # 0.5 #			Vertical main stem with fastigate crown form.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	NO DATA	40+	C 1
T 9	Early mature Monterey Cypress <i>Cupressus macrocarpa</i> 'Golderest'	4 #	0	0	15 #	0.5 # 0.5 # 0.5 #			Vertical main stem with fastigate crown form.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	HIGH	20+	C 1
G 10	Early mature Noble Fir and Sawara Cypress <i>Abies procera</i> 'Glaucia' and <i>Chamaecyparis pisifera</i> 'Boulevard'	4.5 #	0	0	10 #	2 # 2 # 2 #			Vertical main stems with tapering crowns, widest at ground level.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	NO DATA and HIGH	20+	C 1
T 11	Early mature Lawson Cypress <i>Chamaecyparis lawsoniana</i> 'Ellwoodii'	4 #	0	0	<10	0.75 # 0.75 # 0.75 #			Vertical main stems with fastigate crown form.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	HIGH	20+	C 1

Tree Ref.	Age	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
	Common Name <i>Botanical Name</i>					N W E S								
T 12	Semi mature Korean Fir <i>Abies koreana</i>	4.5 #	0	0	20 #	2 # 2 # 2 # 2 #	Vertical main stem with tapering crown form, widest at ground level.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	NO DATA	40+	C 1
T 13	Early mature Lawson Cypress <i>Chamaecyparis lawsoniana</i> 'Ellwoodii'	3 #	0	0	<10	0.50 # 0.50 # 0.50 # 0.50 #	Vertical main stems with fastigate crown form.	No action required. N/A	GOOD	GOOD	MOD	NO DATA	40+	C 1
T 14	Early mature Lawson Cypress <i>Chamaecyparis lawsoniana</i> 'Ellwood's Gold'	3 #	0	0	<10	0.50 # 0.50 # 0.50 # 0.50 #	Vertical main stems with fastigate crown form.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	NO DATA	40+	C 1
G 15	Mature Lawson Cypress <i>Chamaecyparis lawsoniana</i>	12 #	0	0	35 avg x7	See plan	Vertical, multiple stemmed trees with crown spreads widest at ground level and tapering to apexes	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	HIGH	HIGH	40+	B 1
G 16	Early mature Downy Birch <i>Betula pubescens</i>	12 #	N/A	N/A	40, 20 x2, 25, 25 x2	See plan	Four trees, all vertical, some with multiple stems growing in Cherry laurel part of G3 extending along south east boundary of garden.	<i>Cut back to facilitate development.</i> N/A	GOOD	GOOD	HIGH	LOW	40+	B 1
H 17	Mature Cherry Laurel <i>Prunus laurocerasus</i>	To 12 #	0	0	See plan	See plan	Extensive dense hedge along boundary. Downy Birch with small dead top growth and self set Sycamores. Laurel basal pruned to shape.	No action required. N/A	GOOD	GOOD	HIGH	MOD	40+	C 1
H 18	Mature Cherry Laurel, Lilac <i>Prunus laurocerasus</i> , <i>Syringa vulgaris</i>	To 6 #	0	0	See plan	See plan	Extensive dense hedge along boundary. Mainly side pruned to maintain clearance along drive and within garden area.	No action required. N/A	GOOD	GOOD	HIGH	#N/A	40+	C 1
T 19	Early mature Downy Birch <i>Betula pubescens</i>	To 10 #	1 to 2 #	1 to 2 # N/A	40 #	2.5 # 2.5 # 2.5 # 2.5 #	Vertical to 2 metres and then divides into two widely spreading main limbs. Growing in Laurel hedge.	No action required. N/A	GOOD	FAIR	MOD	LOW	20+	C 1
T 20	Early mature Laburnum <i>Laburnum species</i>	5 #	1 to 2 #	1 to 2 # N/A	10 x4 #	2 # 2 # 2 # 2 #	Vertical to 2 metres and then divides into two widely spreading main limbs. Growing in Laurel hedge.	No action required. N/A	GOOD	FAIR	MOD	LOW	20+	C 1
H 21	Mature Honeysuckle <i>Lonicera nitida</i>	1 #	0	0	N/A	See plan	Low growing hedge formally pruned to shape along drive/garden boundary.	No action required. N/A	GOOD	GOOD	MOD	NO DATA	20+	C 1
H 22	Mature Privet <i>Ligustrum ovalifolium</i>	1 #	0	0	N/A	See plan	Low growing hedge formally pruned to shape along drive/garden boundary.	No action required. N/A	GOOD	GOOD	MOD	NO DATA	20+	C 1
H 23	Mature Privet <i>Ligustrum ovalifolium</i>	1 #	0	0	N/A	See plan	Low growing hedge formally pruned to shape along drive/garden boundary.	No action required. N/A	GOOD	GOOD	MOD	NO DATA	20+	C 1
T 24	Early mature Norway Maple <i>Acer platanoides</i>	8 #	2 to 3 #	2 to 3 # N/A	15 #	2.75 # 2.75 # 2.75 # 2.75 #	Vertical main stem with spreading crown growth. growing in area of scrub of low value including bramble and other herbaceous self set perennial plants.	No action required. N/A	GOOD	GOOD	MOD	MOD	40+	C 1

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (Yrs)	Retention Category
H 25	Mature Cherry Laurel <i>Prunus laurocerasus</i>	To 6 to 7 #	0	0	See plan	See plan	Extensive dense hedge along drive. Side pruned to maintain clearance.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	MOD	40+	C 1
H 26	Mature Cherry Laurel <i>Prunus laurocerasus</i>	To 6 to 7 #	0	0	See plan	See plan	Extensive dense hedge along drive. Side pruned to maintain clearance.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	MOD	40+	C 1
H 27	Early mature Hawthorn, Holly <i>Crataegus mongyna, Ilex aquifolium</i>	To 8 to 9 #	0	0	To 35 #	See plan	Boundary hedge forming dense growth along northern boundary with Wild Cherry, approximately 15 metres high and 50 DBH, growing within it.	No action required. N/A	GOOD	GOOD	MOD	HIGH, MEDIUM and LOW	40+	B 1
H 28	Mature Cherry Laurel <i>Prunus laurocerasus</i>	To 6 to 7 #	0	0	See plan	See plan	Extensive dense hedge along drive. Side pruned to maintain clearance.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	MOD	40+	C 1
T 29	Mature Cherry Laurel <i>Prunus laurocerasus</i>	To 3 to 4 #	0	0	See plan	See plan	Dense hedge, pruned with curved/shaped top.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	MOD	40+	C 1
T 30	Early mature Norway Maple <i>Acer platanoides</i>	7 #	2 #	2 # N/A	20 #	2.5 # 2.5 # 2.5 #	Vertical main stem with spreading crown growth.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	MOD	40+	C 1
H 31	Mature Spotted Laurel <i>Aucuba japonica</i>	To 8 #	0	0	See plan	See plan	Dense hedge, side pruned to maintain clearance.	No action required. N/A	GOOD	GOOD	MOD	NO DATA	40+	C 1
T 32	Mature Cherry Laurel <i>Prunus laurocerasus</i>	To 8 #	0	0	See plan	See plan	Extensive dense hedge. Side pruned to maintain clearance. Provides screening from composting area to north side.	<i>Remove; fell and treat stump to facilitate development.</i> N/A	GOOD	GOOD	MOD	MOD	40+	C 1
T 33	Mature Wild Cherry <i>Prunus avium</i>	2 to 3 #	0	0	26	See plan	Dead tree stem. May be kept for wildlife purposes or removed.	No action required. N/A	DEAD	DEAD	DEAD	MOD	DEAD	C 1

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements/ Reference Information

- A2.1.1 *REF NUMBER*. All items surveyed are allocated a reference number preceded with a letter, identifying the type of vegetation surveyed: T = an individual tree, G = a group of trees or an area of vegetation, W = woodland, H = a hedgerow.
- A2.1.2 *SPECIES: COMMON AND BOTANICAL NAME*. The common and botanical names of the species present are noted. If the species is not clear or identifiable, then a general common name and genus will be noted.
- A2.1.3 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, over-mature, veteran or dead.
- A2.1.4 *HEIGHT* of the tree is measured in metres from the stem base to the top of the crown.
- A2.1.5 *CROWN HEIGHT* is an indication of the height above ground level at which the crown begins.
- A2.1.6 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; diameter measurements are taken for each stem. If more than five stems are present, an average stem diameter is taken. If for whatever reason it is not practical to measure multiple-stemmed trees in this way, the diameter is measured close to ground level, just above the root buttress.
- A2.1.7 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches to all four cardinal points.
- A2.1.8 *HEIGHT AND DIRECTION OF LOWEST BRANCH*. The height and direction of the lowest significant branch is noted because of potential issues relating to clearances and the need for tree pruning.
- A2.1.9 *NHBC WATER DEMAND*. The water demand of each tree, as listed in NHBC Standards 2010 Chapter 4.2 'Building near trees'. This is included to aid structural engineers, architects and other members of the design team as it determines foundation depth and other considerations with regard to trees.

A2.2 Evaluations

- A2.2.1 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health and vitality of the tree and takes into account vigour, presence of disease and dieback.
- A2.2.2 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.
- A2.2.3 *LIFE EXPECTANCY* is classed as; 0, less than 10 years, 10+ years, 20+ years, or 40 + years. This is an indication of the minimum number of years before removal of the tree is likely to be required.
- A2.2.4 *AMENITY VALUE*. A general indication is given in respect to the amenity/landscape value of the tree/group within the surrounding area.
- A2.2.5 *PRIORITIES*. A priority rating is given concerning the time periods in which the recommended works should be undertaken. LOW priority works should be undertaken within 12 months of the survey, MOD (moderate) priority works should be undertaken within 6 months and HIGH priority works should be completed as soon as practically possible. If no works are recommended, N/A (not applicable) will be used.

A2.3 Retention Categories

- A2.3.1 *A (marked green on the Tree Constraints Plan) = Trees of high quality.*
- These trees are of high quality and value with a good life expectancy (usually with an estimated remaining life expectancy of 40 years).
- A2.3.2 *B (marked in blue on the Tree Constraints Plan) = Trees of moderate quality.*
- These trees are of moderate quality and value with a reasonable life expectancy (usually with an estimated life expectancy of at least 20 years).
- A2.3.3 *C (marked in grey on the Tree Constraints Plan) = Trees of low quality.*
- These trees are of low quality and value but which are in adequate condition to remain or are young trees with a stem diameter below 15cm (usually with an estimated life expectancy of at least 10 years).
- A2.3.4 Trees categorised as retention category 'A', 'B' or 'C' are then justified by being further divided into 3 subcategories:
- 1 = Mainly arboricultural qualities.
 - 2 = Mainly landscape qualities.
 - 3 = Mainly cultural values, including conservation value.

A2.3.5 U (marked in red on the Tree Constraints Plan) = Trees usually unsuitable for retention due to poor condition.

These trees are in such a condition that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. This may be due to any of the following:

- 1) Failure is likely due to serious, irredeemable, structural defects.
- 2) Removal of other category U trees will render them exposed and unstable.
- 3) They are in serious, overall decline or are dead.
- 4) They are of low quality and suppressing adjacent trees of better quality.
- 5) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

Appendix 3: General Guidelines

- A3.1 All tree work should be undertaken to BS 3998: 2010 '*Recommendations for tree work*' or other recognised industry practice.
- A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.
- A3.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed therein.
- A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.
- A3.5 No liability can be accepted by JCA in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.
- A3.6 It is advisable to have trees inspected by an arboricultural consultant on a regular basis.

Appendix 4: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber or fruit.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria affecting the bark.
Co-dominant stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduction	The reduction of a tree's height and spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-15% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in clusters around the base of the stem of a tree or within the crown. This is usually as a result of bad pruning or some other stress factor, although can be a natural growth pattern for some species of tree (eg Lime species).
Formative pruning	The pruning of a tree to remove weaknesses and irregularities which may lead to future problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown and to encourage an optimal canopy shape.
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk and principle branches of the tree are cut to the same height, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.

RPA	Root Protection Area – Theoretical rooting area of a tree as defined in BS5837:2012 <i>Trees in relation to construction</i> .
Topping	Topping is a form of pruning that removes terminal growth leaving a ‘stub’ cut end. Topping can cause serious health problems to a tree.

Appendix 5: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years' experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Director

Toby Thwaites *BSc (Hons), HND (Arboriculture), MArborA.* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Director and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Andrew Bussey. Andrew started working in consultancy at JCA in 2006 having spent 12 years working as an arborist for various private companies before joining a Local Authority forestry team. He has various NPTC qualifications, is QTRA qualified and is a LANTRA Accredited Professional Tree Inspector.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years' experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking *FdSc (Arboriculture), MArborA.* Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. Charles obtained his Foundation Degree in Arboriculture at Askham Bryan College, York.

Robert Hickey *FdSc (Arboriculture), TechArborA.* Robert joined JCA in January 2019 having obtained his foundation degree in Arboriculture at the University of Central Lancashire. He has various NPTC's qualifications and has previously worked for several Arboricultural contractors.

Dan Kemp *FdSc (Arboriculture).* Dan joined JCA with nearly 30 years' experience in arboriculture. He worked as a London Tree Officer for 12 years and in several arboricultural and horticultural management posts, specialising particularly in tree risk assessments and tree related subsidence.

Ryan Bateman *BSc (Hons), FdSc (Arboriculture), TechArborA.* Ryan joined JCA in 2020 after working as a Lecturer on the Foundation Degree in Arboriculture at Askham Bryan College in York. Ryan has both practical skills, NPTC qualifications and theoretical knowledge and owned his own contracting business prior to, and whilst working as a lecturer.

Consulting Staff: Ecology

Amanda Beck, Ecological Officer *Cert/He in Field Ecology, Diploma Field and Conservation Ecology, CIEEM member.* Amanda joined JCA's ecology department in 2018, previously working as a freelance Ecological Consultant in North Wales and as a trainee Ecologist in South Wales. She has a background surveying for botanical, amphibians, birds, terrestrial and marine mammals along with small mammal trapping and invertebrate research work on SSSI sites. She has practical experience in habitat management and creation while working as a volunteer for North Wales Wildlife Trust and currently volunteers with Yorkshire Wildlife Trust. She is a member of the Butterfly Conservation Trust, Bat Conservation Trust, Clwyd Bat Group and the British Hedgehog Preservation Society. Amanda is DBS checked and holds a Natural England level 1 bat licence.

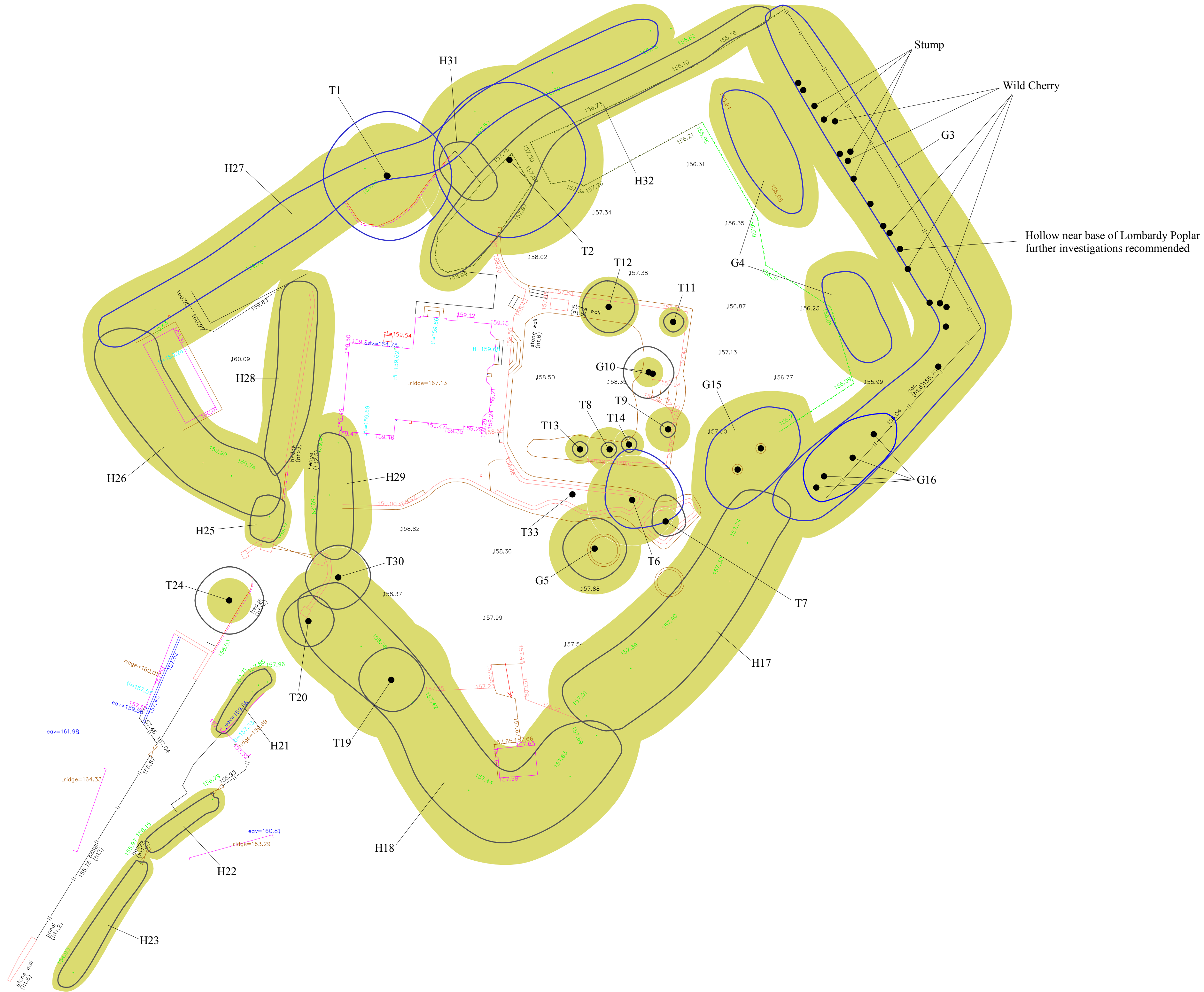
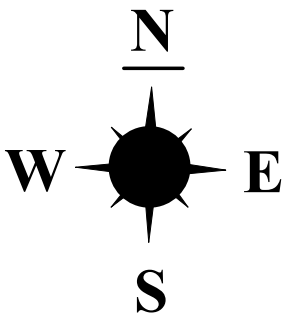
Joe Earnshaw, Graduate Ecologist *BSc (Hons), MSc Biodiversity and Conservation, Qualifying CIEEM Member.* Joe joined the ecology department of JCA in 2018 after taking part in JCA's student training programme. He initially obtained a bachelor degree in Animal Management from Askham Bryan College, York. He has since furthered his education and brings to the company an MSc in Biodiversity and Conservation from the University of Leeds. Joe has expertise in aquatic invasive species identification and control.

Administrative Staff

Simeon Haigh *BSc (Hons).* IT Director.
Lorraine Spink Administrative Assistant.
Lisa Hampson Marketing Manager.

Catherine Cocking Accounts Manager.
Kelly Saunders Accounts Assistant.

Appendix 6: Tree Constraints Plan



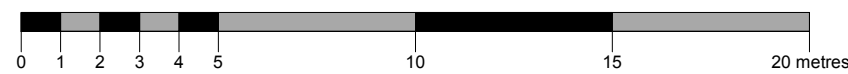
Root Protection Area: RPA

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE.

THIS AREA SHOULD IDEALLY REMAIN UNDISTURBED IF THE TREE IS TO BE RETAINED.

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.



THIS PLAN IS TO BE PRINTED IN COLOUR
AND READ IN CONJUNCTION WITH THE
JCA ARBORICULTURAL REPORT
(JCA REF: 16023/DK)

Appendix 6: Tree Constraints Plan

ADDRESS: 24 Viewlands, Silkstone Common
Barnsley, South Yorkshire, S75 4QP.
JCA REF: 16023a/DK

SCALE : 1:200

PAPER SIZE : A1

SURVEYED BY: DK DRAWN BY: DK APPROVED BY: AJB

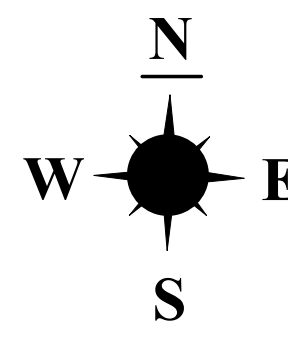
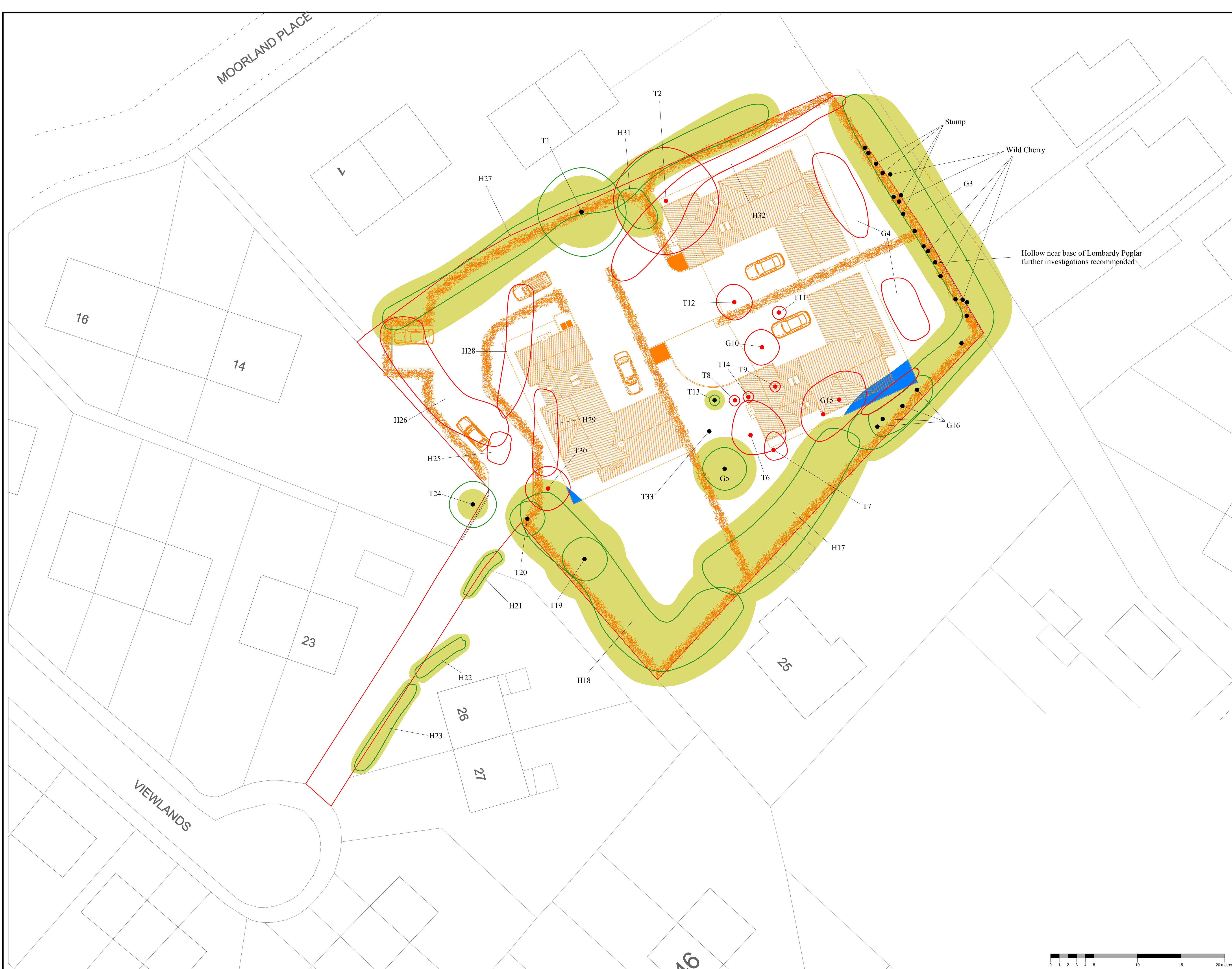
BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES

Detailed definitions of these categories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY U: 'TREE FOR REMOVAL'
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA

JCA Limited
Arboricultural & Ecological Consultants

Appendix 7: Arboricultural Implications Plan



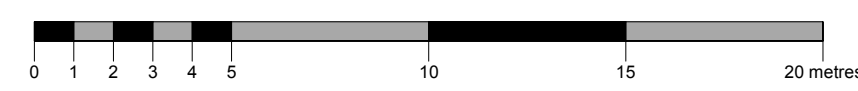
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**Appendix 7: Arboricultural
Implications Plan**

ADDRESS: 24 Viewlands, Silkstone Common,
Barnsley, South Yorkshire, S75 4QP.
JCA REF: 16023a/DK

SCALE : 1:200 PAPER SIZE : A1

	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED DEVELOPMENT
	PROPOSED DEVELOPMENT



I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed



Daniel Kemp (FdSc Arboriculture)

19th February 2021

For and on behalf of **JCA Ltd**

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- Ancient Woodland Management
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- Landscape and Orchard Design

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- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

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- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

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