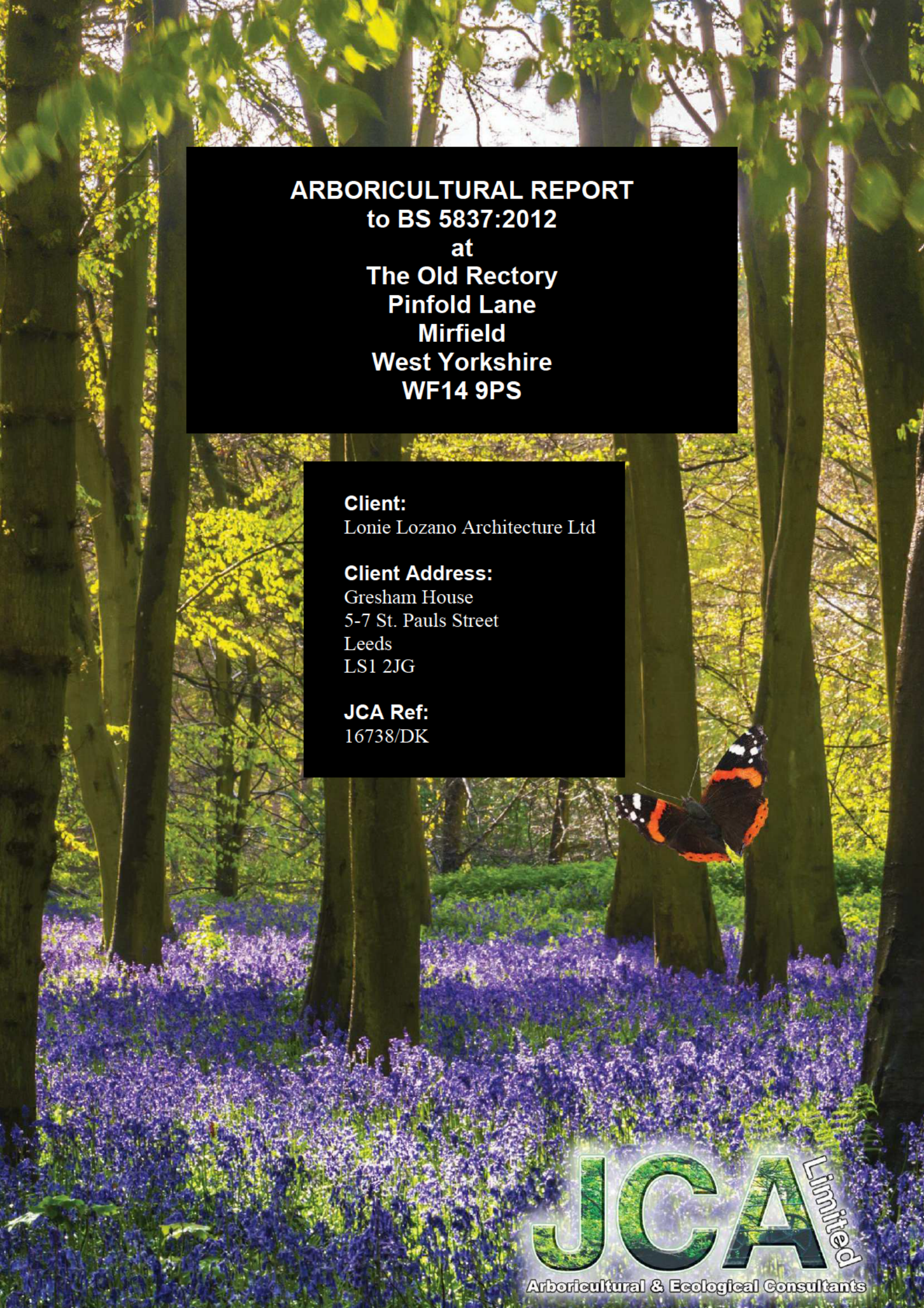

ARBORICULTURAL REPORT
to BS 5837:2012
at
The Old Rectory
Pinfold Lane
Mirfield
West Yorkshire
WF14 9PS

Client:
Lonie Lozano Architecture Ltd

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JCA Limited
Arboricultural & Ecological Consultants

Contents

1. Introduction

1.1 Purpose of the Report

1.1.1 This report is required at **'The Old Rectory', Pinfold Lane, Mirfield** to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.1.2 The purpose of this report is to summarise the findings of an arboricultural assessment of the existing vegetation at the above site; conducted in accordance with the guidelines contained within BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.

1.1.3 Where necessary, this report will outline any tree works which are required within the current context of the site. It will also grade the trees in accordance with the British Standard; which will guide the design in terms of which trees should be retained and which trees could be removed.

1.2 Terms of Reference

1.2.1 JCA Ltd has been instructed by **Lonie Lozano Architecture Ltd** to survey the site and prepare the findings in a report.

1.2.2 A topographical survey has been provided (**Existing Site Plan**), which forms the basis for the Tree Constraints Plan at **Appendix 6**. The topographical survey, along with all other documents supplied to JCA, is assumed to be correct. No checking of such documents will be undertaken and JCA cannot be held responsible for incorrect data supplied by other parties.

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 independent and objective assessment of the existing vegetation.

1.3.2 Preliminary recommendations are given with a view to the long-term management of sustainable tree cover and to uphold the interests of health and safety.

1.3.3 All trees within the site boundary with a stem diameter above 75mm are included.

1.3.4 Where applicable trees outside the site boundary, but close enough to be affected by the proposed development, are included.

1.3.5 The specific designs of the proposed development are not generally taken into account at this stage or detailed within this report. This is to be detailed in an Arboricultural Impact Assessment.

1.4 Survey Details

1.4.1 The survey took place during the month of January 2021 and was conducted by **Daniel Kemp *FdSc (Arboriculture).***

1.4.2 During this survey, all trees were inspected from ground level. Further investigations, such as a climbed inspection or a decay detection survey, have not been undertaken.

1.4.3 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, measurements were estimated to the best ability of the surveyor. JCA endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances. Where measurements have been estimated, they are clearly highlighted at **Appendix 1.**

2. Site Description

2.1 Land Use

2.1.1 The site is currently a garden area with maintained lawn and trees.

2.2 Topography

2.2.1 The site slopes down gently from the west towards the eastern boundary.

2.3 Treescape

2.3.1 Residential areas surround the site containing many trees and shrubs of varying age groups.

2.3.2 The trees on this site have a significant impact on the local treescape.

2.4 Visual Amenity Value

2.4.1 The trees on site collectively provide an excellent visual amenity to the surrounding area. Several specimens have a high amenity value.

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from semi mature to over mature. However, the trees were predominantly early mature.

2.6 Species Diversity

2.6.1 Species surveyed include Apple, Black Mulberry, Contorted Hazel, Lawson Cypress, Rowan, Common Beech, Silver Birch, Wych Elm, Common Laburnum, Japanese Cherry, Sweet Chestnut, Horse Chestnut and Sawara Cypress.

3. Status of the Trees

3.1 A check was made on 6th January 2021 ***Kirklees Metropolitan Council.***

3.2 We are informed that there is an Area Tree Preservation Order (**TPO Ref: 01/86/a2**) in force on this site which looks to protect **T19** and **T20**.

3.3 Before any work is organised, an application form must be submitted to the Local Authority, outlining all the proposed works along with suitable justification. A waiting period of eight weeks is then required, after which time the council will either give consent to the works, refuse the works or grant a conditional consent.

No work must be undertaken on any tree until permission has been granted.

3.4 The presence of a Tree Preservation Order (TPO) represents the Local Authority's desire to retain trees within the landscape. As such, trees covered by a TPO are generally more likely to require retention within a proposed scheme and this should be taken into account during the design process. In some cases, the removal of TPO trees may be agreed upon, providing the benefits of the proposed development are deemed greater than the material loss of the trees. The value of existing vegetation is just one factor in the decision making process; all benefits of the proposed development will be taken into consideration in the usual manner.

4. Tree Descriptions and Recommendations

4.1 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.

5. Discussion Relating to the Existing Treescape

5.1 Tree Condition & Recommended Works

5.1.1 The tree survey revealed a total of **21** items of vegetation (**20** individual trees and **1** group of trees. Of these, **5** trees were identified as retention category 'A', **11** trees and **1** group were identified as retention category 'B', **3** trees were identified as retention category 'C' and **1** tree was identified as retention category 'U'. Please refer to **Appendix 2** for retention category and definition criteria.

5.1.2 Within the survey, tree works have been identified for reasons of public safety. Such recommendations have been made without regard to any projected layout and should be undertaken irrespective of development. These are summarised in the following sections. For full details on all recommendations, please refer to **Appendix 1.** For an explanation of the priority ratings, see **Appendix 2 (A2.2.5).**

5.2 Tree Removals for Arboricultural Purposes

5.2.1 **One** tree (**T20**) was identified as retention category 'U'. This tree requires removal because it poses an imminent health and safety risk and is likely to fail within the short term.

- **T20** is considered unsafe and should be removed as soon as is reasonably practicable; its removal is of **high priority**.

5.3 Remedial Tree Works

5.3.1 On this occasion, no remedial works were deemed necessary at this time. However, those trees which overhang public footpaths or public highways shall require future maintenance to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.

5.4 Monitoring / Further Investigation

5.4.1 In this case, no specific monitoring (re-inspecting and re-assessing) or further investigation works are considered necessary. However, all trees to be retained within the proposed development should be inspected on a regular basis in the interests of risk management.

5.4.2 In addition, to the above, all trees which are to be retained within the proposed development should be inspected on a regular basis in the interests of risk management.

5.5 Existing Site Constraints and General Design Advice

5.5.1 The following is an overview of the constraints on this site to development, along with general design considerations relating to the tree cover. The precise details of a proposed development are not known at present. The specific implications of a proposed design should be assessed within an Arboricultural Impact Assessment (**AIA**).

5.5.2 The retention categories of the trees surveyed are an indication of their overall values. The category of each item is listed at **Appendix 1** and an explanation of the retention categories is included at **Appendix 2**. As a general rule; those trees listed as retention category 'A' or 'B' are the most valuable items and as such the removal of these is likely to be met with resistance by the Local Planning Authority (LPA). Those items listed as retention category 'C' are of lesser value and the removal of these is less likely to be met with resistance by the LPA. Items listed as retention category 'U' are recommended for removal regardless of any proposals and should not present a constraint to construction. The above information should guide the design in terms of which trees are to be removed and which are to be retained. However, it should be noted that the retention of trees is just one consideration in the design process and each development will be taken for its merits.

5.5.3 The location of each tree is plotted on the associated Tree Constraints Plan at **Appendix 6**. This plan identifies the retention category of each tree (Retention A: green canopy, Retention B: blue canopy, Retention C: grey canopy, Retention U: red canopy), the crown spread, and also the associated rooting zone (Root Protection Area or RPA shown in gold). In order to enable the survival of trees shown to be retained within any proposals, both the canopy of the tree and its RPA must be completely avoided wherever possible. This relates to not just the location of new buildings, but also to the location of new areas of hard standing, proposed utility routes and any ground level changes (both excavations and soil piling). Where this is not possible, specialist construction methods and materials will need to be used.

5.5.4 Where information is available, the water demand of each tree is provided at **Appendix 1**, in accordance with NHBC Standards 2019 chapter 4.2. 'Building near trees'. The water demand of trees can affect adjacent structures and this is therefore included to inform foundation design, depth and the proximity of proposed structures to trees.

5.5.5 There is limited room for development on this site without the removal of some trees. As such, the design should be optimised to retain as many of the higher category specimens (retention category 'B' and 'A') as possible. Many of the lower quality trees (retention category 'C') could be removed and replaced as part of a post development landscaping scheme.

5.5.6 There are a number of high amenity trees within this site. These will enhance any proposed development and care should be taken at the design stage to ensure that these trees are retained.

5.5.7 Retained trees will require adequate protective measures during development. Such measures typically entail temporary protective fencing, installed to the full extent of the RPA. Where this is not entirely possible, ground protection may also comprise part of the protective measures. This includes a compaction reducing construction detail which enables a degree of construction traffic over/within the RPA.

5.5.8 As the RPAs of the trees will require fencing off as a protection measure, this should be brought into consideration when planning such things as access routes and material storage during development. It is accepted that in some cases it is not entirely possible to completely avoid the RPA or canopy lines within a new development. The consulting arboriculturalist should therefore be made aware of any such incursions to make comment and, where possible, advise on mitigation actions. Such details should be contained within an Arboricultural Implications Assessment (**AIA**).

5.5.9 No material storage is permitted within the RPA of retained trees unless confirmed to be acceptable by the consulting arboriculturalist. The exact details and location of protective measures should be included within an Arboricultural Method Statement (**AMS**).

5.5.10 The position of the site compound is a major consideration. It is recommended that this, which typically includes the site office, facilities, toilets, storage of materials and parking, is located away from trees and outside their RPAs.

5.5.11 Any shade that may be cast by the retained trees must also be considered. Where buildings are to be positioned within the shade cast area of trees, these should be designed to maximise natural light levels.

5.5.12 Many development sites contain areas of nature conservation interest. Trees and hedgerows, in particular, can provide an important habitat for birds, bats, invertebrates and fungi and appropriate attention needs to be paid to preserving habitats throughout the development process. JCA can provide Ecological and Bat Surveys when required.

5.5.13 If a landscape planting scheme is proposed, consideration must be made at the planning stage as to where this is to be implemented on site. Such locations should be protected to prevent soil compaction and/or contamination and should therefore form part of the Construction Exclusion Zone. JCA can provide Tree Planting Schemes where required.

6. Conclusions

6.1 The trees surveyed were generally found to be in a good condition.

6.2 **T19** and **T20** are protected by a Tree Preservation Order.

6.3 **One** of the trees has been recommended for removal for arboricultural reasons. This has been discussed in **Section 5.2** detailed in **Appendix 1**. This is one of the protected trees. A *Carpinus betulus*, Common hornbeam is recommended as a suitable replacement particularly with respect to the location beneath the large canopy of **T19**.

6.4 Existing site constraints and general design advice has been provided in **Section 5.5**. Upon provision of specific proposals, site-specific advice can be given with regards to the impact on trees. In accordance with **Section 5.4** of **BS 5837: 2012**, the next stage on this site should be the preparation of an **Arboricultural Impact Assessment (AIA)**, which will illustrate and discuss the impact of the proposals on the trees and vice versa, to help to inform good design.

6.5 The data gained during the survey provides an indication of the health of the trees. 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. Because of this, this 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 Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	No. of Stems	Diameter (cm)	Estimated Age (years)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 1	Early mature Apple *Malus sp.*	6 #	2 to 3 #	2 to 3 # N/A	1	32	40 #	2.5 # 2.5 # 2.5 # 2.5 #	Vertical main stem with spreading crown. Old pruning wounds on main stem. Crown reduced to about 5 metres with less than 1 metre regrowth.	No action required. N/A	Fair	Fair	MOD	MOD	20+	B 1
T 2	Over mature Black mulberry *Morus nigra*	5 to 6 #	0+	2 to 3 # N/A	6	47, 24, 17, 12, 12, 10	62+ #	4 # 5 # 5 # 6 #	Buttress comprising three main failing limbs leaning out estimated less than 45 degrees to the ground. Propped on the east and west sides each with two angled rounded stakes. A third single prop to the north side is free at its top end. Damage being caused by the props due to the absence of any cushioning at their points of contact. Good bud cover and vitality.	Obtain professional advice and methodology on repropping the tree if props are going to be continued to be used with a view to preventing further damage to the tree. Moderate	Fair	Fair	HIGH	LOW	40+	A 1
T 3	Early mature Contorted Hazel *Corylus avellana* Contorta'	4 #	0+	0+ N/A	Multiple	10, 10, 8 x5 #	30 #	2.5 # 2.5 # 2.5 # 2.5 #	Grafted tree. Vertical main stem with a balanced spreading crown.	No action required. N/A	Fair	Fair	MOD	LOW	20+	B 1
T 4	Early mature Lawson Cypress *Chamaecyparis lawsoniana*	10 to 11 #	2 to 3 #	2 to 3 # N/A	1	47	59	3 # 3 # 3 # 3 #	Vertical main stem. Crown raised, stubs on lower main stem. Four vertical secondary stems from 2 to 3 metres with included unions which look to be responding fairly well.	No action required. N/A	Fair	Fair	MOD	MOD	40+	B 1
T 5	Early mature Rowan *Sorbus aucuparia*	6 #	2 to 3 #	2 to 3 # N/A	3	21, 20, 15	23	3 # 3 # 3 # 3 #	Vertical main stems from near ground level. Crown looks to have been raised. Minor stubs and deadwood.	No action required. N/A	Fair	Fair	MOD	MOD	20+	B 1
T 6	Early mature Rowan *Sorbus aucuparia*	7 #	2 to 3 #	2 to 3 # N/A	3	15 # x3	19	3 # 3 # 3 # 3 #	Vertical main stems. Ivy growth into crown area. Minor deadwood and snags.	No action required. N/A	Fair	Fair	MOD	MOD	20+	B 1
T 7	Semi mature Common Beech *Fagus sylvatica*	7 #	2 to 3 #	2 to 3 # N/A	1	9	19	2 # 2 # 2 # 2 #	Vertical main stem growing adjacent to but not against the boundary wall.	No action required. N/A	Fair	Fair	MOD	MOD	20+	C 1
T 8	Early mature Silver Birch *Betula pendula*	10 to 11 #	3 #	3 # S	1	25 #	31	2.5 # 2.5 # 2.5 # 2.5 #	Vertical main stem. Crown suppressed by T10.	No action required. N/A	Fair	Fair	MOD	LOW	20+	B 1
T 9	Early mature Silver Birch *Betula pendula*	15 to 16 #	3 #	3 # SE	1	44	55	5 # 5 # 5 # 5 #	Main stem with slight lean to south/east. Exposed roots around main stem. Piles of spoil and gravel over rooting area.	No action required. N/A	Fair	Fair	MOD	LOW	20+	B 1
T 10	Early mature Silver Birch *Betula pendula*	16 #	3 #	3 # SE	1	35, 33	43	4 # 4 # 5.5 # 5.5 #	Vertical main stem divides into two secondary stems at approximately 1 metre within a wide union. Crown suppressed slightly by T11.	No action required. N/A	Fair	Fair	MOD	LOW	20+	B 1
T 11	Early mature Silver Birch *Betula pendula*	15 #	3 #	3 # N/A	1	45 #	57	4 # 4 # 4 # 4 #	Vertical main stem with spreading crown.	No action required. N/A	Fair	Fair	MOD	LOW	20+	B 1
T 12	Early mature Silver Birch *Betula pendula*	14 #	3 #	3 # N/A	1	37	46	3.5 # 3.5 # 4 # 4 #	Main stem with slight lean to south/east. Spreading crown.	No action required. N/A	Fair	Fair	MOD	LOW	20+	B 1
T 13	Semi mature Wych Elm *Ulmus glabra*	9 #	4 #	4 # N/A	2	15, 10	16	5 # 4 # 5 # 5 #	Vertical main stem divides into 2 at about 1 metre. Crown suppressed by T12.	No action required. N/A	Fair	Fair	LOW	HIGH	20+	C 1
T 14	Mature Common Beech *Fagus sylvatica*	20+	3 #	3 # N/A	1	87	109	9 # 9 # 9 # 9 #	Vertical main stem and spreading crown. Good buttress. Numerous lower crown stubs with good inclusion, signs that the crown has been raised in the past. Minor dead stubs, one in particular on house side of lower crown area.	No action required. N/A	Fair	Fair	HIGH	MOD	40+	A 1
T 15	Early mature Common Laburnum *Laburnum anagyroides*	4 #	2 to 3 #	2 to 3 # N/A	1	20 #	25	3 # 1 # 3.5 # 3 #	Vertical main stem. Decay in limbs and minor deadwood in crown. Piece of metal becoming embedded in stem on south side. Crack between main and secondary limbs at about 0.5 metres.	No action required. N/A	Fair	Fair	LOW	LOW	20+	C 1
T 16	Early mature Japanese Cherry *Prunus serrulata*	6 #	1 to 2 #	1 to 2 # W	1	22	28	3 # 5 # 3.5 # 4 #	Vertical main stem and spreading crown. Significant areas of rooting exposed with some areas of old damage.	No action required. N/A	Fair	Fair	MOD	MOD	40+	B 1

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	No. of Stems	Diameter (cm)	Estimated Age (years)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 17	Over mature Sweet Chestnut *Castanea sativa*	20+	3 #	3 SW	1	117	147	5 # 7 # 6 # 8 #	Vertical main stem. Spreading crown, suppressed significantly to the north/east side by T18. Minor epicormic on main stem. Numerous old wounds, south and north sides at base and one at about 3 metres on east side, all with fairly good occluding wood. Stub on west side. Bark exfoliation on limb to north/west side of crown with woodpecker holes.	No action required. N/A	Fair	Fair	HIGH	MOD	40+	A 1
T 18	Mature Common Beech *Fagus sylvatica*	20+	3 to 4 #	3 to 4 # SE	1	97	122	9 # 10 # 9 # 9 #	Vertical main stem and spreading crown. Fairly large longitudinal wound to north/east side with extensive wound wound on either side. Some snags/stubs noted in crown area.	No action required. N/A	Fair	Fair	HIGH	MOD	40+	A 1
T 19	Mature Common Beech *Fagus sylvatica*	20+	3 #	8 to 9 # SE	1	115	144	10 # 8 # 11 # 11 #	Vertical main stem and spreading crown. Ivy growth severed and removed to about 4 metres, Ivy growth dead above and into crown area. Some stubs and snags in crown. A few bark wounds noted around basal area of main stem. *Cryptococcus fagisuga* , Beech coccus noted in bark crevices around areas of the main stem.	No action required. N/A	Fair	Fair	HIGH	MOD	40+	A 1
T 20	Mature Horse Chestnut *Aesculus hippocastanum*	20+	2 to 3 #	2 to 3 # NW	1	86	108	6 # 5 # 4 # 3 #	Vertical main stem, rather slender tree. Large fracture stub to north side where a limb has historically failed. Extensive Bleeding canker, spiralling lesions around tree some extending high into crown, dark black areas of exudate. Poor occlusion around base particularly on the southern, tension side and around the basal area of the main stem.	Remove, fell and treat stump to prevent regrowth. Replant with one Heavy Standard' *Carpinus betulus (*Common Hornbeam). High	Fair	Poor	LOW	MOD	<10	U
G 21	Early mature Sawara Cypress *Chamaecyparis pisifera*	9 #	2 to 3 #	2 to 3 # N/A	6	20 to 25 #	31	See plan	Vertical main stems growing in a line along the northern boundary. Each crown spreading into the next. Crowns raised to 2 to 3 metres. 3rd, 4th and 5th trees from east end with 2 or 3 secondary stems from around their crown breaks.	No action required. N/A	Fair	Fair	MOD	HIGH	40+	B 2

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; Dead, 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 are to be removed or managed in a way which reduces their risk of failure, 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 BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations'*.

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

Appendix 6:
Tree Constraints Plan

ADDRESS: The Old Rectory, Pinfold Lane Mirfield, West Yorkshire, WF14 9PS.
JCA REF: 16738/DK

SCALE 1 200	PAPER SIZE A2

SURVEYED BY: DK	DRAWN BY: DK	APPROVED BY: PH

JCA Limited
Arboricultural & Ecological Consultants

BRITISH STANDARD 5837:2012: 4.5
RETENTION CATEGORIES

Detailed definitions of these catagories 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 DES RABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY U: 'TREE FOR REMOVAL'
•	STEM OF TREE TO BE RETA NED
•	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA

Root Protection Area: RPA

THE ROOT PROTECTION 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: 16738/DK)

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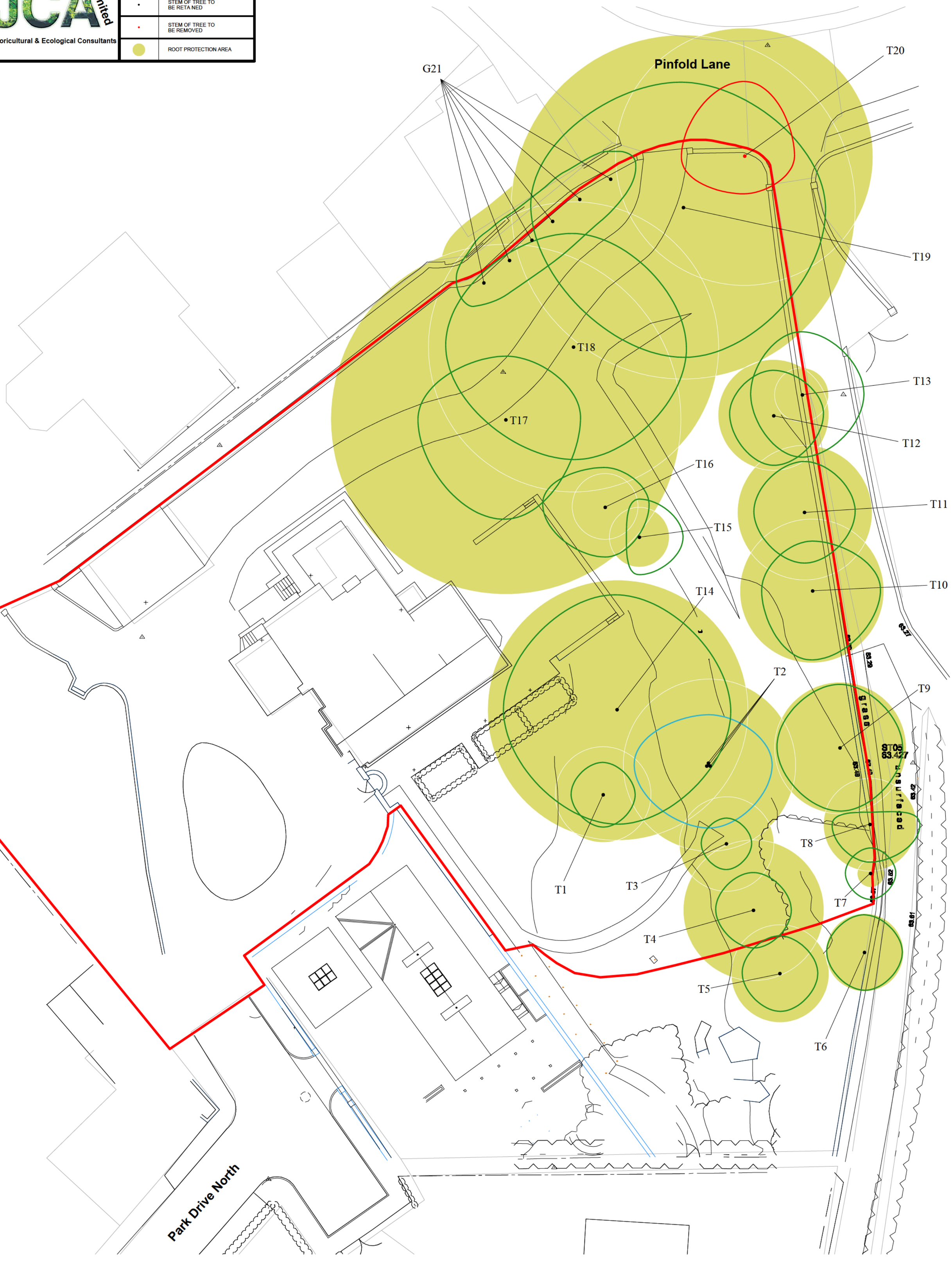

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

Daniel Kemp (*FdSc Arboriculture*)

2nd February 2021

For and on behalf of ***JCA Ltd***

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JCA Ltd. Arboricultural and Ecological Consultants
Professional Tree and Ecology Advice nationwide

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- Arboricultural Implication Assessments (AIA)
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- Ancient Woodland Management
- Veteran Tree Management

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- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- 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)

HEAD QUARTERS:

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