

**ARBORICULTURAL REPORT
AND
ARBORICULTURAL IMPACT ASSESSMENT
to BS 5837:2012
at
Huddersfield Grammar School
Luck Lane
Marsh
Huddersfield
West Yorkshire
HD1 4QX**

Client:
Huddersfield Grammar School

Client Address:
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Marsh
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JCA Ref:
16695/AJB

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 This report is required at **Huddersfield Grammar School, Luck Lane, Marsh, Huddersfield**, 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 assess the impact of the proposals on the existing tree stock and outline mitigation actions, where appropriate, to minimise potential damage to the trees which are to be retained. The report includes an assessment of the existing vegetation, along with recommendations based on the current context of the site, clearly defined from those required to facilitate the development.

1.2 Terms of Reference

- 1.2.1 JCA Ltd has been instructed by **Huddersfield Grammar School** to survey the trees and prepare the findings in a report.
- 1.2.2 For this purpose, a plan showing the layout of the site has been supplied (**Drawing Ref. 8820 Car Park Master - for tree survey**), which forms the basis for the Tree Constraints Plan at **Appendix 6**. Tree group locations were marked indicatively on this drawing and have been used as a basis for the tree survey. Whilst not as accurate as a topographical survey, our drawing is considered to provide a fair representation of the positions of the tree groups surveyed. Tree group positions should, however, be considered indicative on the Tree Constraints Plan.

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 The specific design of the proposed development has been considered within the Arboricultural Impact Assessment in **Section 6** and is detailed on the Arboricultural Implications Plan at **Appendix 7**.

1.4 Survey Details

- 1.4.1 The survey took place during the month of February 2021 and was conducted by Andrew Bussey *LANTRA Accredited PTI*.
- 1.4.2 During this survey, all trees were inspected from ground level. Further investigation, such as climbed inspections or decay detection surveys, 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 Topography & Land Use

- 2.1.1 The site, which is level in the main, is occupied by a temporary car park within the ground of Huddersfield Grammar School.

2.2 Treescape & Visual Amenity Value

- 2.2.1 Collectively, the surveyed trees provide a valuable addition to the local treescape and visual amenity value of the area.

2.3 Age Class Mix

- 2.3.1 The trees surveyed ranged in age from young to mature.

2.4 Species Diversity

- 2.4.1 Species surveyed include Sycamore, Lime, Elm, Common Ash, Horse Chestnut, Holly and English Oak.

3. Status of the Trees

- 3.1 A check was made on 17th February 2021 with ***Kirklees Metropolitan Council***.
- 3.2 We are informed that there is a Woodland Tree Preservation Order (**TPO Ref: 03/79/w7**) in force on this site which affords protected status to the tree groups identified as **G1** and **G2** within this report.
- 3.3 Before any work is organised for protected trees, 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.
- 3.4 ***No work must be undertaken on protected trees until permission has been granted.***
- 3.5 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 **3** groups of trees. Of these, **2** groups were identified as retention category 'A' and **1** group was identified as retention category 'B'. Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.2 No tree removals or remedial pruning works are required under the current context of the site. However, occasional trees within **G1** and **G2** were noted to have structural or physiological defects, as detailed at **Appendix 1**. Although these trees were considered to be in an acceptable condition at the time of the inspection, the defects observed may lead to their early demise or render them unsafe in the future. As such, it is recommended that these trees be monitored (re-inspected and assessed) on a biennial basis to assess if their condition is still acceptable (as advised at **Appendix 1**).

6. Arboricultural Impact Assessment (AIA)

6.1 Proposed Development

- 6.1.1 A temporary overflow car park constructed of recycled plastic gridded mesh and a footpath installed using artificial grass are to be removed as part of future proposals for the school site.
- 6.1.2 Drawing Ref. **8820 Car Park Master - for tree survey** has been supplied by the client; this plan can be found at **Appendix 7** and is the basis for which this AIA has been prepared.

6.2 Tree Removals for Development

- 6.2.1 No trees are required to be removed to accommodate the removal of the temporary car park and footpath.

6.3 Pruning for Development

- 6.3.1 No pruning works are required to accommodate the removal of the temporary car park and footpath.

6.4 Implications for Retained Trees

6.4.1 Removal of Temporary Car Park

- 6.4.1.1 The temporary car park has been constructed using recycled plastic gridded mesh which has been installed on the existing ground. We are informed that this system did not require a sub-base and that existing ground levels were utilised.
- 6.4.1.2 The removal of the temporary car park can be undertaken manually and without the use of machinery.
- 6.4.1.3 Taking this into consideration, tree protection measures are not deemed necessary for this operation on this occasion.

6.4.2 Removal of the Temporary Footpath

- 6.4.2.1 The artificial grass footpath can be rolled up and removed manually. Taking this into consideration, tree protection measures are not deemed necessary for this operation on this occasion.

7. Conclusions

- 7.1 **G1** and **G2** are protected by a Woodland Tree Preservation Order.
- 7.2 No tree removals or remedial pruning works are required under the current context of the site.
- 7.3 Occasional trees within **G1** and **G2** require a biennial inspection as they have structural or physiological defects. These are discussed in **Section 5.1.4** and detailed at **Appendix 1**.
- 7.4 The arboricultural implications of the development have been considered and discussed in **Section 6**.
- 7.5 No trees require removal or pruning in order to facilitate the removal of the temporary car park and footpath.
- 7.6 All development work carried out in close proximity to trees must be executed in a manner sympathetic to their needs. Otherwise, the condition of the trees may deteriorate in the months and years following development, leading to a loss of amenity and resulting in potentially hazardous trees. Care must therefore be taken to ensure that the retained trees are suitably protected.
- 7.7 In accordance with **Section 6.1** of **BS 5837: 2012**, the next stage on this site will be the preparation of an **Arboricultural Method Statement (AMS)**.

Appendices

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
G 1	Young to mature Mixed species <i>Details in observations</i>	To 18	0+	0+ n/a	To 70	See plan	A boundary group which constitutes a woodland. Species include Sycamore, Lime, Elm, Common Ash and Horse Chestnut. Bleeding Canker of Horse Chestnut noted on occasional Horse Chestnuts. Deadwood, small dead stems and cavities noted.	Monitor the defects biennially. Low	GOOD	GOOD	HIGH	MOD TO HIGH	40+	1 A 2
G 2	Semi-mature to mature Mixed species <i>Details in observations</i>	To 17	0+	0+ n/a	To 60#	See plan	A linear boundary group consisting of Horse Chestnut, Sycamore and Common Ash. Bleeding Canker of Horse Chestnut noted on a Horse Chestnut. Not fully inspected due to restricted access.	Monitor the defects biennially. Low	GOOD	GOOD	HIGH	MOD TO HIGH	40+	1 A 2
G 3	Semi to early-mature Mixed species <i>Details in observations</i>	To 13	0+	0+ n/a	To 25#	See plan	A linear group consisting of English Oak, Common Ash, Holly and Sycamore. Not fully inspected due to restricted access.	No action required. n/a	GOOD	GOOD	MOD	LOW TO HIGH	40+	1 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; 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 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 must 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 in this report.
- 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 regularly.

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.
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).
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.
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 causes 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

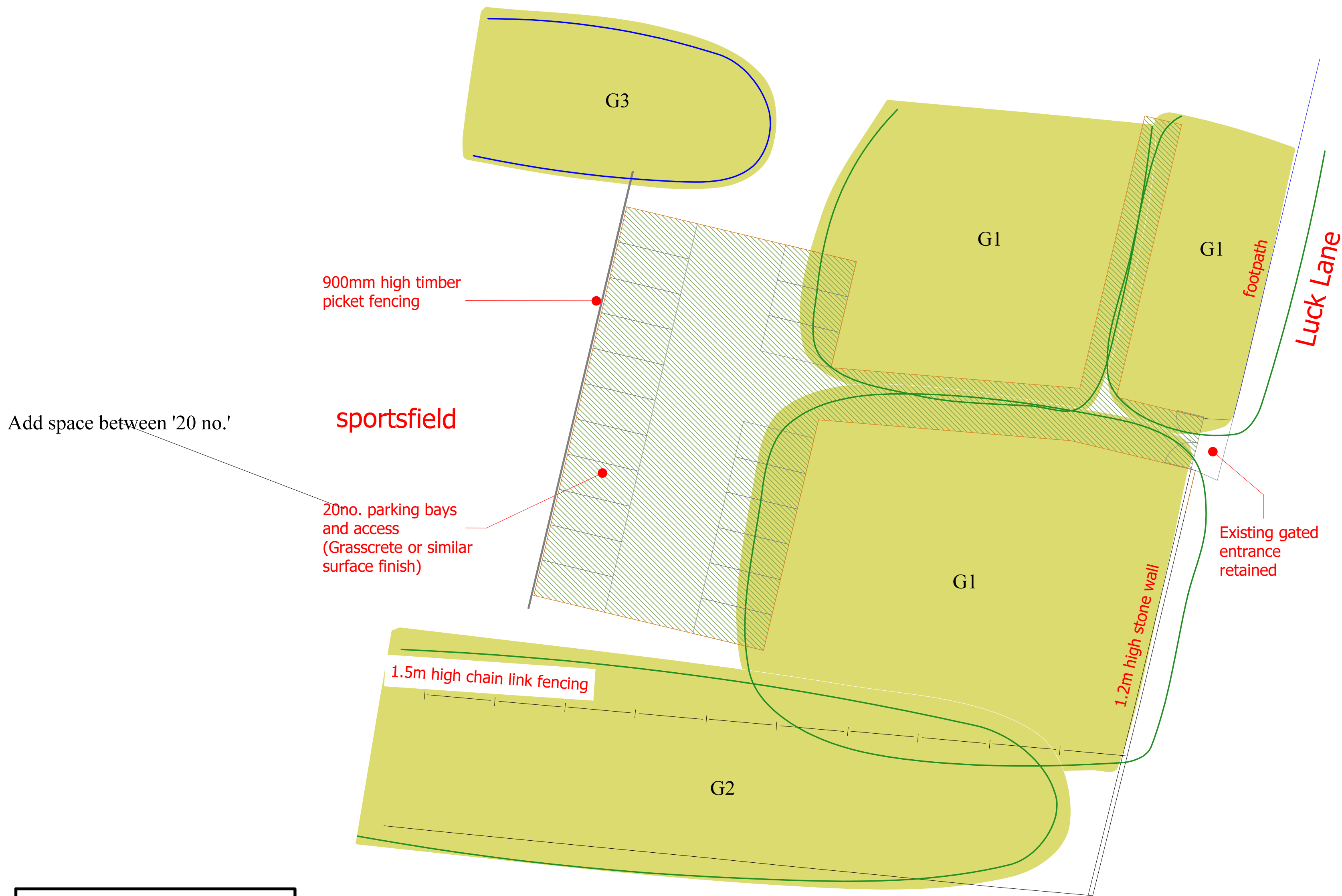
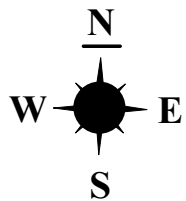
Amanda Beck, Ecological Officer *Cert/He in Field Ecology, Diploma Field and Conservation Ecology, CIEEM member.* Amanda joined JCA's ecology department in 2018, previously working as a freelance Ecological Consultant in North Wales and as a trainee Ecologist in South Wales. She has a background surveying 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

Sue Guest Administrative Team Leader.
Catherine Cocking Accounts Manager.
Kelly Saunders Accounts Assistant.

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

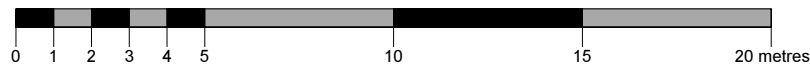


Root Protection Area: RPA

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.



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Appendix 6: Tree Constraints Plan

ADDRESS: Huddersfield Grammar School,
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SCALE : 1:200

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DRAWN BY: AJB

APPROVED BY: RB

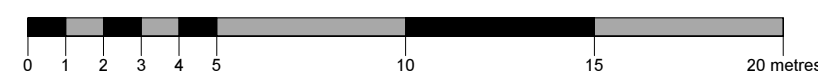
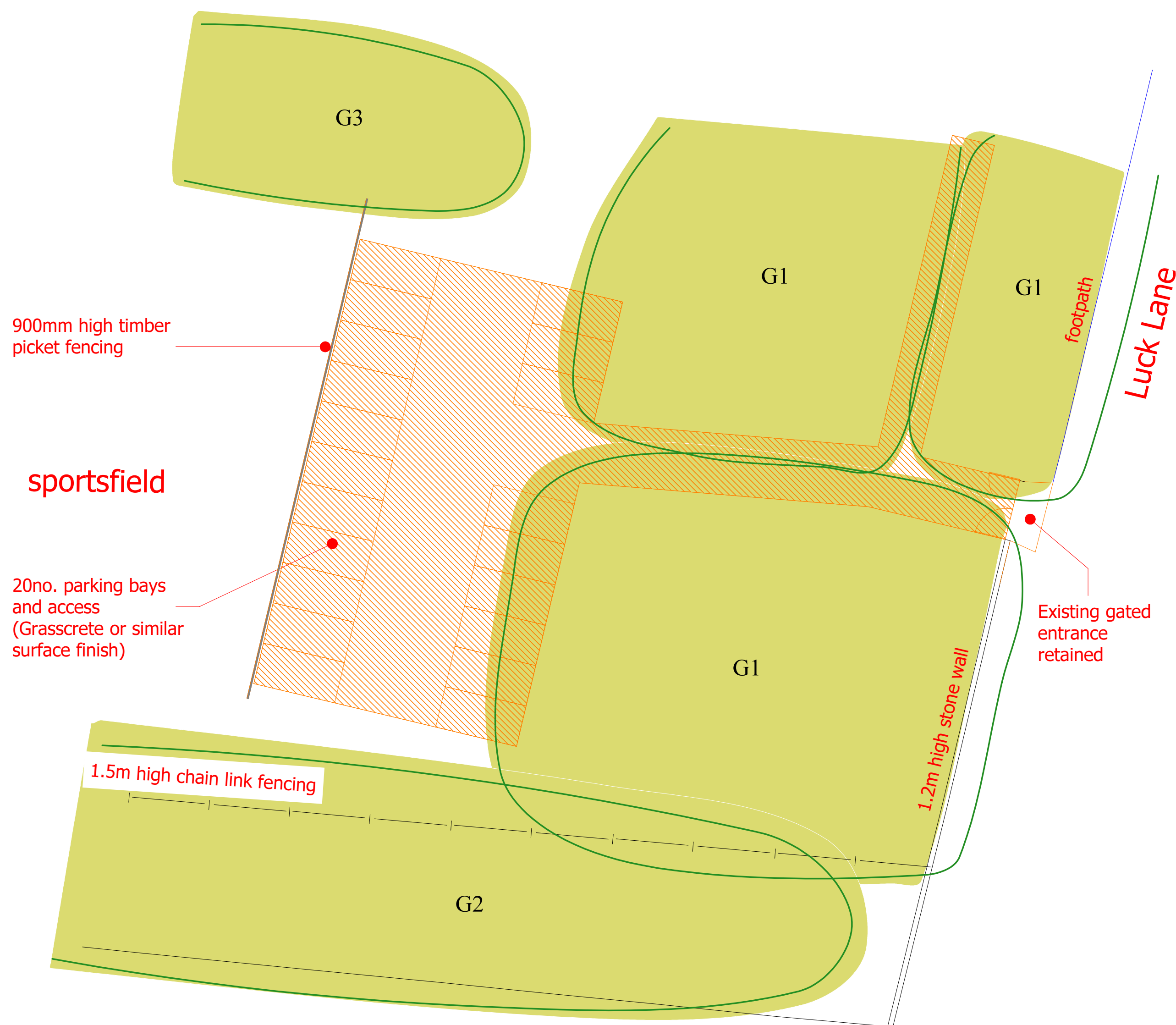
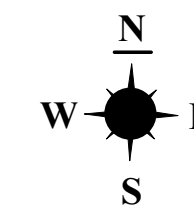
BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES

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



Arboricultural & Ecological Consultants



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Appendix 7: Arboricultural Implications Plan

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SCALE : 1:200

PAPER SIZE : A2

	TREE TO BE RETAINED
	STEM OF TREE TO BE RETAINED
	ROOT PROTECTION AREA
	TEMPORARY CAR PARKING AND ARTIFICIAL FOOTPATH TO BE REMOVED



Arboricultural & Ecological Consultants

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



.....

Andrew Bussey *LANTRA Accredited PTI.*

17th February 2021

For and on behalf of **JCA Ltd**

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- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

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- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- 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)

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