Water Eaton

PR6a : Land East of Oxford Road

Arboricultural Impact Assessment
(Incorporating Tree Protection Measures)

Bellway | STRATEGIC LAND

CHRIST CHURCH
UNIVERSITY OF OXFORD

WE/AIA/P 02

Water Eaton

Arboricultural Impact Assessment (Incorporating Tree Protection Measures)

Prepared by:
The Environmental Dimension Partnership Ltd

On behalf of:
Bellway Homes Limited and Christ Church, Oxford

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DISCLAIMER TEXT

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APPENDICES

PLANS

Section 1
Introduction

1.1 This Arboricultural Impact Assessment (AIA) has been prepared by the Environmental Dimension Partnership Ltd (EDP) on behalf of Bellway Homes Limited and Christ Church, Oxford (the Applicant) in relation to the proposed development of Water Eaton (hereafter referred to as 'the Site').

1.2 It sets out the nature and extent of tree losses and provides mitigation and protection measures to ensure the viable long-term retention of retained trees in the context of the development proposals.

SITE CONTEXT

1.3 The Site generally falls away from two main high points. The first is located in the centre of the Site along the western boundary with the A4165, with land falling to the north, and to the east towards St Frideswide's Farm. The second high point is located along the southern boundary, with land falling from this point to the east towards the River Cherwell, and to the north towards St Frideswide's Farm.

1.4 Across the Site, field ditches and the topography allow surface water to drain in an easterly direction. These connect with a network of drainage ditches that ultimately discharge into the River Cherwell. The Cherwell River flows in a southerly direction to join the River Thames, south of Oxford City. The EA Flood Map for Planning indicates that the entire site is located within Flood Zone 1, land at the lowest risk of flooding (<1 in 1,000 year return period), with an area of land adjacent to the south-east site boundary within a mixture of Flood Zone 2 (between 1 in 100 year and 1 in 1,000 year return period) and Flood Zone 3 (> 1 in 100 year return period).

1.5 The nearest designated heritage assets to the Site are the Grade II* listed St Frideswide's Farmhouse and associated Grade II listed garden wall. The Oxfordshire Historic Environment Records (HER) show four non-designated heritage assets within the site boundary, including the remains of two Bronze Age barrows, possible Roman 'ridgeway', and a milestone. The two Bronze Age barrows present on site are to be retained *in situ.*

1.6 The field boundaries within the Site are delineated by mature, native hedgerows of variable species composition and structure, with some sections of post and wire fencing. The majority of the hedgerows are relatively species-rich and regularly managed (circa. 1.5m high). A small number of species-poor hedgerows are present, alongside the track leading to the Water Eaton estate, and along the southern and eastern boundaries of the south-western field.

1.7 Two small areas of broad-leaved woodland are present within the western edge of the Site alongside Oxford Road, and there are sparsely scattered hedgerow trees.

1.8 The area surrounding the Site includes the Oxford Parkway Park & Ride site (including the Oxford Parkway railway station) to the north. Immediately to the south is a parcel of land within Oxford City which is the subject of full planning permission for 134 dwellings (OCC Ref. 21/01449/FUL) and also land which is in sports and recreation use (including land at Oxford Hawks Hockey Club and land at Cuttleslowe Park). To the west of the Site is land currently occupied by North Oxford Golf Club and which is allocated for residential development in the adopted Local Plan (Site PR6b). To the east is open countryside which is in agricultural use.

1.9 The Site lies within the administrative boundary of Cherwell District Council (CDC).

DEVELOPMENT PROPOSALS

1.10 A planning application is being submitted to CDC for the following:

"Outline application (with all matters except access reserved for future consideration) for the demolition of existing buildings and the erection of up to 800 dwellings (Class C3); a two form entry primary school; a local centre comprising: convenience retailing (not less than 350sqm and up to 500sqm (Class E(a))), business uses (Class E(g)(i)) and/or financial and professional uses (Class E(c)) up to 500sqm, café or restaurant use (Class E(b)) up to 200sqm; community building (Class E and F2); car and cycle parking); associated play areas, allotments, public open green space and landscaping; new vehicular, pedestrian and cycle access points; internal roads, paths and communal parking infrastructure; associated works, infrastructure (including Sustainable Urban Drainage, services and utilities) and ancillary development. Works to the Oxford Road in the vicinity of the site to include, pedestrian and cycle infrastructure, drainage, bus stops, landscaping and ancillary development."

1.11 This AIA has been prepared using EDP's arboricultural constraints information contained within the Arboricultural Baseline Note as **Appendix EDP 1**.

1.12 This baseline survey data for the whole site was originally collected by EDP in June 2021, with further survey work undertaken by EDP in August 2022. The additional survey work was undertaken to assess tree groups in detail along the Oxford Road following a site visit with the planning officer and tree officer to ascertain the level of impacts proposed. The survey data specifically relevant to this site is provided within **Appendix EDP 1**, with the Tree Constraints Plan included.

AIMS AND OBJECTIVES

1.13 The purpose of this AIA is to assess the impacts upon the tree stock from the proposed development and demonstrate which trees can be retained and which will require removal. In addition, the AIA will provide mitigation measures, such as protective fencing, to ensure the safe, long-term retention of any retained tree should the development be permitted.

RELEVANT BASELINE DOCUMENTS

1.14 EDP's Arboricultural Baseline Note found in **Appendix EDP 1** is relevant to the provisions of this AIA and this AIA should be read in conjunction with it where applicable.

1.15 The following best practice guidance and informative standards are relevant to the provisions of the AIA and should be read in conjunction with the AIA where applicable:

- BS 5837: 2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*. BSI 2012; and
- BS 3998:2010 *Tree Work – Recommendations*. BSI 2010.

Section 2
Arboricultural Impact Assessment

2.1 This AIA has been prepared following site-based observations, a desktop study of the baseline survey data and consideration of the Illustrative Masterplan and Proposed PR6A Access Strategy (**Appendix EDP 2** and **Appendix EDP 3**). In particular, it relates to the Tree Constraints Plan (contained within **Appendix EDP 1**), which is overlaid onto the proposed Illustrative Masterplan and Proposed PR6A Access Strategy. The resulting drawings consist of two Tree Retention Removal Plans (**Plan EDP 1** and **Plan EDP 2**).

2.2 This AIA recognises that construction activities pose a threat to subject trees if treated inappropriately and assesses the likely impacts of the proposals on the tree stock and where appropriate, provides mitigation with the view of achieving a harmonious relationship between the trees and the built form.

2.3 Assessment of the impact of the proposals has been determined following consideration of the constraints each surveyed item poses by virtue of its position, branch spread and designated root protection area (RPA).

2.4 Consideration should be given to retaining all trees where possible. However, ultimately the removal of any tree is dependent on its proximity to the footprint of any proposal and associated landscaping.

TREE REMOVALS FOR REASONS OF SOUND ARBORICULTURAL MANAGEMENT

2.5 The BS 5837:2012 compliant survey identified a total of 15 category U items, the condition of which was considered to be impaired to such an extent that they should be removed irrespective of any development proposals and are therefore not included in the calculations to follow. These are summarised in **Table EDP 2.1** below and detailed in the Tree Survey Schedule contained within **Appendix EDP 1**. In the context of this report, the word *item* refers to, but is not limited to, a tree, a group of trees, a woodland or a hedge.

2.6 Off-site (outside application boundary) surveyed items remain outside of control of the development and require the landowners' consent prior to any works or removals.

2.7 Due to their condition, category U items often have ecological value and therefore any work to, or removal of, category U items require cross-referencing with the ecological assessment prior to any work or felling taking place.

2.8 If category U items are to be retained as an ecological asset, arboricultural advice should be sought to ensure this can be achieved.

Table EDP 2.1: Tree Removal for Reasons of Sound Arboricultural Management

Ref. Number	Species	Category Grading
G2	Common hawthorn (*Crataegus monogyna*)	U
T4	Bramble sp. (*Rubus sp.*)	U

Ref. Number	Species	Category Grading
G6	Elder (*Sambucus nigra*)	U
G28	Horse chestnut sp. (*Aesculus sp.*)	U
T33	Horse chestnut sp.	U
T38	Ash sp. (*Fraxinus sp.*)	U
G43	Elm sp. (*Ulmus sp.*)	U
T55	Common ash (*Fraxinus excelsior*)	U
T56	Common ash	U
T79	Sycamore (*Acer pseudoplatanus*)	U
T108	Common ash	U
T117	Common ash	U
T121	Common ash	U
T126	Common ash	U
G134	Common ash	U

ITEMS IMPACTED BY DEVELOPMENT PROPOSALS

2.9 Assessment of the Illustrative Masterplan and Proposed PR6A Access Strategy (**Appendix EDP 2** and **Appendix EDP 3**), determines that 82 items are impacted by the development proposals; these are detailed within **Table EDP 2.2** (**Appendix EDP 4**). Six items are category B, of moderate quality and 76 items are category C, of low quality.

SUMMARY OF TREE LOSSES AND RETENTION

2.10 A summary of the tree loss and retention based upon the Illustrative Masterplan and Proposed PR6A Access Strategy (**Appendix EDP 2** and **Appendix EDP 3**) is provided within **Table EDP 2.2**. In this context, the term 'affected' means encroachment into the RPA of a retained item or the partial removal of one.Summary of Tree Loss and Retention

	Existing	Trees, Groups and Hedgerows Lost Due to Proposals	Trees, Groups and Hedgerows Affected by Proposals	Trees, Groups and Hedgerows Unaffected by Proposals
Category A	3	0	0	3
Category B	25	5	2	18
Category C	89	68	8	13
Category U	15	11	0	4
Totals	**132**	**84**	**10**	**38**

DAMAGE TO ROOTING ENVIRONMENT DURING CONSTRUCTION ACTIVITIES

2.11 The required RPA for each item is described in the tree survey schedule and depicted on the Tree Constraints Plan both found within **Appendix EDP 1**. To ensure appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of BS 5837:2012, the specification for which is enclosed as **Appendix EDP 5**.

MITIGATION

2.12 Existing trees identified for retention on the appended Tree Retention and Removal Plans (**Plan EDP 1** and **Plan EDP 2**) will continue to be managed in accordance with BS 5837:2012. Critically, this requires arboricultural review of any future emerging detailed design and the implementation of physical protection measures to safeguard the retained trees, including robust protection in the form of a barrier to BS 5837:2012 (**Appendix EDP 5**), during the construction phases. The importance of such matters cannot be overlooked if a successful outcome is to be ensured.

2.13 Should any trees be affected by the proposed development at the detailed design stage, these will be sensitively worked around to minimise any adverse effects. This can be achieved with the use of ground protection, no-dig technologies, hand digging and access facilitation pruning, where applicable. This level of detail will be assessed during the detailed design stage.

2.14 To Mitigate for the loss of trees, new planting will be undertaken to ensure an overall net gain in tree stock, which will contribute to the overall setting of the new development. Any future mitigation should be assessed in conjunction with EDP's Landscape Strategy Document. Furthermore, a tree strategy, in line with EDP's Landscape Strategy Document, will be produced at the detailed planning stage to ensure establishment and long-term retention is achieved through varying principles such as, but not limited to:

- Canopy cover net gain assessment to assess slow, medium, and fast-growing trees from baseline to 25 years from development;
- Baseline review of current tree stock, their value arboriculturally and with regard to biodiversity, and replacement vs retention;
- Soil reserve protection in line with best practice and the importance of soil to ensure successful establishment;
- Selection of a species mix suitable for the area with regards to current species, biodiversity, non-native vs native and climate change future proofing;
- Tree locations – i.e. parkland trees for parklands and avenue trees for avenues;
- The importance of avenue trees to connect habitats and provide amenity in line with the National Planning Policy Framework (NPPF);
- Sourcing trees from UK nurseries and in accordance with BS8545:2014;

- Transportation, planting, and establishment dependant on size and best practice;
- Planting design;
- Long term future management;
- Pest and diseases Biosecurity and the importance of having a species mix; and
- A timeline of events i.e. planting seasons and maintenance.

2.15 The new planting will enhance the amenity and ecological value of the Site, contribute to the overall green infrastructure for the area and will ensure diversity of species and age, and secure succession to the tree stock into the future.

Section 3
Conclusions

3.1 Masterplanning of the development has been informed by arboricultural recommendations throughout and has retained survey items where practicable. To ensure succession to the existing tree stock, new planting is recommended. The new planting has potential for longevity within the landscape and will enhance the species diversity for the Site, whilst also contributing to the green infrastructure for the area.

3.2 Existing trees identified for retention on the appended Tree Retention and Removal Plans (**Plan EDP 1** and **Plan EDP 2**) will continue to be managed in accordance with BS 5837:2012. Critically, this requires arboricultural review of any alteration to the development layout and the implementation of physical protection measures to safeguard the retained trees, including robust protection in the form of a barrier to BS 5837:2012, during the demolition and construction phases. The importance of such matters cannot be overlooked if a successful outcome is to be ensured.

3.3 Mitigation has been considered in this report, however, at the detailed design stage, a tree strategy in line with EDP's Landscape Strategy Document will be produced to ensure an overall net gain in tree stock, which will contribute to the overall setting of the new development.

3.4 A suitably worded condition can secure any mitigation measures which would be required to minimise harm and ensure safe, long-term retention to trees. An example of such conditions is provided in **Appendix EDP 6**.

Appendix EDP 1
Arboricultural Baseline Note
(edp5650_r001)

Water Eaton
Arboriculture Baseline Note
edp5650_r001f

1. Introduction

1.1 The Environmental Dimension Partnership Ltd (EDP) has been commissioned by Bellway Homes Limited and Christ Church, Oxford (hereafter referred to as 'the Applicant') to undertake a BS 5837:2012 *Trees in Relation to Design, Demolition and Construction* compliant survey of trees in relation to the proposed development at Water Eaton (hereafter referred to as 'the Study Area').

1.2 EDP is an independent environmental planning consultancy with offices in Cirencester, Cardiff and Cheltenham. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and masterplanning. Details of the practice can be obtained at our website www.edp-uk.co.uk.

1.3 The Study Area is located to the north of Oxford, which is located within the Local Planning Authority of Cherwell District Council (CDC).

2. Methodology and Limitations

2.1 The methodology adopted for this survey is based on guidelines set out in BS 5837:2012 *Trees in Relation to Design, Demolition and Construction*, especially Section 4.4, 'Tree Survey'. Site trees and other significant vegetation are as noted on the Tree Constraints Plan (**Annex EDP 1**) and this data has been derived from the Topographic Survey (drawing number 17932-500-01). All surveyed items are detailed in **Annex EDP 2**. No other trees are covered by this survey.

2.2 All trees have been visually inspected from ground level unless otherwise stated, with no climbing or further detailed investigative tests being undertaken. The comments on their condition are based on observable factors present at the time of inspection. All measurements are metric and have been recorded in accordance with the measurement conventions set out in Section 4.4.2.6 of BS 5837:2012.

2.3 Any recommendations given regarding longer-term management are made on the basis of optimising the life expectancy of site trees, given their current situation and any effects that may result from the development proposals.

2.4 The schedule in **Annex EDP 2** provides information about the following factors in accordance with Section 4.4.2.5 of BS 5837:2012:

- Sequential reference number (recorded on **Plan EDP 1**);
- Species;
- Height;
- Stem diameter;
- Branch spread;
- Canopy clearance above ground level;
- Life stage;
- Physiological condition;
- Structural condition;
- Comments/notes;
- Recommendations (and tree work priority);
- Estimated remaining contribution;
- Category grading; and
- Root protection radius.

2.5 Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to a 24-month period from the survey date. Any alterations to the Study Area could change the current circumstances and may invalidate this report and any recommendations made.

2.6 Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.

2.7 A lack of recommended work does not imply that a tree is safe and likewise, it should not be implied that a tree will be made safe following the completion of any recommended work.

2.8 The subject trees have not been tagged for identification purposes.

3. Aims and Objectives

3.1 The purpose of this Technical Note is to:

- Identify principal trees suitable for retention; and
- Identify the constraints associated with retained trees to inform the design and layout of any forthcoming proposals and, in turn, inform an Arboricultural Impact Assessment.

4. Summary of Tree Stock

4.1 The survey has identified 97 individual trees, 16 groups of trees and 19 hedgerows, totalling 132 items. Of these 132 items, three have been awarded an A category, 25 have been categorised as B category, and 89 have been categorised as C and are of low quality. In addition, 15 items have been categorised as U and are considered unsuitable for retention irrespective of development.

4.2 All surveyed items are as noted on **Annex EDP 1** and detailed in the schedule at **Annex EDP 2**.

4.3 An illustrative summary of the species diversity, age distribution and grading categorisation for the Study Area is provided in **Annex EDP 3**.

4.4 Overall, the items identified across the Study Area are primarily of moderate to low quality, with the exception of three category A items. The category A and B items, however, are located either off-site or around the periphery and therefore do not adversely constrain the main body of the Study Area. Furthermore, there are two B1 category veteran ash trees (T41 and T44), located on the eastern boundary of the study area.

4.5 A veteran tree is a tree that, by a recognised criterion, shows features of biological, cultural or aesthetic value that area characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species.

4.6 The standing advice from Natural England and the Forestry Commission recommends that any development should be kept as far as possible from veteran trees, leaving a buffer at least 15 times larger than the diameter or 5m from the edge of its canopy, if that's greater, therefore a buffer has been calculated and is reflected on **Annex EDP 1**.

5. Statutory Protection

Tree Preservation Orders and Conservation Areas

5.1 An online check of the CDC interactive map shows that there are no Tree Preservation Orders (TPO) or conservation area protection on, or adjacent to, the Study Area.

6. National and Local Planning Policy

Cherwell District Council's Local Planning Policy (where applicable)

Adopted Cherwell Local Plan 2011-2031 (Part 1)

6.1 Policy ESD 13: Local Landscape Protection and Enhancement:

"Opportunities will be sought to secure the enhancement of the character and appearance of the landscape, particularly in urban fringe locations, through the restoration, management or enhancement of existing landscapes, features or habitats and where appropriate the creation of new ones, including the planting of woodlands, trees and hedgerows. Development will be expected to respect and enhance local landscape character, securing appropriate mitigation where damage to local landscape character cannot be avoided."

6.2 Policy PR6a - Land East of Oxford Road:

"An urban extension to Oxford city will be developed on 48 hectares of land to the east of Oxford Road as shown on inset Policies Map PR6a. Development proposals will be permitted if they meet the following requirements:

The application(s) shall be supported by a phase 1 habitat survey including habitat suitability index (HSI) survey for great crested newts, and protected and notable species surveys as appropriate, including great crested newt presence/absence surveys (dependent on HSI survey), surveys for badgers, breeding birds and reptiles, an internal building assessment for roosting barn owl, a tree survey and an assessment of the watercourse that forms the south-eastern boundary of the site and Hedgerow Regulations Assessment."

National Policy

National Planning Policy Framework

6.3 Paragraph 136 of the NPPF states:

"Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should

ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users."

7. Protected Wildlife and Trees

Bats

7.1 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the *Conservation Regulations* (Annex IV (a) to the *Habitats Directive*). This affords bats protection under the *Conservation of Habitats and Species Regulations* 2017 (as amended); further information is provided in **Annex EDP 4**.

Nesting Birds

7.2 The main bird nesting season is between March and August inclusive. Current legislation relating to breeding birds, under *the Wildlife and Countryside Act* 1981 (as amended) and the *Countryside and Rights of Way Act* 2000, confirms that birds, as well as their nests and eggs are protected. Further information is provided in **Annex EDP 4**.

8. Site Specific Constraints

8.1 As shown by **Annex EDP 1**, the surveyed items located across the Study Area are primarily self-seeded boundary trees with moderate to high arboricultural value.

8.2 The majority of items are located on boundaries of the Study Area, including a belt of highway trees on the western section of the Study Area. Furthermore, there are a number of items located beyond the redline boundary and therefore these items are not under the control of the Applicant and require consideration. The above- and below-ground constraints from off-site items will need to be considered in during the design process.

8.3 Two survey items have been identified as veteran trees and therefore, should be given consideration commensurate with the National Planning Policy Framework:

"development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;"

8.4 Further information on above and below ground arboricultural constraints is provided in **Annex EDP 5**.

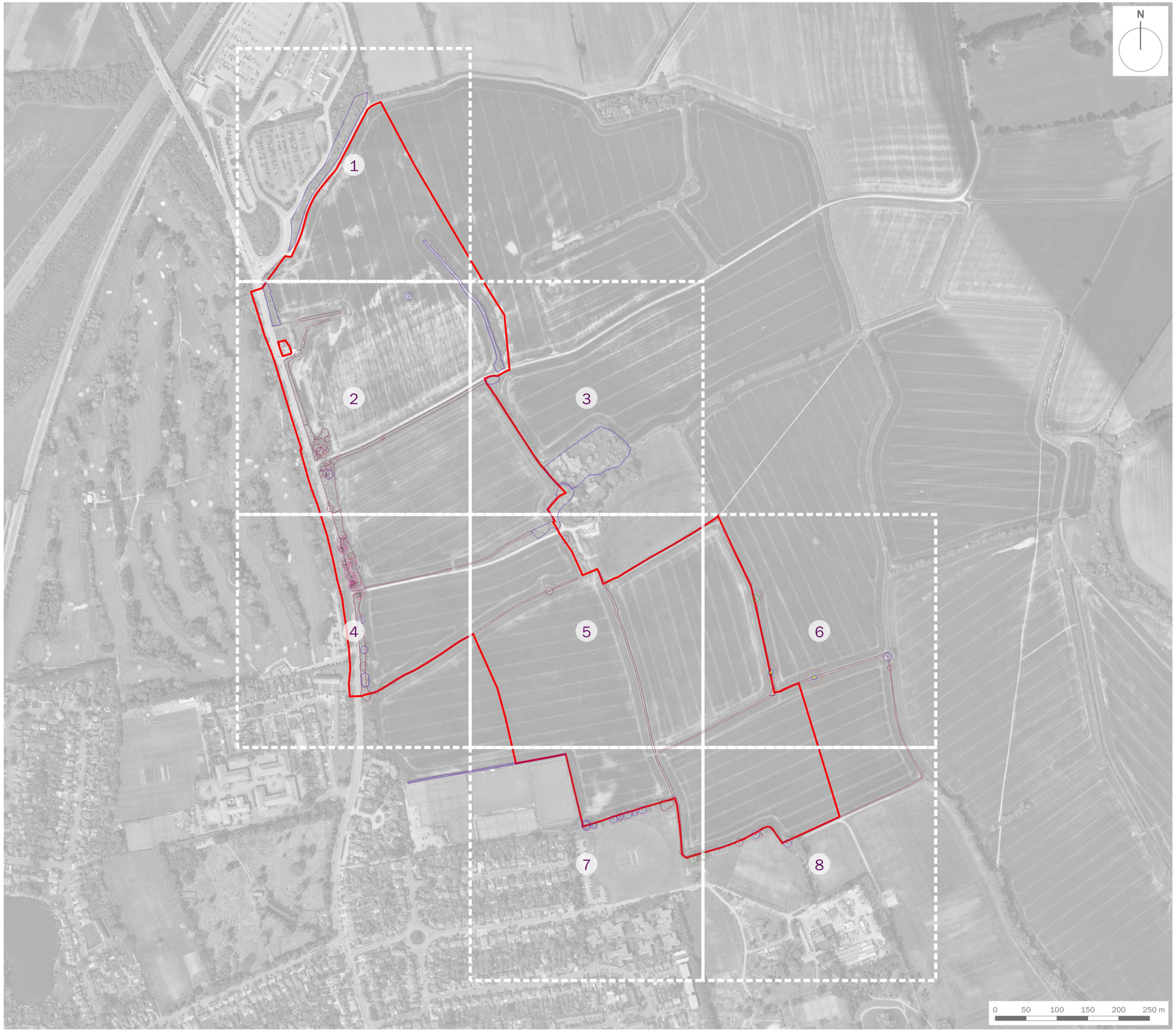
9. Conclusion

9.1 Of the items surveyed, three have been categorised as A, and 25 have been categorised as B of moderate to high quality. These items should be prioritised for retention, where practicable. These items are primarily off-site and around the perimeter of the Study Area and therefore do not adversely constrain development.

9.2 The default position when designing any forthcoming scheme should be the retention of all items, as so far as is practicable, regardless of category grading. All trees provide positive environmental and ecological contributions, irrespective of current condition. If retention is not practicable, then suitable mitigation can be considered at the planning stage.

9.3 The arboricultural constraints information provided within this Technical Note will feed into the detailed design and layout of the scheme and, in turn, will be used to undertake an Arboricultural Impact Assessment, to be submitted as part of the planning application.

Annex EDP 1
Tree Constraints Plan
(edp5650_d003c 28 February 2023 GYo/BWa)



Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Veteran Trees

Buffer for Veteran Trees

client
Bellway Homes Limited and Christ Church, Oxford

project title
Water Eaton

drawing title
Plan EDP 1: Tree Constraints Plan (Overview)

date	**28 FEBRUARY 2023**	drawn by	**GYo**
drawing number	**edp5650_d003c**	checked	**BWa**
scale	**1:6,000 @ A3**	QA	**DJo**

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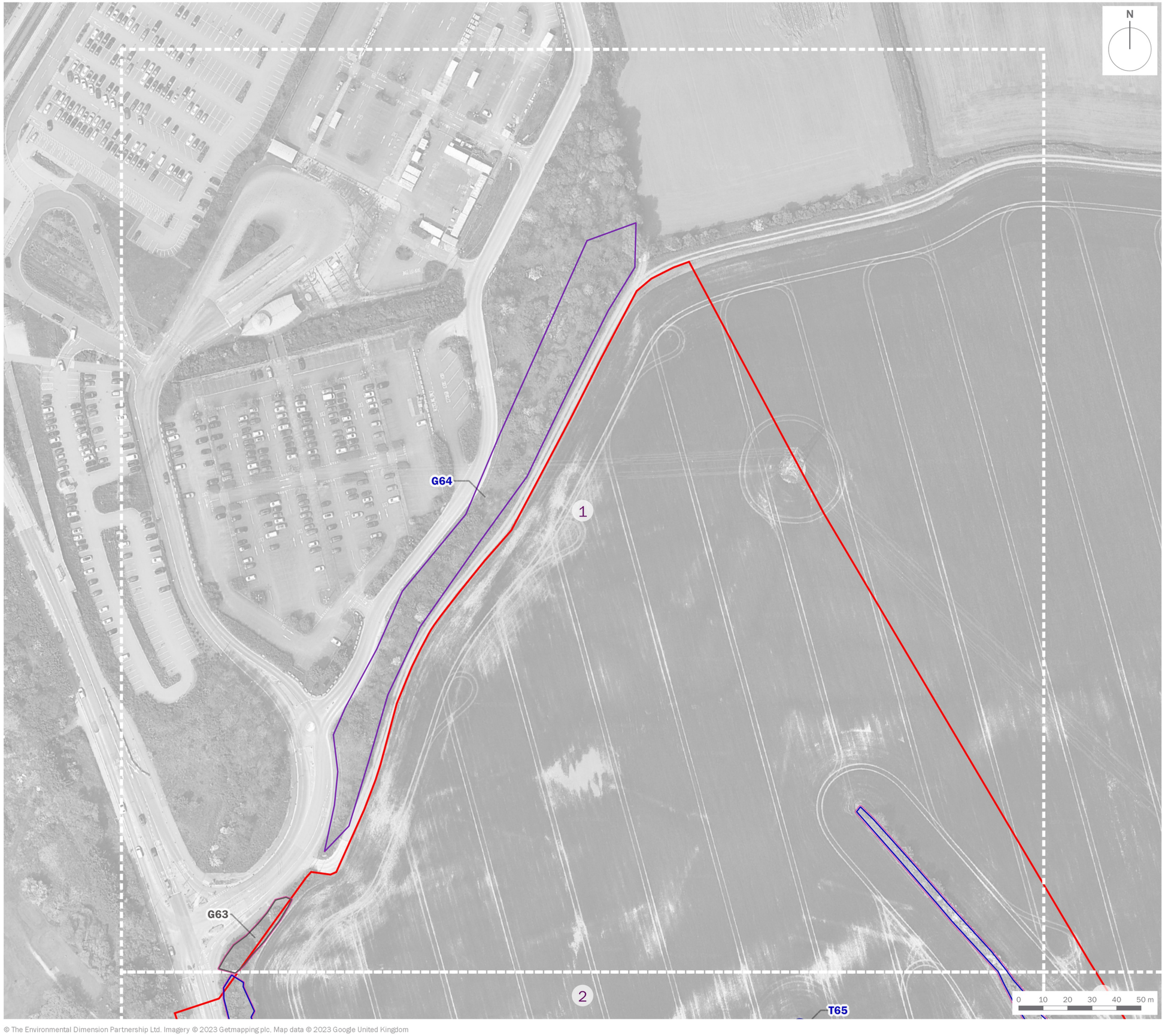


Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

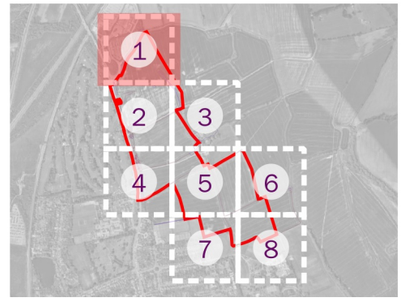
Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Veteran Trees

Buffer for Veteran Trees



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Plan EDP 1: Tree Constraints Plan (Sheet 1 of 8)

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