

**Arboricultural &
Planning Integration Report**

at

**Reading Golf Club
17 Kidmore End Road
Emmer Green
Reading
RG4 8SQ**

November 2021

Arbortrack Systems Ltd

jwmb/rpt8/rgc/PI

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Arboricultural & Planning Integration Report

Location	Reading Golf Club, 17 Kidmore End Road, Emmer Green, Reading, RG4 8SQ.	Ref jwmb/rpt8/rgc/PI
Client & Instructions From	Fairfax (Reading) Ltd & Reading Golf Club Ltd.	Date 3 rd November 2021
Terms of Reference	To survey the subject trees in order to assess their general condition and to provide a planning integration statement for the proposed development that safeguards the long term well being of the retained trees in a sustainable manner.	
Report Prepared by	James Bell BSc (Hons.), MSc, Arbor. A. Tech. Cert.	<i>Page N^o 1 of 12</i>

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Summary

Outline planning application, with matters reserved in respect of appearance, for demolition of the existing clubhouse and the erection of a residential scheme (C3 use to include affordable housing) at the former Reading Golf Club. See layout proposals at Appendix A. Primary access/egress is proposed off Kidmore End Road with a secondary entrance at the northern end of the frontage. A pedestrian footpath within a green corridor will run from Kidmore End Road to the South Oxfordshire District Council (SODC) boundary. See Appendices A & F for layout & associated detail and the Design & Access Statement (DAS) and accompanying material for full details.

The site comprises the southern section of Reading Golf Club within Reading Borough Council (RBC) and includes the former clubhouse and main car park - accessed off Kidmore End Road. The boundary between RBC and SODC is approximately halfway between tee and green on the 2nd, 3rd & 4th fairways. The course dates from 1910.

There are 319 surveyed trees or groups of trees on or near the site. Of these, 11 are 'A' (high quality) category, i.e. 31, 53, 60-62, 160a, 208, 262, 265, 268 & G294. These are native oak species (*Q. robur* or *petraea*) with two native Scots pine (*Pinus sylvestris*), i.e. 262 & 265. 118 trees or groups of trees are 'B' (moderate quality) category, 174 trees or groups of trees are 'C' (low quality) category, and 16 trees are 'U' (unsuitable for retention quality) category, i.e., 22, 23, 46, 68, 115, 116, 135, 197, 229, 275, 276, 282, 298, 305, 316 & 318.

The outline proposals require the removal of 97 trees or groups of trees (112 trees in total) to allow the construction of dwellings, parking spaces and associated infrastructure. Of these, 15 trees are 'B' (moderate quality) category, i.e. 9, 21, 37, 38, 95, 96, 99, 100, G138 (8 in group), G165 (3 in group), 181, 190, 194, 201 & 253. 73 are 'C' (low quality) category and 9 are 'U' (unsuitable for retention quality) category, i.e. trees 22, 46, 68, 115, 135, 197, 275, 276 & 305. Full details of tree removals to permit development are provided in the tree survey schedule at Appendix B, and the crowns of trees to be removed are shown outlined in red on the plans in the Tree Protection Plan at Appendix A & Appendix F. This is a low & acceptable impact given the scale of the proposals, and the extensive new planting proposed (196 new trees) provides good mitigation at a 1:1.75 planting ratio. This new planting will ensure that the landscape impact of the proposals has the potential to be positive, given time: see section 6.3 for further guidance. Further information (in plan form) regarding Zones of Influence (ZOI) of retained trees and proposed new planting, as requested by the RBC tree officer, is provided at Appendix F.

Retained trees will be protected in accordance with current standards and guidelines: see section 8 and Appendices A & F for details. The juxtaposition of retained trees with the proposals is acceptable, and the likelihood of unacceptable issues of post-development pressure is low.

On this basis, the proposed outline scheme is sound in arboricultural terms, and the long-term wellbeing of the retained trees can be safeguarded in a sustainable manner.

Documents Supplied

- Topographical survey(s) from Marvin & Partners Ltd, Passfield Business Centre, Lynchborough Road, Passfield, Hampshire, GU30 7SB. Indicative Site Layout reference 2127/PL.04 Rev. L scale: 1:1000 @ A1 from Paul J. Hewett, R.I.B.A. Chartered Architect, 51 Foxdale Drive, The Dell, Angmering, West Sussex, BN16 4HF.

1.0 Scope of Survey

- 1.1 The survey is concerned with the arboricultural aspects of the site only. Whilst all the significant trees have been assessed, this report does not include discussion in respect of all vegetation, including some small and insignificant trees such as shrubs, understorey or individual trees within areas treated as groups. General comments are made about groups of trees & understorey trees and shrubs where appropriate.
- 1.2 No discussions took place between the surveyor and any other party.
- 1.3 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994).
- 1.4 The survey was undertaken in March 2019 by James Bell in accord with British Standards publication: Trees in relation to design, demolition and construction – Recommendations (BS5837:2012).
- 1.5 The survey does not cover the detailed arrangements that may be required in connection with the laying or removal of underground services.
- 1.6 RBC have advised that the area of the golf club within the RBC boundary is covered by an Area Tree Preservation Order reference number TPO 4/18. An earlier order reference number TPO 96/02 has not been revoked. The nearest Ancient Semi-Natural Woodland (ASNW) to the site is known as ‘Cucumber Wood’ and stands north of the Phase 1 survey area within SODC.

2.0 Survey Method

- 2.1 The survey was conducted from ground level with the aid of binoculars.
- 2.2 No tissue samples were taken, nor was any internal investigation of the subject trees undertaken.
- 2.3 No soil samples were taken.
- 2.4 The height of each subject tree was estimated by eye.
- 2.5 The stem diameters (SD) were measured in centimetres at 1.5 metres above ground level for single stems and just above the root flare for multi-stemmed trees. Where access was difficult, the diameters were estimated and marked as such (#) on the tree survey schedule in Appendix B.
- 2.6 The crown spreads were estimated by pacing or by using a Bosch DLE 50 Professional Laser Measure where deemed necessary.
- 2.7 The positions of the subject trees are plotted at Appendix A in a Tree Protection Plan. Please note that the attached plan is for indicative purposes only.

3.0 The Site

- 3.1 The site comprises the southern section of Reading Golf Club within RBC and includes the existing clubhouse and main car park - accessed off Kidmore End Road. The boundary between RBC and SODC is approximately halfway between tee and green on the 2nd, 3rd & 4th fairways. The course dates from 1910.
- 3.2 Surveyed trees are relatively evenly distributed throughout the site: beside & between fairways, tees & greens. Some trees, i.e. the mature/veteran oak T53, predate the establishment of the club; however, it appears that the majority of planting is directly associated with the club and that the large majority of surveyed trees are considerably less than 110 years old.
- 3.3 An Ancient Semi-Natural Woodland (ASNW) known as 'Cucumber Wood' stands to the north of the survey area. This is also Priority Habitat Inventory Woodland with a separate small area on the course to the rear (west) of the properties on Brooklyn Drive: see the Department for Environment Fisheries & Rural Affairs (DEFRA) MAGIC website for details at <http://magic.defra.gov.uk/MagicMap.aspx>.

- 3.4 Gardens of residential properties stand beside the golf course boundaries in the main.
- 3.5 The survey area is broadly level in the vicinity of the clubhouse and slopes marginally up to the SODC boundary.
- 3.6 Data from the iGeology app from the British Geological Survey suggests a bedrock geology on the site of Lambeth Group – Clay, Silt & Sand. Any potential for soil compaction (highly deleterious to root function) during development will depend on the proportion of clay present in the upper profile - the presence of clay in this location would appear to be possible. Further to confirmation of the precise soil type present, a structural engineer may be able to advise further on the local geology and its implications, if any, for development.

4.0 Subject Trees

- 4.1 The BS5837:2012 categorisation of trees is explained in the key to the survey schedule in Appendix B, which provides full detail on surveyed trees. 320 trees or groups of trees were originally surveyed, one of which (tree 16) failed in May 2021, along with an oak from the southern end of group G294.
- 4.2 Of the 319 surveyed trees or groups of trees on or near the site, 11 are ‘A’ (high quality) category, i.e. 31, 53, 60-62, 160a, 208, 262, 265, 268 & G294. These are native oak species (*Q. robur* or *petraea*) with two native Scots pine (*Pinus sylvestris*), i.e. 262 & 265. 118 trees or groups of trees are ‘B’ (moderate quality) category, 174 trees or groups of trees are ‘C’ (low quality) category, and 16 trees are ‘U’ (unsuitable for retention quality) category, i.e., 22, 23, 46, 68, 115, 116, 135, 197, 229, 275, 276, 282, 298, 305, 316 & 318.
- 4.3 The main arboricultural character of the site is provided by landscape planting (mixed broadleaf species) with discrete areas of boundary screening, e.g. trees 216-G245.
- 4.4 Individual mature English oaks, e.g. 53, 160a, 208 & 287, are likely to predate the golf course. Of these, the most notable is the fine veteran English oak tree 53.
- 4.5 See Appendix B for detail of all surveyed trees.

5.0 The Proposal

- 5.1 Outline planning application, with matters reserved in respect of appearance, for demolition of the existing clubhouse and the erection of a residential scheme (C3 use to include affordable housing) at the former Reading Golf Club. See layout proposals at Appendix A. Primary access/egress is proposed off Kidmore End Road with a secondary entrance at the northern end of the frontage. A pedestrian footpath within a green corridor will run from Kidmore End Road to the South Oxfordshire District Council (SODC) boundary. See Appendix A & F for layout detail and the Design & Access Statement (DAS) and accompanying material for full details.

6.0 Impact Assessment & Planning Integration

- 6.1 The outline proposals require the removal of 97 trees or groups of trees (112 trees in total) to allow the construction of dwellings, parking spaces and associated infrastructure. Of these, 15 trees are 'B' (moderate quality) category, i.e. 9, 21, 37, 38, 95, 96, 99, 100, G138 (8 in group), G165 (3 in group), 181, 190, 194, 201 & 253. 73 are 'C' (low quality) category and 9 are 'U' (unsuitable for retention quality) category, i.e. trees 22, 46, 68, 115, 135, 197, 275, 276 & 305. Full details are provided in Appendix B. Please note tree 248 is a young sapling London plane (*Platanus x hispanica*) which is small enough to be successfully transplanted within the site & this is our recommendation.
- 6.2 New hard standing within the root protection area (RPA) of trees 2-5, 147, 148, 149, 150, 162, 198 & 258 will be constructed to a 'No Dig' specification, as indicated on the plan at Appendix A. See section 8.4 & Appendix E. Existing hard standing within the RPAs of trees 2-8, 10-15 & 17-20 must be removed carefully to avoid damage to underlying roots of retained trees. Full details can be provided via the discharge of an appropriate planning condition.
- 6.3 New planting is proposed to compensate for unavoidable trees losses both within the site (approximately 196 new trees are proposed, which provides a 1:1.75 replacement ratio) and to the north - near Cucumber Wood (approximately 1000 new trees proposed). This planting has the scope to ensure that the landscape impact of the proposals is markedly positive, given time. See Appendix F and accompanying material from fabrik for full details of proposed landscaping. New trees are of native species to ensure optimal survival & growth in prevailing soil conditions.

- 6.4 The extent of shade likely to be cast by retained trees (onsite & offsite) on the proposed dwellings has been assessed using the basic BS5837:2012 methodology (midsummer shade arcs), see Appendix A for details. The layout has been adjusted to ensure that this is as low as possible, given existing constraints. Suggested housing density associated with the accepted policy of Ca1b allocation agreed at the eastern end of the site suggests that the layout as shown is ultimately likely to be acceptable. Shade is inevitably a subjective consideration for the individual resident(s), and the shade implications for this outline proposal are likely to be low & acceptable.
- 6.5 The new layout retains extensive open space around the significant oaks 53, 208 & 268 and connectivity through the site is good: see accompanying material from fabrik.

The new layout retains or improves upon the relationship between retained trees & built form, specifically with regard to plot 98 (tree 211), trees to the side of plots 118 & 119 (trees 278 & 279) & plots 80, 82, 85 & 86 (trees 142, 143 & 182-184). One proviso is that ash dieback disease (*Chalara fraxinea*) is now ubiquitous, and future inspections will reveal the condition of trees 210 & 211 (and other ash trees on the site). A walkover survey in Summer 2021 indicated that most ash trees on site are in the early stages of *Chalara* infection. On this basis, their useful life expectancy is likely to be shortened and appropriate replacement planting can be offered when appropriate. It is logical that this detail is resolved at the full application stage.

ZOIs have been added to the existing tree stock as well as to proposed planting and are illustrated in Appendix F. By our initial estimate, 11 plots will require engineer designed foundations, i.e. 215-223, 96 & 97, and 91 plots will require deeper foundations - as per NHBC 4.2 guidance. Full details can be provided at the full application stage or via the discharge of an appropriate condition.

7.0 Post-Development Pressure

- 7.1 The orientation of the retained trees to the proposed outline development is likely to be acceptable, and the scope for unacceptable post-development pressure is low. The proposed revised outline layout is unlikely to oblige RBC to give consent to inappropriate tree works.

8.0 Tree Protection Measures

- 8.1 BS5837:2012 gives a RPA for each retained tree by reference to section 4.6. The RPA is usually described as a circle with a radius (the Root Protection Area Radius - RPR) of the prescribed distance within which no activity should occur, though the shape and position of the RPA can be modified by the arboriculturist to meet individual site conditions according to the probable distribution of tree roots. Intrusion into the RPA can usually take place only where the ground is adequately protected in accordance with the requirements of section 7 of BS5837:2012.
- 8.2 At minimum, retained trees should be protected where appropriate & necessary by a tree protection barrier (TPB), comprising steel mesh panels of 1.8m in height ('Heras'). These panels should be mounted on a scaffolding frame, as shown in Figure 2 of BS5837:2012 (Appendix C). This TPB should be erected before any work commences on site, should remain 'in situ' and undamaged for the duration of all work or each phase, and should only be removed once all work is completed. The only exception is the completion of soft landscaping, but if any excavations, however minor, are to be carried out as part of soft landscaping within RPAs, an arboricultural assessment must be carried out beforehand and any arboricultural protection measures incorporated. The TPB should carry waterproof warning notices denying access within the RPA. A suggested location for the TPB is shown on the tree protection plan in Appendix A. A reinforced specification is also provided in Appendix C, and it is recommended that the use of fencing based on this more robust system is considered.
- 8.3 By our initial estimate, these proposals will require engineer designed foundations for 11 plots, i.e. 215-223, 96 & 97, and deeper foundations are, in principle, required for 91 plots (see Appendix F). All necessary detail can be provided at the detailed application stage or via the discharge of an appropriate condition.
- 8.4 It is recommended that minimum areas of new hard standing within the RPA of trees 2-5, 147, 148, 149, 150, 162, 198 & 258 are constructed to a 'No Dig' specification - see Appendix E for additional detail. Surfaces should be porous to allow water infiltration & gaseous exchange. Various products are available with warranty & guarantees. Contact providers for full details & see Appendix E. Details can be agreed upon when full permission is sought and/or at the discharge of conditions. Alternatively, if existing hard standing is only replaced, then this can be constructed to a conventional specification, provided the depth of the existing sub-base is not exceeded.

- 8.5 Areas within RPAs potentially requiring ground protection, i.e. for trees 36, 61, 64 & 188, are shown in Appendix A. Ground protection should be fit for purpose as per the guidance in BS5837:2012 section 6.2.3.3. The preferred specification is provided by products such as dura base or eve trakway, which are widely available and approved by many local authorities. Alternatively, treatments provided by InfraGreen Solutions are available: see www.infragreen-solutions.com.
- 8.6 New service/utility runs have been located to avoid the RPAs of retained trees. If any new runs are envisaged that pass through RPAs, then the provisions of BS5837:2012 and NJUG4 should be employed and, if necessary, further arboricultural advice sought. Where new planting will stand close to the lines of service runs, then the Rootsace^(R) Pavement Support System from Green Blue Urban (or equivalent) is, in principle, available to ensure that 'built form' and trees co-exist sustainably hereafter.
- 8.7 Given that the large majority of tree roots usually exist within the top 60cm of the soil profile, it is important that level changes close to RPAs are avoided on the proposed site. If level changes are unavoidable, then their impact must be low & acceptable to RBC.
- 8.8 The surface water run-off and soil drainage have not been studied by Arbortrack Systems Ltd. Given the site topography and soil type onsite, I do not foresee any likely detrimental effects on the retained trees in hydrological terms caused by the proposed development. See accompanying material for further details.

9.0 Conclusion

- 9.1 Outline planning application, with matters reserved in respect of appearance, for demolition of the existing clubhouse and the erection of a residential scheme (C3 use to include affordable housing) at the former Reading Golf Club, See layout proposals in Appendix A. Primary access/egress is proposed off Kidmore End Road with a secondary entrance at the northern end of the frontage. A pedestrian footpath within a green corridor will run from Kidmore End Road to the South Oxfordshire District Council (SODC) boundary. See Appendix A & F for layout & associated detail and the DAS and accompanying material for full details.
- 9.2 The outline proposals require the removal of 97 trees or groups of trees (112 trees in total) to allow the construction of dwellings, parking spaces and associated infrastructure. Of these, 15 trees are 'B' (moderate quality) category, i.e. 9, 21, 37, 38, 95, 96, 99, 100, G138 (8 in group), G165 (3 in group), 181, 190, 194, 201 & 253. 73 are 'C' (low quality) category and 9 are 'U' (unsuitable for retention quality) category, i.e. trees 22, 46, 68, 115, 135, 197, 275, 276 & 305.
- 9.3 All retained trees will be appropriately protected in accordance with current standards and guidance.
- 9.4 The scope for unacceptable post-development pressure is low and is unlikely to oblige RBC to give consent to inappropriate tree works. New planting is proposed on a 1:1.75 basis (196 trees) which will ensure that the landscape impact of the proposals is likely to be positive, given time to establish.
- 9.5 I have taken account of the information given to me and my own observations on-site, and I am satisfied that this outline scheme is arboriculturally sound and that the long-term wellbeing of the retained trees can be safeguarded in a sustainable manner.

10.0 Recommendations

10.1 The successful integration of the proposal with the retained trees will need to take account of the following points:

- i) Plan of underground services.
- ii) Schedule of tree protection measures, including the management of harmful substances.
- iii) Method statements for constructional variations with regard to tree proximity (e.g. foundations, surfacing and scaffolding).
- iv) Site logistics plan to include storage, plant parking/stationing & materials handling.
- v) Tree works – required pruning. All works must be carried out by a competent arborist in accord with BS3998:2010 and any other prevailing good professional practice.
- vi) Site supervision – an individual, e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. This person must:
 - a) be present on-site for the majority of the time
 - b) be aware of the arboricultural responsibilities
 - c) have the authority to stop any work that is causing, or has the potential to cause, harm to any tree
 - d) be responsible for ensuring that all site operatives are aware of their responsibilities toward trees on site and the consequences of the failure to observe these responsibilities.
 - e) make immediate contact with the local authority and/or a retained arboriculturist in the event of any tree-related problems occurring, whether actual or potential.

10.2 As a matter of course, these points will be resolved in consultation with and subject to the approval of RBC through their arboricultural officer.

10.3 The sequence of works should be as follows:

- i) initial tree works – see Appendix B
- ii) erection of protective fencing for demolition, lifting of hard surfaces & construction on agreed lines
- iii) removal of existing structures
- iv) construction of new access
- v) installation of underground services
- vi) laying of ground protection where indicated
- vii) phased main construction inc. ‘No Dig’ hard standing near trees 2-5, 147, 148, 149, 150, 162, 198 & 258
- viii) removal of fencing and ground protection
- ix) soft landscaping

11.0 References

- **British Standards Institute.** 2012. Trees in relation to design, demolition & construction-Recommendations BS5837:2012 HMSO, London.
- **British Standards Institute.** 2010. Tree work - Recommendations BS3998:2010 HMSO, London.
- **Barlow J.F. & Harrison G.** 1999. Shade By Trees, Arboricultural Practice Note 5, AAIS, Farnham, Surrey.
- **Lonsdale D.** 1999. Research for Amenity Trees No.7: Principles of Tree Hazard Assessment and Management, HMSO, London.
- **Matheny N; Clark, J. R.**1998. Trees and Development: A Technical Guide to Preservation of Trees during Land Development, International Society of Arboriculture, Champaign, Il.
- **Mattheck C. & Breloer H.** 1994. Research for Amenity Trees No.4: The Body Language of Trees, HMSO, London.
- **NJUG 4.** 2007. NJUG Guidelines for the Planning, Installation & Maintenance of Utility Apparatus in Proximity to Trees.

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