

Arboricultural Survey

Land adjacent to and including:
The Oval Raceway
Waters lane
Angmering
BN164EJ

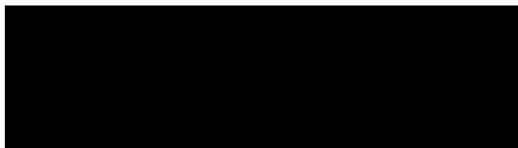
20 March 18



PJC ref: 3874/15-01 Rev 04

This report has been prepared by
PJC Consultancy Ltd
on behalf of
Gleeson Strategic Land & Rydon Homes

Prepared by	Owen Allpress BSc (Hons) M.Arbor.A Owen has received both an FdSc and a BSc (Hons) in Arboriculture and is a professional member of the Arboricultural Association. Working in the industry for nearly 10 years, Owen has extensive experience in arboricultural contracting, consultancy and business management.
Checked by	Peter Davies FdSc Arboriculture M.Arbor.A Peter has a Foundation Degree in Arboriculture and is a professional member of the Arboricultural Association. He has ten years experience in the arboricultural industry, originally working as a groundsman and feller, and progressing into consultancy. He is a Lantra accredited professional tree inspector.



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1 INTRODUCTION

1.1 **Instruction:** PJC Consultancy has been instructed by Gleeson Strategic Land and Rydon Homes to provide an arboricultural survey of The Oval Raceway including surrounding land. This report has been updated to include additional areas along

1.2 **Brief:** PJC Consultancy has been commissioned to undertake an initial arboricultural survey following the guidelines set out in BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

1.3 **Scope of this report:** This report is concerned with all significant trees located within the property boundaries of the site. Additionally, trees located around the curtilage of the site have also been surveyed when they are considered likely to have the potential to impact on the development (in relation to root and crown protection or foundation design).

1.4 **Purpose of report:** This survey has been undertaken to record the condition and value of all significant trees at the site as well as the material constraints they pose on the development. The information in this report should be used to guide the design proposals.

1.5 **Documents and information provided:** The following documents were provided by the client to produce this report:

- Land Use schedule
- 21351_Final Topographic plan
- Additional Topographic survey for Dappers lane and Pirilli land, (2018 update).

2 SITE VISIT AND SURVEY METHODOLOGY

2.1 Site visit: A site visit was carried out on 2nd December 2015 & 2nd Oct 2017 & 3rd January 2018. The weather conditions throughout all visits were adequate to complete surveying.

2.2 Tree information: The following measurements and information were recorded in the Tree Survey Schedule for each individual tree (average dimensions are recorded for groups):

- Tree reference number. (T=tree, G=group, H=hedgerow, W=woodland block). Tree numbers suffixed with PA on the Tree Constraints Plan indicate the trees location was not included on the site plan provided so the tree's position was approximated on site.
- Species (common and scientific name).
- Overall tree height (m).
- Stem diameter (mm) per stem or average diameter for multi-stemmed trees with six or more stems.
- Branch spread (m) measured to the four cardinal points.
- Existing height (m) above ground level of canopy.
- Age class (young, semi mature, early mature, mature, over mature or veteran).
- Physiological condition (good, fair, poor).
- Structural condition (good, fair, poor).
- Comments (general description of tree including any notable features).
- Preliminary management recommendations (prescriptions for tree management processes based on the current land use and not related to the proposed development).
- Tree categorisation (see below).
- Root protection area (m²).
- Root protection radius (m).

2.3 Tree categorisation: The condition and value of each tree was evaluated based on the current land use. Each tree or tree group has been awarded either category A, B, C or U and a sub category of either 1,2 or 3 or a combination of the sub categories.

2.4 Tree categorisation summary:

- A – Trees of good condition or high value, with a predicted life span in excess of forty years.
- B – Trees of moderate condition or value, with a predicted life span in excess of twenty years.
- C – Trees of poor condition or low value, with a predicted life span in excess of ten years.
- U – Trees of such impaired condition that they cannot realistically be retained as living trees in the context of the current land use for more than ten years.

2.5 Tree sub categorisation summary:

- 1 – Trees have mainly arboricultural value, e.g. trees of good condition, form and vitality or rare tree species.
- 2 – Trees have mainly landscape value, e.g. trees of landscape prominence, that serve to screen unsightly views or that are required for privacy.
- 3 – Trees with mainly cultural value including conservation, e.g. commemorative trees, trees of historical significance, trees of ecological significance or veteran trees.

2.6 Each tree can only be categorised as A, B or C but may comply with more than one sub category. A cascade chart further explaining how tree categorisation is decided is included in Appendix 3.

2.7 **Root protection areas:** Each tree's stem diameter was recorded, and applied to the formula found in Appendix 4 to establish its root protection area. A root protection area represents a calculation of the minimum area of root growth required to support the tree, not the total rooting area.

2.8 The root protection areas are plotted onto the Tree Constraints Plan in Appendix 1, and recorded in the Tree Survey Schedule in Appendix 2. These are represented as a circle on the plan are colour coded depending on the category the tree has been awarded.

2.9 The disturbance of a tree's root system can result in crown dieback and even death of the tree. Roots are used to support the tree structurally and act as transport for water and nutrients. Direct damage such as root severance can lead to ill health, as can compaction of the soil by construction traffic, heavy plant and storage of materials. Changing the nature of the surface above the growing medium, (i.e. from porous to non-porous), can alter the resources available to the tree, which in turn can lead to its decline.

2.10 The root protection areas must be left free from excavation and disturbance, and protected from compaction or contamination during any proposed works. The majority of root growth is usually found within the top meter of soil. As such, even shallow disturbance within root protection areas can potentially have a significant impact on the trees.

2.11 **Limitations of site visit:** The survey methodology was restricted to a visual tree assessment from ground level. No tree climbing or ground investigation was carried out for this report. Where existing site constraints are present such as ivy covered trees, a very dense under-storey, or where trees are located on third party land to which access was not granted, tree dimensions were estimated by eye as accurately as possible.

3 SITE DETAILS AND SURVEY FINDINGS

3.1 Site location: The site is situated south of the A27 to the east of Angmering. The surrounding land use is comprised exclusively of transport, farmland, industrial units and small holdings. The location of the site within its environs is shown in figure 1.



Figure 1: Location of Site and Environs

3.2 Further information for each tree can be viewed in the Tree Survey Schedule in Appendix 2.

3.4 Statutory tree protection: Arun District Council Planning Department was contacted by email on February 19th 2018 to establish restrictions to tree works at the site. A group TPO ref A/1/14 affects part of the site adjacent of Dapper's Lane. A single tree protected by this preservation order, (T1 of TPO A/1/14) T33 of this report, is within the site boundaries. Where possible, the protection status of trees is indicated on the survey sheets in appendix 2.

3.6 Financial penalties and/or criminal proceedings can result if tree works are carried out on a protected tree without consent. The entirety of the tree is protected, both above and below ground.

3.7 Tree categorisation summary: The table below illustrates the categorisation mix of trees recorded at the site. Further information regarding trees can be found in the tree survey schedule in appendix 2.

Categorisation	Individual tree	Tree group
A	3	0
B	16	7
C	15	12
U	5	3
Total	39	22

4 CONCLUSIONS

4.1 To comply with BS5837: 2012, An AIA has been carried out, as recommended following this report. The arboricultural impact assessment includes a schedule of trees to be retained and removed, evaluate the likely effects of construction works on retained trees including post development pressures and provide recommendations on mitigation measures to be implemented. It should also include a Tree Retention Plan.

4.2 As far as possible new buildings and areas of hard surfacing should be located outside of the root protection areas of retained trees. In certain situations, engineered solutions are available to allow construction within the root protection areas. Further input from an arboriculturalist should be sought regarding their site-specific viability before these methods are relied upon.

4.3 Over-shading of gardens and dwellings for prolonged periods, nuisance caused by leaf/fruit drop or honeydew drip (particularly onto footpaths, parking areas or roof guttering) and an over-bearing presence of large trees can result in significant pressure from future residents to carry out harsh remedial pruning works or to remove trees post development. All of these factors should be considered at the design stage.

4.4 Allowance should be made for future canopy growth of both existing and newly planted trees. Trees growing in areas of limited space may require regular future pruning works. The suitability of different species for regular crown reductions, the affect on their amenity value and the cost of future tree works should be considered.

4.5 The final design should show service locations and their routing. New utilities should be located outside of the trees root protection areas where they are underground and outside of the anticipated area of mature crown spread where above ground. If this is not possible, recommendations outlined in NJUG10 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' should be followed. Advice should also be sought from the project arboriculturalist.

4.6 Where tree removal is necessary to facilitate the wider regeneration benefits associated with development, a tree replacement strategy could be implemented to mitigate tree loss. If further tree planting does occur, consideration should be given to species selection (in relation to form and potential size) and planting locations to ensure their successful integration into the new development.

5 OTHER CONSIDERATIONS

5.1 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.

5.2 The tree works contractors should carry out all tree works to BS3998: 2010 '*Tree works – recommendations*', as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.

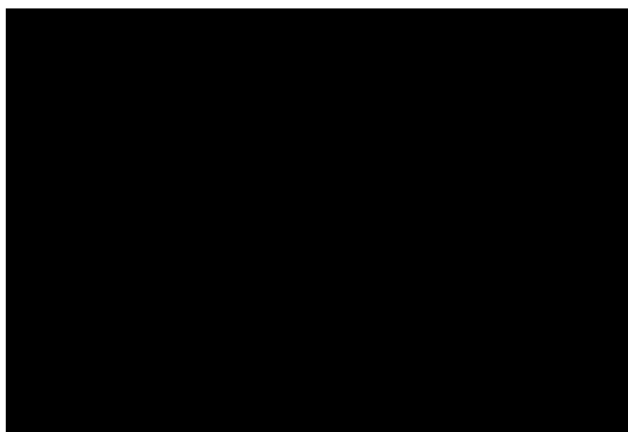
5.3 It is also recommended that all tree works be carried out by an Arboricultural Association approved contractor. Approved contractors are expected to work to industry best standards, and the Arboricultural Association website contains contact details and information on engaging a suitable contractor.

5.4 The trees at this site were assessed for their condition and safety in relation to the average range of weather conditions that the region experiences. Any weather events that exceed the average norm cannot be predicted, and so their effects are not considered within this report.

5.5 The views and opinions contained within this report are entirely those of the author.

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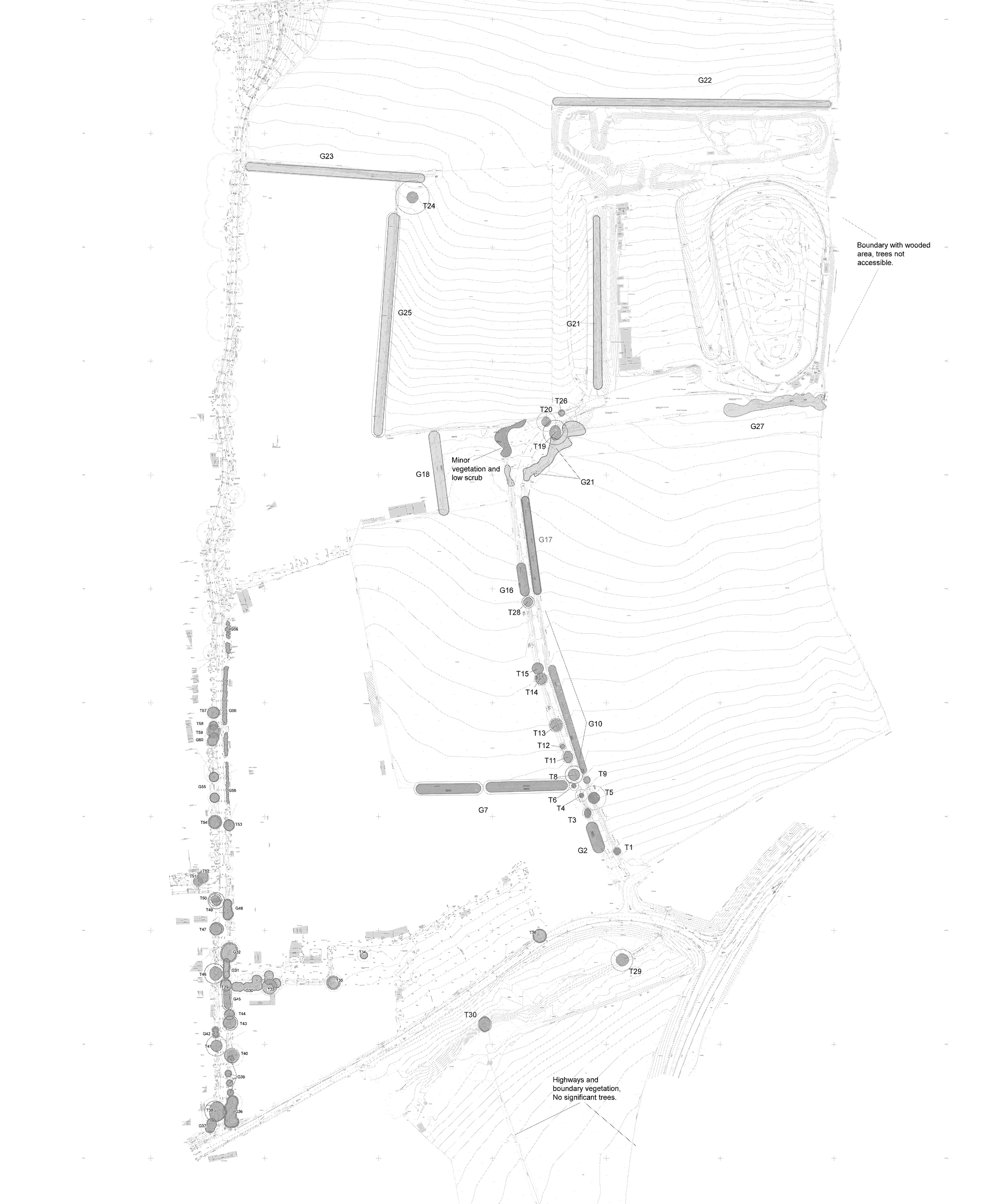


Author: Owen Allpress

Date: 20 March 18

APPENDIX 1

Tree Constraints Plan



Drawing no: PJC/4652/17/A

Rev: 05

Sheet number: 1 of 1

Client and site:

Gleeson Strategic Land & Rydon Homes

Land North of Water Lane

Angmering

West Sussex

Drawing title:

Tree Constraints Plan

Date drawn:

08/01/2018

Scale:

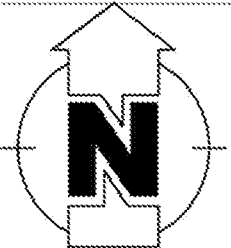
NTS at A1

Drawn by:

OA

Checked by:

NB



Key:

- RPA for CAT A Tree*
- RPA for CAT B Tree*
- RPA for CAT C Tree*
- RPA for CAT U Tree*
- Tree canopy

** Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.*

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/4652/17-01 contains further information for each tree.

This drawing should be viewed in colour.

APPENDIX 2

Tree Survey Schedule

Tree Survey Schedule

				Client: Gleeson Homes Site: Dappers Lane East Survey date: 2nd dec 2015, 2nd October 2017 & 3rd Jan 2018 Surveyor: Owen Allpress								T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block	
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T1	English Oak, (<i>Quercus Robur</i>)	3	300 est	N: 3 E: 3 S: 3 W: 3	2	Semi-mature	Good	Good	None	None	C2	40.8	3.6
G2	Leylandii, (<i>Cupressus x leylandii</i>)	>6	450 est avg	N/a	4	Mature	Good	Fair	Various trees in row with dead wood and snapped branches.	None	C2	91.7	5.4
T3	English Oak, (<i>Quercus Robur</i>)	6	400 est	N: 4 E: 3 S: 4 W: 3	4	Mature	Good	Good	Multi-stem tree	None	C2	72.5	4.8
T4	Hawthorn, (<i>Crataegus monogyna</i>)	4	450 est	N: 2 E: 2 S: 2 W: 2	3	Mature	Good	Good	None	None	C2	91.7	5.4
T5	English Oak, (<i>Quercus Robur</i>)	7	880	N: 5 E: 5 S: 5 W: 5	3	Mature	Fair	Fair	Stem cavities evident and deadwood within crown.	None	C2	350.8	10.6
T6	English Oak, (<i>Quercus Robur</i>)	7	350	N: 2 E: 2 S: 2 W: 2	3	Mature	Fair	Fair	Ivy inhibits inspection of stem.	None	C2	55.5	4.2

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
G7	Leylandii, (<i>Cupressus</i> × <i>leylandii</i>)	>9	500 est avg	N/a	1	Mature	Fair	Fair	Various defects and broken branches	None	C2	113.3	6.0
T8	English Oak, (<i>Quercus Robur</i>)	7	650	N: 5 E: 5 S: 5 W: 5	3	Mature	Good	Fair	Significant Stem cavity on central leader, previous tear out wound.	None	U	191.4	7.8
T9	English Oak, (<i>Quercus Robur</i>)	4	250 est	N: 3 E: 3 S: 3 W: 3	2	Early mature	Good	Good	Twin-stemmed tree	None	C2	28.3	3.0
G10	English Oak, (<i>Quercus Robur</i>)	>6	250 est avg	N/a	2	Early mature	Good	Good	Field boundary self sown trees amongst hedgerow.	None	C2	28.3	3.0
T11	English Oak, (<i>Quercus Robur</i>)	5	450	N: 5 E: 4 S: 4 W: 5	3	Mature	Good	Good	Signage attached to stem of tree.	None	C2	91.7	5.4
T12	English Oak, (<i>Quercus Robur</i>)	3	256	N: 2 E: 2 S: 2 W: 2	3	Mature	Good	Good	None	None	C2	29.7	3.1

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T13	Ash, (<i>Fraxinus Excelsior</i>)	5	500	N: 5 E: 5 S: 5 W: 5	3	Semi-mature	Good	Poor	Considerable basal defect	Fell tree in the interest of safety.	U	113.3	6.0
T14	English Oak, (<i>Quercus Robur</i>)	5	500	N: 5 E: 5 S: 5 W: 5	3	Mature	Good	Good	Ivy inhibits inspection of stem.	None	C2	113.3	6.0
T15	English Oak, (<i>Quercus Robur</i>)	5	400	N: 5 E: 5 S: 5 W: 5	3	Mature	Good	Good	Ivy inhibits inspection of stem.	None	C2	72.5	4.8
G16	English Oak, (<i>Quercus Robur</i>)	>6	350 est avg	N/a	3	Mature	Good	Good	Some minor dead wood present in crown.	None	C2	55.5	4.2
G17	Oak and Elm	>10	250 est avg	N/a	3	Mature	Poor	Poor	Various dead wood and dead trees.	Remove dead trees in the interest of safety.	U	28.3	3.0
G18	Leylandii, (<i>Cupressus x leylandii</i>)	>12	400 est avg	N/a	2	Mature	Fair	Fair	Various defects, broken branches and minor dead wood.	None	C2	72.5	4.8

Tree Survey Schedule

				Client: Gleeson Homes Site: Dappers Lane East Survey date: 2nd dec 2015, 2nd October 2017 & 3rd Jan 2018 Surveyor: Owen Allpress							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block			
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)	
T19	English Oak, (<i>Quercus Robur</i>)	7	900	N: 6 E: 5 S: 7 W: 5	3	Mature	Poor	Poor	Crown dieback and known decay fungi, (<i>Meripilus Giganteus</i>) present at base of tree.	Fell tree in the interest of safety	U	366.9	10.8	
T20	English Oak, (<i>Quercus Robur</i>)	6	700 est	N: 4 E: 4 S: 4 W: 4	3	Mature	Good	Good	None	None	C2	222.0	8.4	
G21	Elm, (<i>Ulmus Spp</i>)	>6	N/a	N/a	0	Juvenile	Poor	Poor	Juvenile dead trees among Hedgerow.	Remove dead stems in the interest of safety.	U			
G22	Monterey pine, (<i>Pinus radiata</i>)	>6	300 est avg	N/a	0	Semi-mature	Good	Good	Row of pines to north of race track. Base of trees inaccessible.	None	C2	40.8	3.6	
G23	Oak and Ash	>7	350	N/a	0	Mature	Good	Good	Third party trees along boundary with footpath.	None	C2	55.5	4.2	
T24	English Oak, (<i>Quercus Robur</i>)	8	1230	N: 5 E: 5 S: 5 W: 5	2	Over mature	Fair	Fair	Basal defects, dead bark and dead wood.	None	B3	685.4	14.8	

Tree Survey Schedule

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T25	Oak and Ash	>6	500	N/a	3	Mature	Good	Good	Field boundary trees dense undergrowth prevents assessment of stems. Trees crown lifted field side.	None	C2	113.3	6.0
T26	Monterey pine, (<i>Pinus radiata</i>)	5	200	N: 3 E: 3 S: 3 W: 3	2	Semi-mature	Good	Good	None	None	C2	18.1	2.4
G27	Oak, Ash and Willow	>6		N/a	0	Mature	Good	Good	None	None	C2	0.0	0.0
T28	English Oak, (<i>Quercus Robur</i>)	6	450	N: 4 E: 4 S: 4 W: 4	3	Mature	Fair	Poor	Evidence of root pruning and subsequent decay, Ganoderma fruit body evident at time of survey.	Fell in the interests of safety.	U	91.7	5.4

Data on the following pages, (sheet 6 - 11) was collected in October 2017 and January 2018 and related to Dappers lane boundary.

Tree Survey Schedule

				Client: Gleeson Homes Site: Dappers Lane East Survey date: 2nd dec 2015, 2nd October 2017 & 3rd Jan 2018 Surveyor: Owen Allpress							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block			
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)		Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T29	Common ash, (Fraxinus excelsior)	12	410	N	6	Crown	Mature	Fair	Poor	Inclusion failure, remainder tree toward Dappers lane.	None at time of survey	U	76.2	4.9
				E	4	5n								
			est	S	5	Branch								
				W	5	5n								
G30	Sycamore, (Acer pseudoplatanus)	>10	320	N	4	Crown	Semi-mature	Good	Fair	Various self sown sycamore at side boundary. Suppressed and with minor deadwood.	None at time of survey	B2	46.4	3.8
				E	4	2								
			est	S	4	Branch								
				W	4	3								
G31	Common ash, (Fraxinus excelsior)	12	200	N	3	Crown	Semi-mature	Fair	Obscured	Dense undergrowth prevents stem inspection. Roadside group ash.	None at time of survey	B2	18.1	2.4
				E	3	1								
			avg est	S	3	Branch								
				W	3	2								
G32	Common ash, (Fraxinus excelsior)	16	500	N	7	Crown	Mature	Fair	Fair	Group of larger ash at corner if neighbouring plot access. Minor deadwood and increment growth along stems.	None at time of survey	B2	113.3	6.0
				E	7	4								
			avg est	S	7	Branch								
				W	7	5								
T33	Pedunculate oak, (Quercus robur)	16	700	N	6	Crown	Mature	Fair	Good	Sparse foliage at time if survey, dense undergrowth inhibits detailed inspection of stem base.	TPO - None at time of survey	A1	222.0	8.4
				E	6	2s								
				S	7	Branch								
				W	7	4s								
T34	Sycamore, (Acer pseudoplatanus)	14	380	N	3	Crown	Mature	Good	Good	No access to survey in detail dimensions estimated.	None at time of survey	B1	65.4	4.6
				E	3	1								
			est	S	3	Branch								
				W	3	2								

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)		Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T35	Sycamore, (Acer pseudoplatanus)	15	400	N	6	Crown	Mature	Fair	Obscured	limited access to survey.	None at time of survey	B1	72.5	4.8
				E	6	1								
			ms est	S	6	Branch								
				W	6	2								
T36	Common ash, (Fraxinus excelsior)	13	450	N	6	Crown	Mature	Fair	Obscured	Adjacent Water Lane boundary.	None at time of survey	B1	91.7	5.4
				E	6	1								
			ms est	S	6	Branch								
				W	6	2								
G36	Sycamore, (Acer pseudoplatanus)	16	350	5 avg		Crown	Mature	Good	Obscured	Mature tree group adjacent junction. detailed visual inspection obscured.	None at time of survey	B2	55.5	4.2
						4w								
			avg			Branch								
						5w								
G37	Common ash, (Fraxinus excelsior)	15	350	4 avg		Crown	Mature	Good	Good	Heavily pollarded historically. Remnant tree malformed. Value as screening at junction.	None at time of survey	B2	55.5	4.2
						5e								
						Branch								
						4e								
T38	Pedunculate oak, (Quercus robur)	18	750	N	8	Crown	Mature	Fair	Obscured	Deadwood and crown dieback. ivy growth inhibits detailed inspection.	None at time of survey	B1	254.8	9.0
				E	10	4s								
			est	S	9	Branch								
				W	5	5s								
G39	Common ash, (Fraxinus excelsior)	9	200	3 Avg		Crown	Mature	Good	Good	Young trees adjacent roadside.	None at time of survey	C2	18.1	2.4
						2								
			avg est			Branch								
						2								

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)		Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T40	Common ash, (Fraxinus excelsior)	18	470	N	6	Crown	Mature	Good	Good	Large ash adjacent third party boundary.	TPO - None at time of survey	A1	100.1	5.6
				E	6	6w								
				S	7	Branch								
				W	7	5w								
T41	Common ash, (Fraxinus excelsior)	11	750	5 Avg		Crown	Mature	Good	Good	Heavily topped, sporadic regrowth from large diameter pruning wounds.	None at time of survey	C1	254.8	9.0
			9s											
			Branch											
			5											
G42	Elm & elder	9	160	3 Avg		Crown	Mature	Good	Good	Trees adjacent third party garden boundary.	None at time of survey	B2	11.6	1.9
			2											
			Branch											
			2											
T43	Common ash, (Fraxinus excelsior)	17	530	N	6	Crown	Mature	Good	Obscured	Large tree on bank approx. 1m above street level. dual stem form	None at time of survey	B1	127.3	6.4
			E	5	4w									
			S	5	Branch									
			W	6	6w									
T44	Common ash, (Fraxinus excelsior)	11	380	N	4	Crown	Mature	Good	Good	Asymmetrical crown via suppression.	None at time of survey	B1	65.4	4.6
			E	4	4w									
			S	2	Branch									
			W	4	6w									
G45	Common ash, (Fraxinus excelsior)	13	350	3 Avg		Crown	Mature	Good	Good	Group ash adjacent road	None at time of survey	C2	55.5	4.2
			3n											
			Branch											
			3n											

Tree Survey Schedule

			Client: Gleeson Homes Site: Dappers Lane East Survey date: 2nd dec 2015, 2nd October 2017 & 3rd Jan 2018 Surveyor: Owen Allpress										T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block	
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)		Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T46	Pedunculate oak, (Quercus robur)	14	730	N	6	Crown	Mature	Good	Good	Third party oak, historic wind throw.	None at time of survey	B1	241.4	8.8
				E	7	6e								
				S	6	Branch								
				W	4	4e								
T47	Common ash, (Fraxinus excelsior)	16	430	N	6	Crown	Mature	Good	Good	Dual stem tree in grass verge.	None at time of survey	B1	83.8	5.2
				E	7	4e								
				S	5	Branch								
				W	5	5w								
G48	Common ash, (Fraxinus excelsior)	10	280	4 Avg		Crown	Mature	Good	Good	Group ash adjacent Dappers lane.	None at time of survey	B1	35.5	3.4
						3s								
						Branch								
						4s								
T49	Monterey cypress, (Cupressus macrocarpa)	16	600	N	2	Crown	Mature	Good	Good	Asymmetrical crown via suppression.	None at time of survey	B1	163.1	7.2
				E	4	4n								
				S	4	Branch								
				W	4	4n								
T50	Common ash, (Fraxinus excelsior)	16	450	N	4	Crown	Mature	Fair	Fair	Asymmetrical crown via suppression.	None at time of survey	B1	91.7	5.4
				E	4	4e								
				S	2	Branch								
				W	4	4e								
T51	Silver birch, (Betula pendula)	14	380	N	5	Crown	Mature	Fair	Fair	Mature tree with no visible defects.	None at time of survey	A1	65.4	4.6
				E	4	3s								
				S	5	Branch								
				W	5	4s								

Tree Survey Schedule

			Client: Gleeson Homes Site: Dappers Lane East Survey date: 2nd dec 2015, 2nd October 2017 & 3rd Jan 2018 Surveyor: Owen Allpress							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block				
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)		Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T52	Norway maple, (Acer platanoides)	12	400	N	6	Crown	Mature	Good	Poor	Poor condition multi stem form some stems with bark necrosis. Primary stem junction features included union.	Remove dead or damaged portions of tree.	C1	72.5	4.8
				E	4	2								
				S	5	Branch								
				W	5	3n								
T53	Sycamore, (Acer pseudoplatanus)	13	380	N	5	Crown	Mature	Good	Obscured	Set within third party front garden.	None at time of survey	B1	65.4	4.6
				E	4	4w								
				S	5	Branch								
				W	5	5w								
T54	Norway maple, (Acer platanoides)	13	410	6 avg		Crown	Mature	Good	Obscured	Ivy obscures detailed visual inspection.	None at time of survey	B1	76.2	4.9
						4s								
						Branch								
						4s								
G55	Elm & sycamore	10	350	4 avg		Crown	Dead	Poor	Poor	Dead trees in poor physical condition.	None at time of survey	U	55.5	4.2
						5								
						Branch								
						4								
G56	Ash & elm	5	100	1 avg		Crown	Juvenile	Good	Good	Young trees some with DED	None at time of survey	C2	4.5	1.2
						1								
						Branch								
						2								
T57	Norway maple, (Acer platanoides)	12	410	N	5	Crown	Mature	Good	Good	Rear of gardens	None at time of survey	B1	76.2	4.9
				E	6	4e								
				S	5	Branch								
				W	5	5e								

Tree Survey Schedule

				Client: Gleeson Homes Site: Dappers Lane East Survey date: 2nd dec 2015, 2nd October 2017 & 3rd Jan 2018 Surveyor: Owen Allpress								T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)		Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendations	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T58	Norway maple, (Acer platanoides)	14	320	N	4	Crown	Mature	Good	Good	Occluded lesion on stem	None at time of survey	B1	46.4	3.8
				E	4	5w								
				S	4	Branch								
				W	3	5w								
T59	Monterey cypress, (Cupressus macrocarpa)	14	500	5 avg		Crown	Mature	Good	Good	Large roadside tree, upper interior crown obscured.	None at time of survey	B1	113.3	6.0
						4								
						Branch								
						5e								
G60	Common ash, (Fraxinus excelsior)	12	380	4 avg		Crown	Mature	Good	Fair	Heavy historic pruning practices have left one individual malformed.	None at time of survey	C2	65.4	4.6
						2								
						Branch								
						3								

APPENDIX 3

Cascade Chart for Tree Quality Assessment

Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of their current land use for longer than 10 years.	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after the removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. Note Category U trees can have existing or potential conservation value which it might be desirable to preserve			Red
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue). Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood--pasture).	Green
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.		Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	Blue
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	Grey

APPENDIX 4

Root Protection Area Formulas

CALCULATING THE RPA

For single stemmed trees

$$\text{RPA(m}^2\text{)} = \frac{(\text{stem diameter (mm)} @ 1.5 \text{ m} \times 12)^2 \times 3.142}{1000}$$

For trees with two to five stems, a combined stem diameter is calculated as follows:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

For trees with more than five stems, the combine stem diameter is calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

APPENDIX 5

Photographs



Photograph 1 – View south along main track.



Photograph 2 – View north toward race track of oak in decline.