Arboricultural Impact Assessment

Tree Survey at:
York Road
Wilberfoss
York

Job Ref: 23019

Prepared on behalf of:

Blue Hill
Landscape Design

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Contents

Introduction

1 Introduction to BS5837:2012

1.1 Local Planning Authorities (LPAs) have a duty under the Town and Country Planning Act 1990 (Section 197) to make provision for the preservation and planting of trees. This is to reflect the wide range of accepted benefits that trees provide. These include (but are not limited to) amenity, historical and or cultural significance, ecological value, screening/strategic planting and landscape significance, among many others.

1.2 In order to comply with this duty, authorities require a standardized and objective method of assessing the quality of trees in relation to development. This enables a measured approach to be adopted with regards to how individual trees are valued against the potential benefits of a proposed development and other constraints that may be present.

1.3 This standardized method is embodied in the British Standard BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. This is the standard that all LPAs expect tree surveys in relation to development to conform to. It specifies the requirements of taking tree dimensions and includes a categorization method used to assess the quality of trees. Their allocated category is then expected to inform the design (e.g lower quality trees should be removed in preference to higher quality trees).

2 Purpose and content of this report

2.1 Most Local Planning Authorities (LPAs) require a BS5837 survey and Arboricultural Impact Assessment (AIA) in order to validate and determine a planning application for developments which could impact on trees. Along with a BS5837 Report prepared by a third party, this report is intended to be submitted as part of the planning application to attend to this requirement.

2.2 This report assesses the arboricultural impacts to the existing tree stock, arising from the proposed development at York Road, Wilberfoss. The arboricultural impacts are listed in the first section of the report. Following this, any proposed mitigation, compensation and/or protection measures prescribed are included in Section 13, with an overall assessment of the impacts in Section 14.

2.3 A copy of the original Tree Schedule is included at Appendix 1 for reference, including all the data gathered during the BS5837 survey. An explanation of the various measurements and evaluations in the Tree Schedule is included at Appendix 3. The Tree Impact Plan is included at Appendix 2 which overlays the existing tree information with the proposals and shows what the impacts are on the existing trees. This report is based on the tree survey data produced by a third party. Whilst we have visited the site to obtain an understanding of the constraints present, we have not checked the original dataset for accuracy and cannot be held liable for its contents.

3 Baseline data

3.1 Tree Survey Solutions (T.S.S) have been instructed by Blue Hill Landscape Design to produce an Arboricultural Impact Assessment, and to supply our findings in a report, along with suitable plans which can be used for design purposes.

3.2 This follows a BS5837 Survey and Tree Constraints Plan and precedes an Arboricultural Method Statement, all of which are provided seperately. The original BS5837 survey and Tree Constraints Plan provide the baseline tree data for what is currently on the site.

3.3 We have been provided with a copy of the proposals (drawing ref: 1024_502_Rev D) which have been overlaid onto the Tree Constraints Plan (Drawing ref: TCT. 13346) to produce the Tree Impact Plan at Appendix 2.

3.4 The above drawings, along with any discussions we have had with design team members and/or local authority officers forms the basis of this Arboricultural Impact Assessment.

Assessment of Impacts

4 Proposed development

4.1 The proposed development entails the construction of two new cabin style buildings within an existing tree belt off York Road, Wilberfoss. Access will be gained via the aforementioned York Road, leading immediately to a parking area. A more formalised version of the existing footpath then leads from the car park to the proposed cabins.

4.2 The cabins themselves will not have a traditional foundation and will not be placed on the ground. Instead, they will be attached to driven columns similar to a piled foundation type, negating the need for excavation. New drainage runs serving the cabins are proposed along the eastern boundary, at the top of the existing earth banking.

5 Tree removals for development

5.1 In order to facilitate the proposed development, the following items require removal: T17, T19, T21, T25, T26, T28, T29, T36, T38 & T54. These include 6 category ‘C’ trees and 4 category ‘B’ trees. These removals are due either to direct conflicts with the cabins, or because proposed drainage routes are so close that they would be unlikely to survive.

6 Tree works to retained trees

6.1 In addition to the removals, some tree works are required to facilitate the development. T14, T15, T23 & T24 will be crown lifted to a height of 3.5m, to provide suitable clearance for the proposed cabins.

6.2 T55 is located immediately adjacent to the entrance of the site and will be crown lifted to a height of 5m. Given the existing high crown of this tree, this work is unlikely to adversely affect its health in the long term. This work is required to facilitate access for the vehicles, construction plant and machinery required for the development.

6.3 Where the proposed drainage run is routed through the RPA of trees (but their retention is still viable), hand digging with root pruning will be undertaken, under supervision by the appointed arboriculturist. This will impact the following trees: G9, T10, T11, T14, T15, G20, T23, T24, T30, T31, T32, H34 & T35.

7 Access/surfaces

7.1 The proposed car park is located on an existing area of crushed stone. Where the footprint overlaps the RPAs of retained trees (T46 & G51), a 'no-dig' design will be utilised to prevent undue damage to trees via compaction. Sections of the footpath that do not sit over buried utilities will also be of 'no-dig' design to prevent root severance through excavation. This relates to T35, T37, T41 & G51.

8 Demolition

8.1 No demolition activities are proposed within appreciable distance to retained trees. Therefore, no mitigation is prescribed for this purpose.

9 Construction/foundation design

9.1 The foundation design for the cabins requires driven piles, with the cabins themselves suspended above ground level. Therefore, the area of ground impacted by their construction will be minimal, and is unlikely to adversely affect nearby trees.

10 Utilities

10.1 New drainage routes are proposed within the RPAs of retained trees, and their locations are shown on the Tree Impact Plan at Appendix 2. As discussed in Sections 5 and 6, some tree removals and root pruning works are necessary to facilitate these features.

11 Site compound

11.1 The site compound, typically comprises the mess facilities, toilets, chemical/material storage and other construction-related facilities. All of these will be located outside of the RPA of retained trees throughout the construction process.

12 Landscaping & ground level changes

12.1 No ground level changes are permitted within the RPA of retained trees unless otherwise specified in this report.

13 Protection, mitigation and compensation measures

13.1 Arboricultural protection will take the form of protective fencing in accordance with the default barrier described in BS5837. This broadly comprises wire mesh panels secured together with anti-tamper couplers and attached to a scaffold framework. The protective fencing will be installed prior to commencement of construction and kept in situ throughout, until material completion.

13.2 Pruning works (both canopy and root pruning) is the only mitigation measure prescribed for this development. This will help to minimize damage to trees occurring through direct collisions with the canopy by construction plant, or 'tearing' wounds related to using excavators within the RPA. We have not been provided with details of compensation planting at the time of writing.

14 Discussion of impacts/assessment

14.1 Overall, the arboricultural impacts of this development are considered to be moderate. This is principally due to the culmination of tree removals and the root pruning to facilitate underground utilities. However, efforts have been made to minimize damage to retained trees, both by the use of 'no-dig' surfacing for the car park and footpath, and due to the use of hand excavation with root pruning, to minimize damage to tree roots. It should also be noted that the chosen foundation design requires no trenching/excavation within the RPA, and a number of trees are able to be retained as a result of this design choice.

Conclusions

15 Conclusion

15.1 We have conducted a tree survey at York Road, Wilberfoss, in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Included in the section titled '**Findings**' is a synopsis of the results of the survey, including the retention categories and preliminary management recommendations. The tree schedule at **Appendix 1** contains a full list of the data gathered during the survey, with a visual representation of the impacts shown on the Tree Impact Plan at **Appendix 2**.

15.2 The impacts of the proposed development on the existing trees are assessed in **Sections 4-12**. **Section 13** highlights any mitigation, compensation or protective measures proposed, and **Section 14** summarises the overall impacts.

15.3 All tree works should be undertaken by fully qualified and experienced arborists who have suitable risk assessments and insurances in place prior to conducting the work. The protective status of the trees is discussed in the BS5837 Report and this should be read before conducting any tree works. For any protected trees, formal permission from the Local Planning Authority will be needed prior to undertaking the work.

16 Further advice

16.1 This report accords with the requirements of BS5837:2012, in objectively assessing the existing vegetation and in assessing the impacts of the proposed design. Be advised that an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) follow this report. These documents contain full details of the proposed protective measures for the trees, as well as timings and other information to be utilised throughout the construction period.

16.2 Following completion of the proposed development, it is advisable to conduct a final arboricultural assessment of the trees prior to occupation/use. This is to highlight any damage which may have been caused during construction, identify health and safety issues and any desirable tree works.

17 Final considerations/limitations

17.1 Our on-site assessment represents a 'snapshot' of the existing vegetation as it is now. Trees are dynamic organisms; their health & structural integrity can change due to a large number of factors including age, pests and diseases, the effects of wind, human activities and many others. For this reason, this report is only valid for a period of one year from the date of issue. Furthermore, we cannot be held responsible for events that occur due to factors that were not apparent at the time of surveying. If any events occur which cause concern relating to the trees, please don't hesitate to contact us and we will be happy to provide advice.

17.2 We should also draw your attention to the fact that tree owners are required to have their trees inspected for safety/risk assessment purposes. This is a requirement under the Occupier's Liability Acts 1957 and 1984 and is also a well-established duty of care under common law. This report does not attend to this purpose; however, we can provide risk assessment surveys so please contact us for further information.

If further clarification or advice is needed, please don't hesitate to contact us.

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Date of issue: 21.08.23

Appendices

18 Appendix 1: Tree Survey Schedule

Tree No.	Species	Age	Stems at 1.5m	Stem Dia (mm)	Height (Crown Hgt) (m)	FSB (D) (m)	Branch Spread (m)				Observations	Cond	Life Exp	Tree Works Required to Enable Development	Root Protection Area (RPA)		Retention Category
							N	E	S	W					Radius (m)	Area (m^2)	
T 1	Fraxinus excelsior (Ash)	Early-mature	1	500	16(2)	1(S)	6	6	4	7	Asymmetrical crown. Limited inspection - situated on adjacent land.	Good to Fair	40+	No action required.	6.0	113.1	B
T 2	Acer pseudoplatanus (Sycamore)	Semi-mature	1	320	9(3)	5(S)	3.5	4	3.5	4	Asymmetrical crown. Limited inspection - situated on adjacent land.	Good to Fair	40+	No action required.	3.8	46.3	C
T 3	Acer pseudoplatanus (Sycamore)	Early-mature	1	510	14(2)	2(S)	4.5	2.5	6	7	Asymmetrical crown. Crown - minor deadwood (less than 50mm).	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	6.1	117.7	B
T 4	Acer pseudoplatanus (Sycamore)	Mature	1	640	17(2)	2(S)	5	6	6.5	5	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	7.7	185.3	B
T 5	Crataegus monogyna (Hawthorn)	Early-mature	1	340	6.5(2)	1(N)	4	3	2	4	Crown suppressed by adjacent trees. Stem has crack/split.	Poor	<10	Remove for arboricultural reasons.	4.1	52.3	U
T 6	Acer pseudoplatanus (Sycamore)	Early-mature	1	510	15.5(3)	3(N)	5	5	5	7	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	6.1	117.7	B
T 7	Acer pseudoplatanus (Sycamore)	Early-mature	1	510	15(3)	4(N)	5.5	6	5.5	5	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	6.1	117.7	B
T 8	Crataegus monogyna (Hawthorn)	Semi-mature	3	90	1.5(0.5)	0.5(W)	1.5	1	1.5	1	Multi-stemmed from ground level. Previously pollarded.	Dead	<10	Remove for arboricultural reasons.	1.9	11.0	U
G 9	Crataegus monogyna (Hawthorn)	Semi-mature	3	100	4(0.5)	0.5(W)	1.5	1.5	1.5	1.5	Multi-stemmed from ground level. Previously pollarded.	Good to Fair	40+	No action required.	2.1	13.6	C
T 10	Acer pseudoplatanus (Sycamore)	Mature	2	520,400	17(3)	2(S)	5	7	6	6	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	7.9	194.6	B

Tree No.	Species	Age	Stems at 1.5m	Stem Dia (mm)	Height (Crown Hgt) (m)	FSB (D) (m)	Branch Spread (m)				Observations	Cond	Life Exp	Tree Works Required to Enable Development	Root Protection Area (RPA)		Retention Category
							N	E	S	W					Radius (m)	Area (m^2)	
T 11	Acer pseudoplatanus (Sycamore)	Early-mature	1	530	17(3)	3(N)	6	7	3	4	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	6.4	127.1	B
T 12	Acer pseudoplatanus (Sycamore)	Early-mature	1	510	16(2.5)	2.5(N)	5.5	4.5	5	5	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees. Decay present on stem. Large cavity in stem >30%.	Poor	<10	Remove for arboricultural reasons.	6.1	117.7	U
T 13	Acer pseudoplatanus (Sycamore)	Early-mature	2	510,580	16(5)	5(W)	6	2	6	8	Twin-stemmed from ground level. Crown suppressed by adjacent trees. Large cavity in stem >30%.	Fair to Poor	<10	Remove for arboricultural reasons.	9.3	269.4	U
T 14	Acer pseudoplatanus (Sycamore)	Mature	1	950	18(5)	5(W)	7	6	8	10	Occasional pruning wounds. Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees. Cavity in stem <30%.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	11.4	408.3	B
T 15	Acer pseudoplatanus (Sycamore)	Early-mature	1	600	16(3)	3(S)	6	7	6	3.5	Occasional pruning wounds. Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	7.2	162.9	B
T 16	Acer pseudoplatanus (Sycamore)	Semi-mature	1	440	14(2.5)	2.5(S)	4	4	3	4.5	Crown suppressed by adjacent trees. Large cavity in stem >30%.	Fair to Poor	<10	Remove for arboricultural reasons.	5.3	87.6	U
T 17	Acer pseudoplatanus (Sycamore)	Early-mature	1	410	14(4)	4(W)	2.5	2.5	2	5	Unbalanced crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Fair	20+	Remove individual dead, defective or diseased branch(es).	4.9	76.1	C
T 18	Acer pseudoplatanus (Sycamore)	Semi-mature	1	200	5(4)	4(S)	0.5	0.5	0.5	0.5	Dead.	Dead	<10	Remove for arboricultural reasons.	2.4	18.1	U
T 19	Crataegus monogyna (Hawthorn)	Early-mature	3	120	6(0.5)	0.5(W)	1.5	1.5	2	2	Multi-stemmed from ground level. Crown suppressed by adjacent trees.	Good to Fair	40+	No action required.	2.5	19.6	C
G 20	Crataegus monogyna (Hawthorn),Sambucus nigra (Elder)	Semi-mature	3	50	2(0.5)	0.5(W)	1	1	1	1	Individuals crowns restricted by group. Linear boundary group. Previously pollarded.	Good to Fair	40+	No action required.	1.0	3.4	C

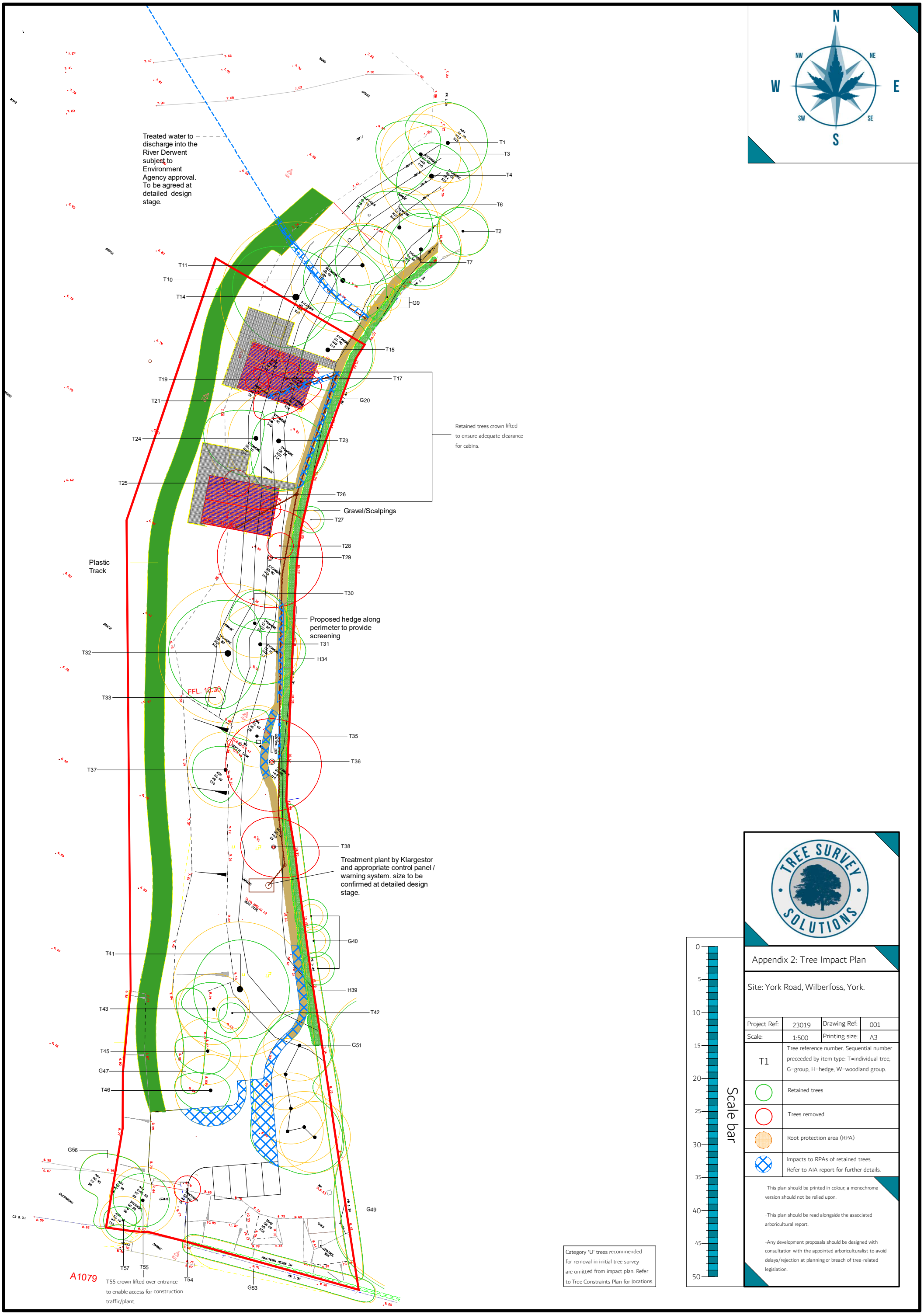
Tree No.	Species	Age	Stems at 1.5m	Stem Dia (mm)	Height (Crown Hgt) (m)	FSB (D) (m)	Branch Spread (m)				Observations	Cond	Life Exp	Tree Works Required to Enable Development	Root Protection Area (RPA)		Retention Category
							N	E	S	W					Radius (m)	Area (m^2)	
T 21	Acer pseudoplatanus (Sycamore)	Early-mature	1	530	16(3)	3(N)	4	6	2	5	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	6.4	127.1	B
T 22	Acer pseudoplatanus (Sycamore)	Semi-mature	1	400	14(2.5)	2.5(W)	2	3	3	5	Crown suppressed by adjacent trees. Large cavity in stem >30%.	Fair to Poor	<10	Remove for arboricultural reasons.	4.8	72.4	U
T 23	Acer pseudoplatanus (Sycamore)	Early-mature	1	640	15(2)	2(S)	4.5	7.5	7.5	4	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	7.7	185.3	B
T 24	Acer pseudoplatanus (Sycamore)	Early-mature	1	620	15(2)	2(S)	4	1	6	8	Unbalanced crown. Crown - deadwood (Equal or less than100mm).	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	7.4	173.9	B
T 25	Crataegus monogyna (Hawthorn)	Semi-mature	5	90	4(0.5)	0.5(W)	2	2	2	2	Multi-stemmed from ground level.	Good to Fair	40+	No action required.	2.4	18.3	C
T 26	Ilex aquifolium (Holly)	Semi-mature	2	90	3(0.5)	0.5(W)	1.5	1.5	1.5	1.5	Multi-stemmed from ground level.	Fair	40+	No action required.	1.5	7.3	C
T 27	Fagus sylvatica (Beech)	Young	1	120	3.5(1)	1(W)	2	2	2	2	Balanced crown. Limited inspection - situated on adjacent land.	Good to Fair	40+	No action required.	1.4	6.5	C
T 28	Acer pseudoplatanus (Sycamore)	Young	12	25	2.5(0)	0(W)	2	2	2	2	Multi-stemmed from ground level. Re-growth from stump.	Fair to Poor	10+	No action required.	1.0	3.4	C
T 29	Acer pseudoplatanus (Sycamore)	Mature	1	820	17(4)	4(S)	7.5	8	7.5	8	Asymmetrical crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	9.8	304.2	B
T 30	Acer pseudoplatanus (Sycamore)	Semi-mature	1	430	15(6)	6(N)	5	5	1	4	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Fair	40+	Remove individual dead, defective or diseased branch(es).	5.2	83.7	C

Tree No.	Species	Age	Stems at 1.5m	Stem Dia (mm)	Height (Crown Hgt) (m)	FSB (D) (m)	Branch Spread (m)				Observations	Cond	Life Exp	Tree Works Required to Enable Development	Root Protection Area (RPA)		Retention Category
							N	E	S	W					Radius (m)	Area (m^2)	
T 31	Acer pseudoplatanus (Sycamore)	Early-mature	1	510	15(6)	6(N)	4	7	6	3.5	Crown - minor deadwood (less than 50mm). Crown suppressed by adjacent trees.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	6.1	117.7	B
T 32	Acer pseudoplatanus (Sycamore)	Mature	1	880	18(5)	4(S)	8	5	8.5	9	Asymmetrical crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	10.6	350.4	B
T 33	Crataegus monogyna (Hawthorn)	Semi-mature	3	50	4(2)	2(S)	1.5	1.5	1.5	1.5	Multiple pruning wounds.	Fair	20+	No action required.	1.0	3.4	C
H 34	Crataegus monogyna (Hawthorn)	Semi-mature	3	50	1.5(0.5)	0.5(W)	1	1	1	1	Linear boundary hedge. Maintained.	Good to Fair	40+	No action required.	1.0	3.4	C
T 35	Quercus robur (Common Oak)	Semi-mature	1	390	10(5)	5(W)	4	2	1	5.5	Unbalanced crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Fair	40+	Remove individual dead, defective or diseased branch(es).	4.7	68.8	C
T 36	Acer pseudoplatanus (Sycamore)	Mature	1	860	16(4)	4(S)	6.5	7.5	7.5	7	Asymmetrical crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	10.3	334.6	B
T 37	Fraxinus excelsior (Ash)	Early-mature	1	480	14(4)	1(W)	3.5	2.5	5	5	Unbalanced crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Fair	40+	Remove individual dead, defective or diseased branch(es).	5.8	104.2	C
T 38	Fraxinus excelsior (Ash)	Early-mature	1	640	15(6)	6(S)	4.5	7	4.5	5	Unbalanced crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	7.7	185.3	B
H 39	Crataegus monogyna (Hawthorn)	Young	1	15	3(0.5)	0.5(W)	1	1	1	1	Limited inspection - situated on adjacent land. Linear hedge.	Good to Fair	40+	No action required.	0.2	0.1	C
G 40	Tilia X europaea (Common Lime)	Semi-mature	1	150	7(2)	1.5(W)	2.5	2.5	2.5	2.5	Limited inspection - situated on adjacent land. Individuals crowns restricted by group. Linear boundary group.	Good to Fair	40+	No action required.	1.8	10.2	C

Tree No.	Species	Age	Stems at 1.5m	Stem Dia (mm)	Height (Crown Hgt) (m)	FSB (D) (m)	Branch Spread (m)				Observations	Cond	Life Exp	Tree Works Required to Enable Development	Root Protection Area (RPA)		Retention Category
							N	E	S	W					Radius (m)	Area (m^2)	
T 41	Acer pseudoplatanus (Sycamore)	Mature	1	850	17(2)	1.5(W)	7.5	7.5	7.5	7	Asymmetrical crown. Occasional pruning wounds. Crown - minor deadwood (less than 50mm).	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	10.2	326.9	B
T 42	Acer pseudoplatanus (Sycamore)	Semi-mature	1	200	8(3)	3(S)	1.5	2	3	2	Asymmetrical crown. Crown - deadwood (Equal or less than100mm).	Fair	10+	Remove individual dead, defective or diseased branch(es).	2.4	18.1	C
T 43	Acer pseudoplatanus (Sycamore)	Early-mature	1	450	12.5(3)	3(W)	4	2	2	5	Asymmetrical crown. Crown - deadwood (Equal or less than100mm).	Fair	40+	Remove individual dead, defective or diseased branch(es).	5.4	91.6	C
T 44	Acer pseudoplatanus (Sycamore)	Early-mature	1	550	14(3)	3(W)	3	3.5	3	5	Asymmetrical crown. Cavity in stem <30%. Tear-out wound on stem.	Fair to Poor	<10	Remove for arboricultural reasons.	6.6	136.9	U
T 45	Acer pseudoplatanus (Sycamore)	Early-mature	1	420	15(3)	3(W)	2	3.5	3.5	5	Asymmetrical crown. Crown - minor deadwood (less than 50mm).	Fair	40+	Remove individual dead, defective or diseased branch(es).	5.0	79.8	C
T 46	Acer pseudoplatanus (Sycamore)	Early-mature	1	450	15(4)	4(W)	2.5	3	3.5	5.5	Asymmetrical crown. Crown - minor deadwood (less than 50mm). Limited inspection - dense ivy on stem/base.	Fair	40+	Remove individual dead, defective or diseased branch(es).	5.4	91.6	C
G 47	Crataegus monogyna (Hawthorn)	Semi-mature	3	50	3(0.5)	0.5(W)	1	1	1	1	Multiple pruning wounds. Individuals crowns restricted by group. Linear group.	Fair	40+	No action required.	1.0	3.4	C
T 48	Acer pseudoplatanus (Sycamore)	Early-mature	1	550	16(6)	6(W)	4.5	6	6	5.5	Asymmetrical crown. Multiple pruning wounds. Limited inspection - dense ivy on stem/base. Cavity in stem <30%.	Poor	<10	Remove for arboricultural reasons.	6.6	136.9	U
G 49	Acer pseudoplatanus (Sycamore)	Early-mature	1	450	16(4)	5(W)	5	5	5	5	Crown - minor deadwood (less than 50mm). Individuals crowns restricted by group.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	5.4	91.6	B
T 50	Acer pseudoplatanus (Sycamore)	Early-mature	1	400	16(7)	7(W)	3	3	4	3	Asymmetrical crown. Large cavity in stem >30%.	Fair to Poor	<10	Remove for arboricultural reasons.	4.8	72.4	U

Tree No.	Species	Age	Stems at 1.5m	Stem Dia (mm)	Height (Crown Hgt) (m)	FSB (D) (m)	Branch Spread (m)				Observations	Cond	Life Exp	Tree Works Required to Enable Development	Root Protection Area (RPA)		Retention Category
							N	E	S	W					Radius (m)	Area (m^2)	
G 51	Acer pseudoplatanus (Sycamore)	Early-mature	1	450	16(7)	7(W)	5.5	5.5	5.5	5.5	Limited inspection - situated on adjacent land. Not inspected - located away from the proposed development area.	Good to Fair	40+	Remove individual dead, defective or diseased branch(es).	5.4	91.6	B
T 52	Acer pseudoplatanus (Sycamore)	Early-mature	1	600	15(6)	6(N)	6	6	6	6	Dead.	Dead	<10	Remove for arboricultural reasons.	7.2	162.9	U
G 53	Crataegus monogyna (Hawthorn)	Semi-mature	3	100	3(0)	0(N)	1.5	1.5	1.5	1.5	Limited inspection - restricted access. Limited inspection - dense undergrowth. Individuals crowns restricted by group. Linear boundary group.	Good to Fair	40+	No action required.	2.1	13.6	C
T 54	Crataegus monogyna (Hawthorn)	Semi-mature	3	100	5(1)	1(N)	2	2	2	2	Multi-stemmed from ground level. Limited inspection - dense ivy on stem/base.	Fair	10+	No action required.	2.1	13.6	C
T 55	Fraxinus excelsior (Ash)	Semi-mature	2	300	10(3)	3(E)	4	4	4	4.5	Twin-stemmed from ground level. Limited inspection - dense undergrowth. Tree RPA located within existing hard surface area.	Fair	40+	No action required.	5.1	81.4	C
G 56	Fraxinus excelsior (Ash), Acer pseudoplatanus (Sycamore)	Young	1	100	6(1)	1(E)	2	2	2	2	Limited inspection - dense undergrowth. Individuals crowns restricted by group.	Fair	40+	No action required.	1.2	4.5	C
T 57	Fraxinus excelsior (Ash)	Semi-mature	1	300	8(3)	3(S)	2	2	3	3	Unbalanced crown. Limited inspection - dense undergrowth.	Fair	40+	No action required.	3.6	40.7	C

19 Appendix 2: Tree Impact Plan


N
NW
NE
W
E
SW
SE
S
Treated water to discharge into the River Derwent subject to Environment Agency approval. To be agreed at detailed design stage.
T1
T3
T4
T6
T2
T7
T11
T10
T14
G9
T15
T19
T17
T21
G20
T24
T23
T25
T26
Retained trees crown lifted to ensure adequate clearance for cabins.
Gravel/Scalpings
T27
T28
T29
Plastic Track
T30
Proposed hedge along perimeter to provide screening
T31
T32
H34
FFL. 10.30
T33
T35
T36
T37
T38
Treatment plant by Klargestor and appropriate control panel / warning system. size to be confirmed at detailed design stage.
G40
T41
H39
T43
T42
G51
T45
G47
T46
G56
G49
T57
T55
T54
G53
A1079
T55 crown lifted over entrance to enable access for construction traffic/plant.
Category 'U' trees recommended for removal in initial tree survey are omitted from impact plan. Refer to Tree Constraints Plan for locations.
0
5
10
15
20
25
30
35
40
45
50
Scale bar
TREE SURVEY SOLUTIONS
Appendix 2: Tree Impact Plan
Site: York Road, Wilberfoss, York.
Project Ref: 23019
Drawing Ref: 001
Scale: 1:500
Printing size: A3
T1
Tree reference number. Sequential number preceeded by item type: T=individual tree, G=group, H=hedge, W=woodland group.
Retained trees
Trees removed
Root protection area (RPA)
Impacts to RPAs of retained trees. Refer to AIA report for further details.
-This plan should be printed in colour; a monochrome version should not be relied upon.
-This plan should be read alongside the associated arboricultural report.
-Any development proposals should be designed with consultation with the appointed arboriculturalist to avoid delays/rejection at planning or breach of tree-related legislation.

20 Appendix 3: Explanation of Tree Schedule

Measurements/ references

Tree reference number: Each item (i.e. tree, group, hedge or woodland group) is assigned a sequential reference number, proceeded with a letter to identify what type of vegetation is being assessed. T = individual tree, G = group of trees, H = hedge and W = woodland group.
Species – common and botanical name: The species of each item is identified by its common name and botanical/scientific name, in accordance with the ICN (International Code of Nomenclature for algae, fungi and plants) or the ICNCP (International Code of Nomenclature for Cultivated Plants) as appropriate. Where multiple species are identified, the common names are listed in the 'Observations' section and the botanical names are omitted and replaced with *'Mixed''*.
Age class: Is listed as young, semi-mature, early-mature, mature, over-mature, ancient or dead. For groups, hedges and woodland groups the age may be listed as a range (e.g. young to early-mature).
Height: Measured from ground level in metres. For groups, hedges and woodland groups the height listed may be in the form of a range (e.g. 8-15m), an average or the highest tree encountered, to the discretion of the surveyor.
Crown height: The height at which the main canopy begins. For off-site trees which overhang the site, the height listed is the height at which they overhang. Where the canopy is at different heights, the measurement is either the lowest crown height or the average height, to the discretion of the surveyor. For groups, hedges and woodlands groups, the crown height is often '0' as the crown heights fluctuate throughout the group, starting from ground level.
First significant branch height and aspect: Height at which the first significant branch emerges from the main stem/s and the aspect using the cardinal points (NESW). Where multiple branches emerge at the same height from different aspects, 'N/A' is typically used. Most groups, hedges and woodland groups have no prevailing significant branch height and direction, so 'N/A' is used in this case also.
Crown spread: Crown spread is typically measured using the cardinal points (NESW) for individual trees. For groups, hedges and woodland groups several different methods may be employed. The appropriateness of each one is to the discretion of the surveyor. For small groups, the furthest extent of the crown to each aspect may be measured and then drawn around to create an overall spread. Alternatively, an average crown spread may be listed. For linear features such as hedges, an average width may be stipulated. Otherwise, 'See plan' is used where the canopy has been plotted using the topographical survey, GPS, estimation (to the best ability of the surveyor) or a combination of these.
Stem diameter: The diameter of the main stem/s at 1.5m above ground level is listed in millimetres. Where more than five main stems are encountered, an average stem diameter is used. For groups, hedges and woodland groups, the diameter listed is typically an average or the largest stem encountered, to the discretion of the surveyor. In some circumstances multiple diameters may be recorded for groups and plotted separately on the Tree Constraints/Protection Plan.
No. of stems: The number of main stems which are being measured for their diameter.
Root protection radius (RPR): A calculation based on the No. of stems and the stem diameter/s. The radius is the extent of the Root Protection Area (RPA) expressed as the diameter of a circle. It applies to individual trees and individual trees within groups. NB: The RPA shown on the Tree Constraints/Protection Plan takes precedent over the RPR listed in the Tree Survey Schedule. This area should be avoided to prevent damage to retained trees.

Evaluations

Physiological condition: Describes the physiological health/vitality of the tree as good, fair, poor or dead.

Structural condition: Describes the biomechanical integrity of the tree as good, fair, poor or dead.
Observations: A description of the item being surveyed including the most notable defects or characteristics relevant to the assessment.
Preliminary management recommendations: Work recommendations made with reference to the existing condition of the tree in the current context and usage of the site.
Priority of works: Where preliminary management recommendations are made, a priority rating is assigned to guide the client to allocate their resources in a targeted manner. The four priority ratings are as follows: Priority 1: Urgent, Priority 2: High, Priority 3: Moderate, Priority 4: Low.
Remaining life expectancy: Is described as dead, <10, 10+, 20+ and 40+ years. It is an estimation only, based on the condition of the tree and the current context of the site.
Retention category: A categorisation method to identify the quality and (non-fiscal) value of the item being surveyed, in accordance with BS5837:2012, as follows:
Category U – "Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years".
Category A – "Trees of high quality with an estimated remaining life expectancy of at least 10 years".
Category B – "Trees of moderate quality with an estimated remaining life expectancy of at least 20 years".
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".
Sub-category: Trees that are retention category 'A', 'B' or 'C' are then assigned a sub-category (or multiple sub-categories) which justify their categorisation. '1' = mainly arboricultural qualities, '2' = mainly landscape qualities and '3' = mainly cultural values, including conservation. The number of sub-categories assigned to a tree does not confer on them greater value than those with fewer sub-categories.

21 Appendix 4: Glossary of common tree defects/observations

Bark wounds: Damaged caused to a tree stem or branch where the bark has been damaged or removed, often exposing the underlying wood.
Canker/s: Damage caused by disease (principally fungi or bacteria), leading to deformed areas of bark and usually confined to the outer edges of the stem/branch.
Cavity/decay pocket: holes or entrances leading into the interior parts of the tree timber, either caused by, or accelerated by decay (principally decay fungi).
Chlorotic: Discolouration of leaves due to some form of ill-health in the tree. Can be caused by a number of factors including nutrient deficiencies, disease or damage to the root system.
Coppice/d: Coppicing is an ancient and still widely utilised tree management practice whereby trees are felled nearly to ground level and then allowed to regrow; often with multiple shoots arising from the edges of the original tree stump.
Crossing/rubbing branches or stems: This phrase refers to where branches or stems are rubbing against each other causing bark wounds by abrasion. Crossing/rubbing branches can also lead to the production of included unions (see below).
Deadwood: Completely dead sections of branch or stem, still present within the crown. Deadwood is often created by a natural process not linked with ill-health. However; if there is excessive deadwood within the crown of a tree it can be sign of stress. Deadwood is often described as 'minor' or 'major'. Within this report, 'minor' should be taken to mean up to a maximum of 7cm in diameter and less than 2m in length. 'Major' is greater than 7cm in diameter and/or greater than 2m in length. If there is a combination of both types within a tree's crown, then 'major' is used.
Decay: Decay describes a process by which woody tissues are broken down, principally by decay fungi and invertebrates. Where standing trees are subjected to decay, it can weaken their structure to the point where they collapse or break-apart so an assessment of the decay is needed by a specialist.
Decline: Trees in decline usually describe trees that are dying back from the tips of their branches, moving inwards to the interior of the crown. It may be the early signs of a tree's approaching death; however, it can also be part of a re-balancing process where the tree is reducing the size of its crown to something which it can better manage in terms of energy usage.
Epicormic growth: Small and often plentiful shoots that typically arise from the base of a tree, on the main stem or within the inner crown. For many species this is very common and not a cause of concern. However, in some cases it can be an indicator of stress.
Etiolated/drawn-up: These terms usually describe smaller trees that have been in heavy competition and shaded by larger specimens. This causes them to grow up towards the light, giving them a narrow crown and generally a poor shape/form. Additionally, 'etiolated' may indicate poor health, often as a result of becoming out-shaded, whereas 'drawn-up' usually describes a poor shape and form but with no significant health implications.
Fibre buckling: An acute bulge in a tree stem that is not due to the presence of underlying decay but to the localised compression of woody fibres. It is not generally a significant cause of concern.
Form: This principally describes the shape of the tree and how well it has developed.
Girdling roots: Roots which wrap around and restrict other roots or the main stem. Often caused by poor planting/nursery practices.
Hanger/s: Broken branches in the crown which are either still partially attached or have severed from the parent branch by are held up by other branches in the crown.
Hazard beam: A particular type of commonly occurring crack that occurs longitudinally along a bend in a branch.
Included bark/Included union: This occurs in tight branch/stem forks where due to radial growth of the two branches/stems, they rub against each other and meet. The bark of the two tree parts is then trapped and pressed together. In some cases, where the tree does not compensate for this properly, weak unions can occur which are predisposed to failure.

Lesions: Bleeding exudations, typically on the main stems of trees which indicates the presence of disease or ill-health.
Monolith: This can either describe a dead standing tree, or one which by tree surgery has had all branches removed back to a single standing stem.
Occluding/Occlusion: The process by which trees seal over wounds with new growth.
Pollard/ed: A tree surgery operation where the crown of the tree is reduced back to many small stubs, creating a crown reminiscent in shape to a candelabra. It is then allowed to regrow with new shoots forming from these pruning points. Over time this operation is repeated on a cyclical basis to create trees of formal shape and aesthetic.
Pruning wounds: The points in a tree's crown where pruning cuts have been made.
Reverting/reversion: A process where cultivated varieties of plants revert to their natural foliage colour and type.
Ring-barked: The removal of a 'ring' of bark around a tree stem, most commonly caused by vandalism or browsing damage by livestock.
Root plate: The root plate comprises of the main structural roots of the tree. Where uprooting occurs, these roots and the soil around them lifts up on one side like a plate.
Stub (branch): Either where branches have been cut horizontally and not back to a growth point, or the short section of a branch where it meets the main stem.
Tear wound/branch tear: The resulting wound where branches/stems have been torn off, often encompassing the branch stub.
Topped: The tree surgery practice of removing a tree's crown back to the main stem, or a fixed point. This is generally bad practice and is only advised in exceptional circumstances.
Vehicle strikes: Where vehicles have conflicted with trees, usually resulting in bark wounds.
Veteran Tree: A tree which displays may features characteristic of, but not necessary exclusive to, ancient trees. These features are often in other contexts considered to be defects but are of ecological value and provide niche deadwood habitats. Such features include many of those defects listed here which in the right context can be retained to provide valuable wildlife benefits.
Vitality: The physiological health of the tree, expressed by the colour and size of the foliage, extension of shoot/root growth, proliferation of buds, creation of fruits and flowers and the speed of growth, including occlusion.

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