

**BS5837:2012
TREE SURVEY & ARBORICULTURAL
CONSTRAINTS REPORT**

Wiggleys Fun Farm

**Aberbaiden Road, Ffordd-Y-Gyfraith, Cefn Cribwr
CF32 0BT**

Grid Ref: SS 865844

Date: October 2023

Cadno Contracting & Consultancy

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Tree Survey & Arboricultural Constraints Report

CONTENTS

Summary

Section 1 Introduction

Section 2 Inspection and General Observations

Section 3 Tree and root protection area schedules

Section 4 Arboricultural impact assessment

Section 5 Recommendations

Section 6 Conclusion

Section 7 References

APPENDICES

Appendix 1 Terms and definitions used in the tree schedule.

Appendix 2 Design and specification of tree protection barrier.

Table 1 Cascade chart for tree quality assessment

Site plan(s) showing the position of the schedule trees with their colour coded BS category, and the position of the root protection zone fencing.

Section 1. Introduction

1.1 The following tree report has been prepared at the request of Vanessa Dalton of Wiggleys Fun Farm Ltd. The instructions were to survey the trees located along the edge of a narrow, linear woodland to the west of the existing Wiggleys Fun Farm buildings and an area of former car parking and in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction, in respect to provide a report on all the trees which could be affected by the development.

A total of eleven individual trees and three groups are shown on the attached site plan and these were the only trees that required surveying for this report.

1.2 The details of the individual trees are listed in the tree schedule and the terms used in the schedule with their definitions are listed in Appendix 1. Further information is available via the Tree Terms website which can be accessed via the www address in Section 5. References.

1.3 Only the features apparent at the time of the inspection could be considered and no liability can be accepted regarding trees or their parts that were inaccessible or obscured in part or in whole. It has to be emphasised that although the health and safety of the trees is part of the assessment methodology used, this report is only intended for planning purposes, therefore it should not be construed as an assessment of tree safety. As part of this study faults may be identified and recorded but it remains the landowners / client's responsibility to take the appropriate action. The assessor / surveyor can accept no liability for damage or injury sustained as a result of the failure of any tree or its parts.

1.4 A topographical survey plan was provided but it did not show the locations of the trees.

1.5 This report does not provide information on any conflicts between existing tree roots and buildings or infrastructure.

1.6 This report has been issued as a single PDF file. The tree protection plan (TPP) may need to be printed independently to evaluate and consider any difference in its size and orientation to the report's standard A4 format.

Section 2. Inspection and General Observations.

2.1 The tree survey was undertaken on the 27th October 2023 and was undertaken from ground level with no climbing inspections involved. The weather conditions during the survey was warm with full sun and a light breeze. The trees surveyed are located on the western side of the proposed development area which is bordered by a liner seasonal stream/ditch line, with the trees surveyed on the eastern side of the ditch bank along a former agricultural fence line.

2.2 Wiggleys fun farm is located close to the small settlement of Ffordd y Gyfraith and Bridgend. The area is formerly farmland, with a series of enclosed fields and some elevated field boundaries, with areas of former mineral workings to the western half of the site, now forming areas of conifer plantation (non-ancient). The site has a series of likely planted Beech *Fagus sylvatica* trees characterising the former field boundaries, with areas of planted Sitka Spruce *Picea sitchensis* following a series of overland drainage ditches (seasonal) and wetter areas, likely as a result of former historic mineral extraction.

2.3 Root morphology. The root spread of the trees surrounding the proposed development area will have been influenced and restricted by the semi-impermeable surface of the tracks and footpaths which access and surround this area. The growing environment beneath these footpaths will be compacted for tree roots generally due to disturbance. In all probability the roots will have exploited the disturbed and

undisturbed ground and are bound on the western aspect of the development area by a seasonal stream/ditch line. Some of the trees display historic setting by a lean towards the seasonal ditch/stream with roots likely to extend under and into the development area, with extent likely to be defined by extent of current canopy. Canopy spread is likely to have been reduced, historically due to presence of fast-growing Sitka Spruce *Picea sitchensis*, planted to the west of the former field boundary where the tree survey has been conducted.

2.4 The trees in this area are not protected with a tree preservation order and are not within a conservation area.

2.5 A total of 11 trees were inspected. Their individual positions are plotted on the site plan.

2.6 The quality rating for the trees on or affecting this site is summarised as follows.

BS5837 Quality category	Total number of individual trees surveyed	Total number of tree groups surveyed	Total number of woodlands surveyed	Total number of hedges surveyed	Total
A	7	0	0	0	7
B	3	0	0	0	3
C	1	0	0	0	1
U	0	0	0	0	0
Total A,B,C,U	11	0	0	0	11

2.7 Soil assessment. The site's soil was assessed by desktop analysis using the Soilscales website, www.landis.org.uk/soilscales/, which identified the area as having a slowly permeable seasonally wet and acid loam or clay type soil. This soil assessment should only be used as a general guide.

Section 3. Tree and root protection area schedules.

Tree No.	Species	Ht (m)	Dbh (cm)	Age	Crown Spread (m)				Cat.	Notes
					N	E	S	W		
1	Sessile Oak	20	56	LM	3	3.4	3.8	3.2	B	
2	Beech	18	38	EM	1	3	6	3	A	
3	Sessile Oak	12	60	LM	5.5	5.1	8.7	5.2	B	Tree has historic pruning wounds along eastern side with main canopy extending over south side overtopping adjacent Beech trees.
4	Beech	17	17	EM	3	3.4	3.3	2	A	
5	Sessile Oak	8	62	LM	0	0	1	2	C	Tree is missing main crown through crown retrenchment and historic loss.
6	Holly	2	6	SM	1.5	1.5	1.5	1	A	
7	Beech	11	12	EM	2	2	2	1	A	
8	Beech	18	19	SM	2	2.5	2.5	1.8	A	
9	Sessile Oak	20	30	LM	1.2	1	3	1.4	A	
10	Beech	18	33	SM	4	4.4	3.9	3	A	
11	Sessile Oak	2.2	18	SM	2	1.5	1.2	0	C	Crown loss/missing. Poor specimen with poor historic wounding to lower basal areas. Consider removal.

Table C

Tree No.	Species	Mean Stem Dia (cm)	Radius	RPA 1 (m ²)	Minimum radial protection (m)		Justification for RPA modification	Position of protective barrier
					RPA 2	Modified?		
1	Sessile Oak	56	6.72	21.1		No		Perimeter of RPA
2	Beech	38	4.56	14.32		No		Perimeter of RPA
3	Sessile Oak	60	7.2	22.61		No		Perimeter of RPA
4	Beech	17	2.04	6.40		No		Perimeter of RPA
5	Sessile Oak	62	7.44	23.37		Yes	Due to crown spread is significantly less than stem what would be associated typically with this stem diameter recorded due to historic crown loss.	
6	Holly	6	0.72	2.26		No		Perimeter of RPA
7	Beech	12	1.44	4.52		No		Perimeter of RPA
8	Beech	19	2.28	7.16	5	Yes	Due to crown spread and position of tree with majority of crown on south and western side of tree. Likely active root plate extent on eastern side is greatly reduced due to historic car parking area.	Perimeter of RPA
9	Sessile Oak	30	3.6	11.30	5	Yes	Due to crown spread and position of tree with majority of crown on south and western side of tree. Likely active root plate extent on eastern side is greatly reduced due to historic car parking area.	Perimeter of RPA
10	Beech	33	3.6	12.44	5	Yes	Due to crown spread and position of tree with majority of crown on south and western side of tree. Likely active root plate extent on eastern side is greatly reduced due to historic car parking area.	Perimeter of RPA
11	Sessile Oak	18	2.16	6.78		No		Perimeter of RPA

4.1 This section will assess the implications, if any, that the proposed development will have on the 45 trees in the tree schedule – Table B and provide advice on arboricultural actions that will mitigate any impact resulting from the proposed development.

4.2 This information can then be used to evaluate the impact of the development on the tree(s) and if any remedial measures are required.

4.3 Please note that Table D of the AIA has been evaluated for the demolition, construction and post development phases and on the assumption that the renovation work in this area will remain within the existing confines of the site. Any design changes after this time may require an amendment of the AIA.

Table D	Issues	Observations	Impact
Design Phase	Category A	The extent of the current proposals do not infringe within the RPA of the trees identified	
	Category B	The extent of the current proposals do not infringe within the RPA of the trees identified	
	Category C	As Cat. B	
	Category U	As Cat. B	
	Structures in RPA	There are no planned structures in the defined RPA	
	Services in RPA	None	
	Changes to existing ground levels	To be confirmed	
Construction Phase	Demolition	None planned	
	Site Access	It is recommended that the site access point for delivery of machinery, plant and materials be confined to outside of the maximum root plate protection area (7.4m) from existing agricultural fence line along stream/development area.	
	Working Areas	Suggested that the current surfaced area within the RPA should be marked as out of bounds for materials storage or machinery use, particularly given the close proximity of the adjacent seasonal stream/ditch watercourse.	
	Site Welfare	N/A	
	Vehicle Parking	There is adequate parking in the adjacent car parking area. It is suggested that	

		no vehicles are parked within the development area other than plant machinery in use and outside the RPA.	
Post Development	Tree Pruning/Maintenance	If the tree work in Table B is undertaken before the start of any dismantling work any further pruning will be limited to general maintenance.	
	Tree Roots	Future root growth around the perimeter of the site may have an impact and the area should be inspected on an annual basis and any damage repaired promptly.	
	Shading	There will be some shading and issues with falling leaves. General maintenance should keep this issue within acceptable limits.	

Key – prior to mitigation measures

	No impact from development and no mitigation measures required.
	Some impact which will require mitigation measures.
	Low impact which may require mitigation measures.
	High impact which will require an amended design or tree removal.

4.4 Any infringement of the root protection areas of the retained trees to allow a sufficient area for the construction work will require ground protection. This should comprise of a membrane laid on the soil surface with a 10cms covering of wood chippings and finally the installation of bog mats which can then be used for the passage of materials and site staff. Additional measures such as a cellular confinement system for new footpaths may need to be considered.

4.5 Due to the location the tree pruning and removal will not be externally visible.

Section 5. Recommendations.

5.1 To protect the trees root protection zones prior to any ground or construction work protective fencing as shown in Appendix 2 must be erected at an adequate distance from the trees. The minimum distances between the base of the main stem and the fencing are shown in Section 3, Table C under the RPA 2 column. After consultation and agreement with the local planning authority if the fence cannot be erected at the recommended distance from the tree it should be erected at the maximum distance possible and ground protection measures as stated in 4.4 above must be implemented.

5.2 All tree work must be completed by suitably qualified and competent arborists in accordance with the guidelines in BS3998:2010 Tree Work – Recommendations and current good practice.

5.3 No burning of waste products must be undertaken in the vicinity of retained trees.

5.4 To minimise any ground disturbance the removal of all stumps within the RPA's of retained trees must be undertaken by a stump grinder. Adequate ground protection with the use of bog mats to prevent soil compaction is usually required.

5.5 Soil contamination from cement mixing and washing must be avoided. If due to the topography of the land there is a risk of any contamination entering the RPA's and vicinity of retained trees adequate precautions to contain all pollution e.g. heavy duty plastic sheeting and sand bags, must be implemented.

5.6 Prior to any tree work the structure of the individual trees and surrounding area should be checked by a suitably competent and qualified person for protected species such as nesting birds and bats. If possible all tree work operations should be undertaken when the minimum disturbance is caused to the local wildlife.

5.7 The construction of new footpaths, parking and/or turning areas within root protection zones should be avoided. If this is unavoidable any works within these zones will require the installation of a cellular confinement system. It would be advisable to obtain the advice of a suitably qualified arborist prior to this type of work.

Section 6. Conclusion

6.1 If the recommendations in BS5837:2012 and this report are followed due to the location of the trees and the utilisation of the existing buildings footprint for the building in this development should not have a significant impact on the majority of the existing trees. Additional precautions such as ground protection will be required for any work within the root protection areas of retained trees.

A root plate protection area (RPA) should be created using methodology as outside in Appendix 2, with all machinery, materials and operations associated with the construction of the new building, removed from within that protection area. This RPA is defined as the maximum RPA distance of 7.4m from the current tree and fence line into the development area. No soil excavations should take place within the RPA, before, during or after the construction phase. Given the surfaced nature of the site, this RPA could form a service access into adjoining buildings or fields beyond and would be suitable for light traffic conditions.

Section 7. References.

- British Standard 5837 : 2012 Trees in relation to design, demolition and construction.
- British Standard 3998 : 2010 Tree Work – Recommendations.
- Tree surveys – A guide to good practice (2005). Fay, Dowson & Helliwell.
- Principles of tree hazard assessment and management (1999). Lonsdale.
- National Joint Utilities Group Guidelines for the planning, installation and maintenance of utility apparatus in
proximity to trees. Volume 4: Issue 2
- <https://treeterms.co.uk>

Tree no. - tree tag / plan numbers

Tree name - Common English name

Height - Height in metres

Stem diameter - Stem diameters measured as per BS5837:2012 recommendations. If due to climbing plants, dense vegetation or restricted access a direct measurement is not possible the diameter will be estimated.

Age class - SM - Semi mature EM - Early mature M - Mature LM - Late mature

Crown spread

- Crown radius in metres to North, South, East and West

Low branches - Distance to the lowest branch from ground level.

- N/A - not applicable due to tree form.

RPA 1 - Recommended root protection area in square metres.

RPA 2 - Recommended root protection area radius measured from the base of the tree.

BS category - refer Table 1 for classification and further information.

Appendix 2

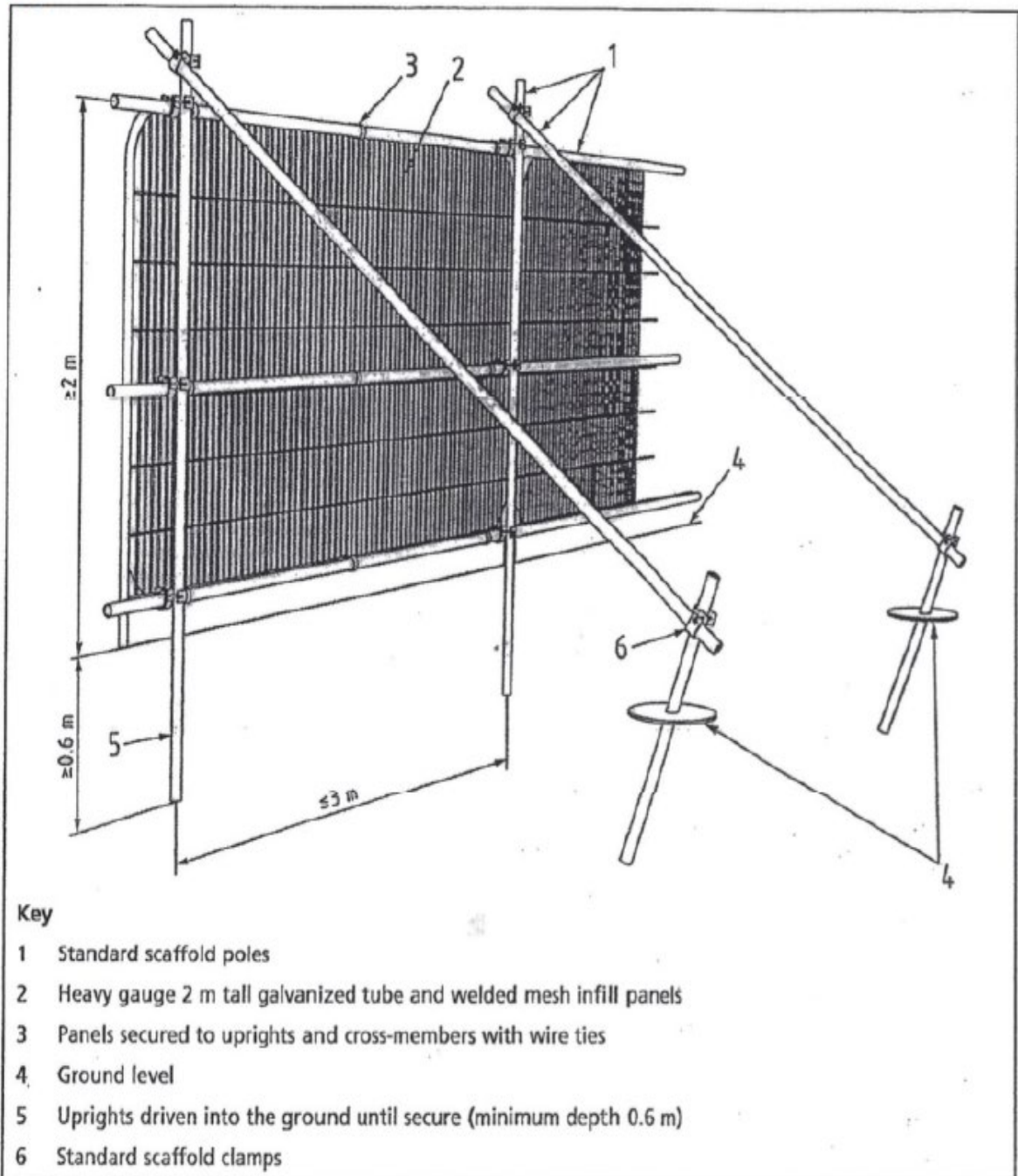
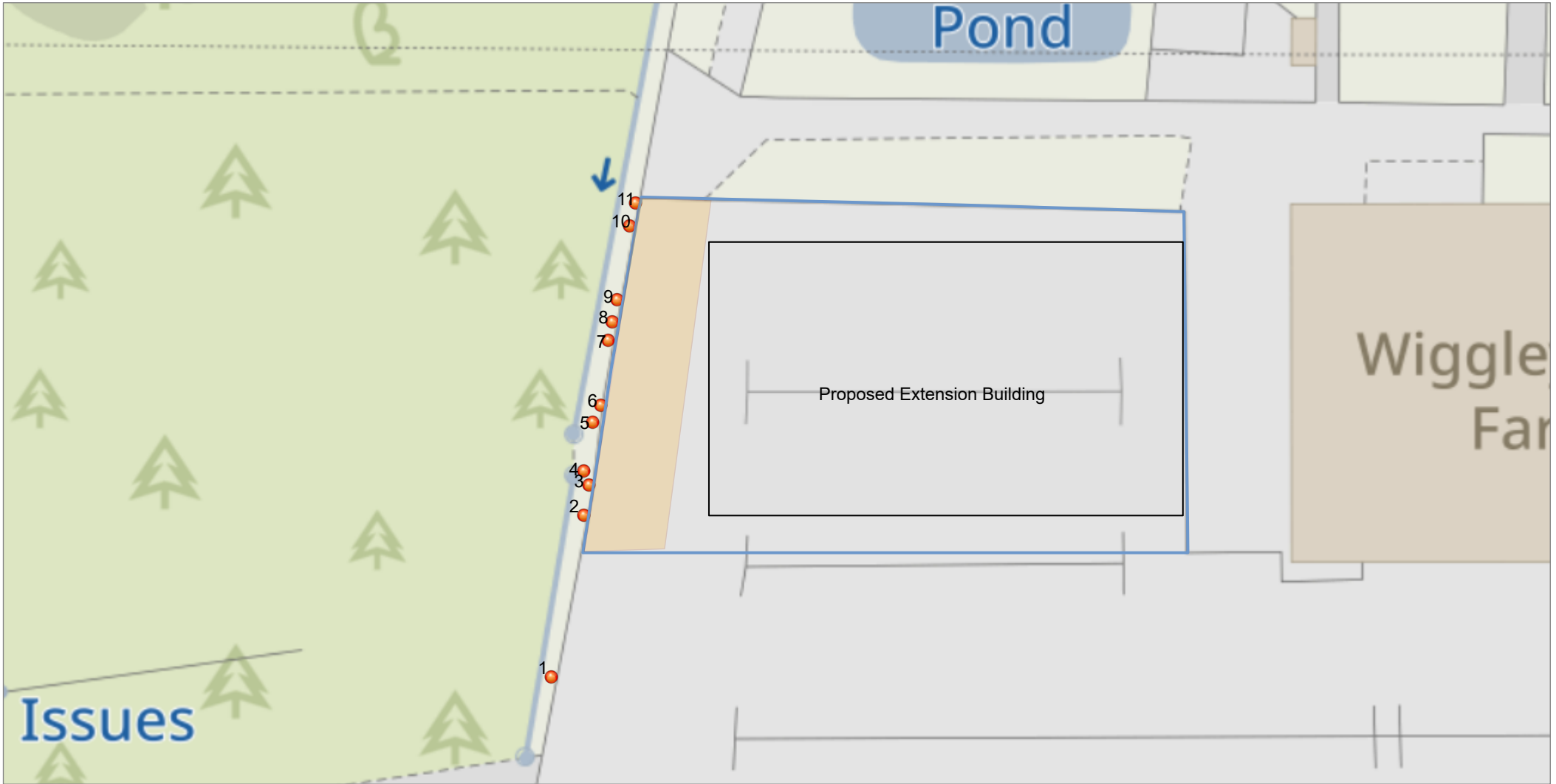


Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (Including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
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	<ul style="list-style-type: none"> • 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 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 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 	
<i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve;		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities
		3 Mainly cultural views 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, groups or woodlands of particular visual importance as arboricultural and/or landscape features
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant 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 significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
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 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in numbers, usually growing as groups or woodlands, such that they attract 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
		Trees with no material conservation or other cultural value




Areas

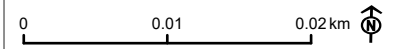
 Development Area

 New Building

 Tree Location

 Rootplate Protection Area (RPA)

Wiggles Fun Farm - Tree Survey 2023



Scale: 1:500 @A4

Date: 29 October 2023

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