

Tivy Dale Drive Cawthorne

Arboricultural Survey

August 2023

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Supervised and approved by	Andrew Westgarth (CEnv BS 5837:2012)
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1 Introduction

- 1.1.1.1 This report presents the results of an Arboricultural Survey undertaken on the site of 12 Tivy Dale Drive, Cawthorne Barnsley S754EN. The surveyed area is approximately 580 m² and is centred on Grid Reference SE280078.
- 1.1.1.2 The Arboricultural Survey has been undertaken to provide supporting information for proposed development of the site.
- 1.1.1.3 The Arboricultural Survey includes a Tree Constraints Survey which was conducted on the 25th July 2023 by Ben Harrop (Arb Consultant) under supervision and approval of Andrew Westgarth (CEnv BS 5837:2012)
- 1.1.1.4 The survey-site is a domestic property with one existing building, outbuildings at the rear of the property, front and back gardens, and a driveway. The site is bounded to the Southeast by Tivy Dale Drive, to the Northeast and Southwest by neighbouring properties, and to the Northwest by an agricultural field.

Figure 1. Site location and approximate survey area boundary (Aerial imagery dated 2022)



2 Methodology

- 2.1.1.1 This Arboricultural survey covers those trees or groups of trees which are considered relevant for the brief. During the survey all relevant individual trees and groups of trees located within and close to the boundary of the site were assessed.
- 2.1.1.2 The objective of the survey was to collect tree data relevant to the proposed works at the site and to categorise individual trees or tree groups in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'¹ based on their condition, quality and future potential.
- 2.1.1.3 The purpose of the categories within BS 5837:2012 is not to determine whether retention of trees is desirable, 'The purpose of the tree categorization method, which should be applied by the arboriculturist, is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of the development occurring.' (BS 5837:2012, Section 4.5.2). This survey should therefore be regarded as an initial appraisal with observations recorded for trees within and adjacent to the site. Remedial tree works, foundation design and material specification are not covered within this report.
- 2.1.1.4 The location of the trees is shown within the attached Tree Constraints Plan (TCP) (Appendix 3). A detailed inspection of the trees with respect to decay, defects and hazard is not included. The tree locations are as shown on the topographical drawing supplied.
- 2.1.1.5 The site survey was conducted on the 25th July 2023 by Ben Harrop (Arb Consultant) in accordance with the BS 5837:2012 methodology¹. This was under supervision of and then approved by Andrew Westgarth (CEnv BS 5837:2012).
- 2.1.1.6 Information collected during the survey included species, height, stem diameter, branch spread, height of crown clearance, age class, physiological condition, structural condition, estimated remaining contribution and category grade. The survey was made at ground level using visual assessment of the tree canopy and stem. No removal of vegetation, digging or drilling was undertaken during the survey and parts of the stems of some trees remained partly obscured by vegetation.
- 2.1.1.7 The TCP in Appendix 3 shows the positions, canopy spreads and Root Protection Areas RPA of the trees included within the survey. The RPAs have been calculated in accordance with Section 4.6 of BS 5837:2012. A root protection area for one tree is ordinarily circular, an area defined as the zone within a given radius from the stem. Where significant ground constraints such as roads, walls buildings or waterbodies are likely to have restricted the root growth of a tree, in order to reflect this, the RPA has been adjusted to form a non-circular polygon which maintains the same area as the RPA would have been if it had been circular in shape, in accordance with paragraph 4.6.2 of BS5837:2012.
- 2.1.1.8 When considering the layout of the site and the retention of trees, proposals should generally be kept outside of both the RPA and the canopy spreads. It may however be possible to encroach into these with access roads, footpaths and parking areas assuming the existing ground levels can be maintained, and the appropriate construction methods are used. No liability can be accepted by Quants Environmental in respect of the trees or for events which happen after the time of the survey.

¹ British Standards Institution (BSI) BS 5837:2012. Trees in relation to design, demolition and construction – Recommendations. Published by BSI Standards Limited 2012. ISBN 978 0 58069917 7.

3 Results

3.1.1.1 The survey results are shown in Appendix 2 (Tree Survey Results – Table 1) and Appendix 3 (Tree Constraints Plan). The trees included within this survey comprise of:

Four trees which were categorised as grade C

One hedgerow which was categorised as grade C

3.1.1.2 The species on site consist of: two copper beech trees *Fagus sylvatica* f. *purpurea*, a magnolia *Magnolia* Sp., an apple *Malus domestica* and a Leylandii hedge *Cupressus* × *leylandii*.

3.1.1.3 A Tree Preservation Order (TPO) search for the survey area revealed a historic TPO area (Tree Reference Number P1) dated from 1963 (Barnsley Council website accessed July 2023).

3.1.1.4 T1 and T2 are two copper beech trees in the front garden, both trees exhibit signs of having been heavily pruned to suppress vertical and lateral growth, in order to maintain a regular 'lollipop' form at 4m height. Both trees are in good health with no signs of decay or structural instability. Due to their small size and limited visual contribution to the landscape they have been categorised as grade C.

3.1.1.5 T3 is a small apple tree in the corner of the property. It shows no signs of ill-health. It has been categorised as grade C.

3.1.1.6 T4 is a Magnolia to the rear of the property, it has a spreading form with three main stems at 1.5m. It has been categorised as grade C.

3.1.1.7 H1 is Leylandii hedge running along the boundary in the neighbour's garden at number 10 Tivy Dale Drive. It is well maintained at approximately 4m height, with no visible defects. It has been categorised as grade C.

4 Conclusions and Recommendations

- 4.1.1.1 Where possible Category C trees should be retained to allow retention of existing canopy within the site, however, where removal is required, suitable replacement planting with trees of improved form will likely increase the longevity of the canopy of these trees.
- 4.1.1.2 An Arboricultural Impact Assessment has been completed to determine the impact of the development on the trees on site. The information presented in this report should be used to inform the layout of the development. Further survey work may subsequently be required in order to inform the development and to guide mitigation options.
- 4.1.1.3 An Arboricultural Tree Protection Plan and Working Method Statement should be produced prior to works commencing on site. This should be informed by the Arboricultural Impact Assessment based on the final site layout. The Arboricultural Tree Protection Plan and Working Method Statement should cover detailed methods for construction and operation within any of the RPAs in order to minimise the potential for adverse effects on these trees, e.g. digging using hand tools and supervision by a suitably qualified arboriculturist, in accordance with BS5837:2012.
- 4.1.1.4 During supervised work within the RPAs and canopies, if trees are considered to become unsafe (e.g. due to unavoidable severance of significant roots), such trees may need to be felled by a qualified tree surgeon. Any such loss of trees should be mitigated where practicable with replacement tree planting on site, to be agreed with the Local Planning Authority. The Arboricultural Tree Protection Plan and Working Method Statement should cover compensation planting as required.
- 4.1.1.5 Detailed methods for construction and operation should be developed in order to minimise the potential for adverse effects on trees.
- 4.1.1.6 Where appropriate, all the trees to be retained should be protected with a tree protection fence in line with BS5837:2012 current recommendations.
- 4.1.1.7 The loss of any trees should be mitigated where practicable with suitable replacement tree planting on site, to be agreed with the Local Planning Authority. Any new landscaping should be maintained to promote longevity.

Appendix 1. Photographs



Photograph 1. T1 and T2 (in foreground) at front of property, with T3 behind.



Photograph 2. T3 in SW corner of front garden.



Photograph 3. T4 in rear garden adjacent to boundary fence with 14 Tivy Dale Drive.



Photograph 4. Showing H1 running along the NE boundary of the rear garden

Appendix 2. Tree Survey Results

Tree/ Group Ref No.	Species	Height (m)	Crown Spread (m)				Crown Clearance	Stem diameter (mm)	Age class	Phys. Condition	Struc. Condition	Comments	Management recommendations	ERC	Cat Grade	Radius of Nominal Circle (m)	RPA SqM
			N	E	S	W											
T1	Copper Beech	4	1	1	1	1	1	250	SM	G	G	Previously topped, and now maintained to keep a lollipop shape. No visible decay or disease present.	Retain or remove as per development plans	30+	C1	3	28.27
T2	Copper Beech	4	1	1	1	1	1	260	SM	G	G	Previously topped, and now maintained to keep a lollipop shape. No visible decay or disease present.	Retain or remove as per development plans	30+	C1	3.12	30.58
T3	Apple	5	5	4	1	1	0.5	150	SM	G	G	Tree located corner of site. Healthy with no visible decay or disease present	Retain or remove as per development plans	30+	C1	2.28	16.33
T4	Magnolia sp.	5	5	4	1	1	0.5	190	SM	G	G	Large Magnolia at rear of property. Crown imbalance favouring N	Retain or remove as per development plans	30+	C1	2.28	16.33

												towards property. Trifurcation at approximately 1m above ground level.					
H1	Lleylandii	4	0.5	0.5	0.5	0.5	0.5	140	SM	G	G	Hedge along border of property and neighbour. Well maintained.	Retain	30+	C1	1.68	8.87

Key

* - Denotes estimated measurement where access to tree stems was restricted or not accessible

Tree/ Group Ref No. – tree/group number, to be recorded on tree survey plan where necessary.

Species – common and scientific names where possible.

Height – overall height of tree in metres.

Stem Dia – stem diameter, in millimetres at 1.5m above adjacent ground level (on sloping ground to be taken on the upslope of the tree base) or immediately above the root flare for multi-stemmed trees.

Branch spread – in meters taken at the four cardinal points to derive an accurate representation of the crown (to be recorded on the tree survey plan where necessary).

Height of cc – height of crown clearance – in meters above adjacent ground level to inform on ground clearance, crown stem ratio and shading.

Age class – young (Y), young mature (YM), mature (M), over mature (OM) and veteran (V).

Physiological condition – e.g. good (G), fair (F), poor (P) and dead (D).

Structural condition – e.g. collapsing, the presence of decay and any physical defect.

Management recommendations – including further investigations of suspected defects that require more detailed assessment and potential wildlife habitat.

ERC – estimated remaining contribution – in years e.g. less than 10, 10-20, 20-40, more than 40.

Cat grade – category grade – U or A to C, to be recorded in plan on the tree survey plan where possible.

RPA – Root protection area calculated from BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations in sq/m. Where indicated, dimensions of radius of circle or sides of square based around centre point of trunk calculated for design purposes.

Appendix 2. Cascade Chart for the Quality Assessment²

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 the current land use for longer than 10 years.	Trees that have 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 are showing signs of significant, immediate, or irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low-quality trees supressing adjacent trees of better quality. <i>Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i>			See Table 2
	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, 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 or trees or wood pasture).	See Table 2
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 were downgraded because of impaired condition (e.g., presence of significant though remediable 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 present in numbers, usually growing groups or woodlands, such that they attract a higher collective rating than they might attract 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.	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter of <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.	See Table 2

² The British Standards Institute 2012, Page 9 – Table 1.

Appendix 3. Tree Constraints Plan

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
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1:150
0 5m

Key



Trees
Showing Canopy extents, category colour and tag number (with category) with optional FSB direction arrow.



Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 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 150 mm.



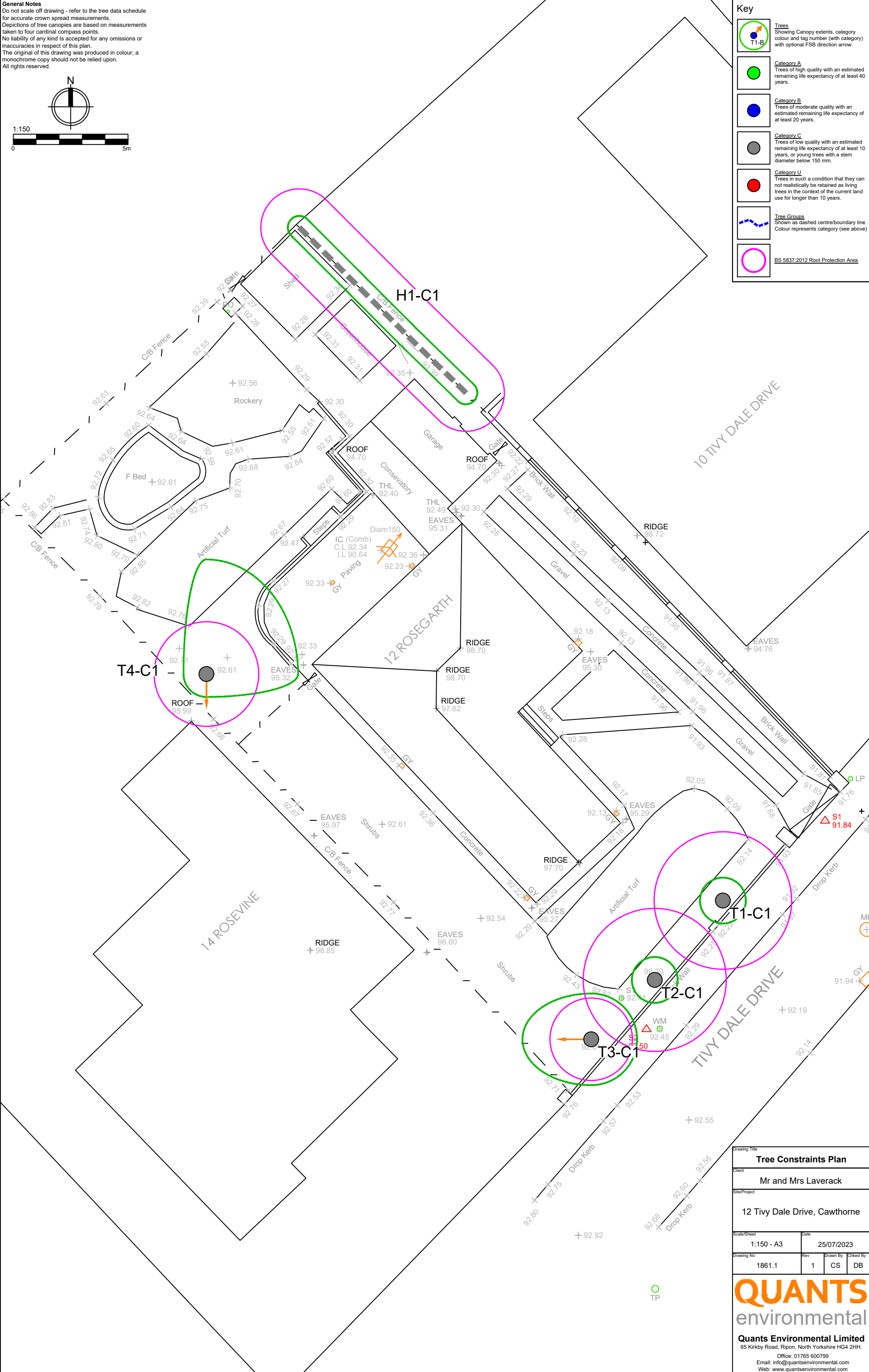
Category U
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.



Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)



BS 5837:2012 Root Protection Area



Drawing Title			
Tree Constraints Plan			
Client			
Mr and Mrs Laverack			
Site/Project			
12 Tivy Dale Drive, Cawthorne			
Scale/Sheet		Date	
1:150 - A3		25/07/2023	
Drawing No	Rev	Drawn By	Checked By
1861.1	1	CS	DB
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