

12 Tivy Dale Drive Cawthorne
Arboricultural Impact Assessment

August 2023

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Approved by	Andrew Westgarth (CEnv BS 5837)
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1 Introduction

1.1 Introduction and Background

1.1.1.1 This report contains an Arboricultural Impact Assessment (AIA) in support of an application for development on land at 12 Tivy Dale Drive, Cawthorne Barnsley S754EN. The site area is approximately 580 m² and is centred on Grid Reference SE280078.

1.1.1.2 A tree survey of the site in accordance with BS5837:2012 was carried out in July 2023 by Quants Environmental.

Ref. Arboricultural Survey Tivy Dale Drive Cawthorne July 2023

1.1.1.3 The above report was produced to support the design of the proposed development. As part of this survey the relevant qualitative tree data was recorded in order to assess the condition of the existing trees, their constraints upon the prospective development and the necessary protection and construction specifications required to allow their retention as a sustainable and integral part of the completed development.

1.1.1.4 Information is given on condition, age, size and indicative positioning of all the trees, both on and affecting the site. This is in accordance with the British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

1.2 Aims

1.2.1.1 The AIA will provide information and advice on potential conflicts between the existing trees on site and the proposed development.

1.2.1.2 Possible mitigation measures will be outlined where the proposed development comes into conflict with retained trees and vice versa.

1.3 Trees Within the Site

1.3.1.1 The survey results are shown in Appendix 1 (Tree Survey Results – Table 1). The trees included within this survey comprise of four individual trees and one hedgerow. A Tree Preservation Order (TPO) check with Barnsley Council revealed that the site is covered by an old TPO zone from 1963.

2 Arboricultural Impact Assessment

The Arboricultural Impact Assessment will outline the potential impact this development will have on the trees which are to be retained. The implications will be discussed in terms of below ground constraints and above ground constraints. Possible remedial actions will be discussed where the development impacts significantly on retained trees.

2.1 Development Proposal

2.1.1.1 The proposed development involves the demolition of the existing building and the construction of a new single storey property, with garage and driveway.

2.1.1.2 The proposed development plan is shown in the Tree Assessment Plans (TAP) in Appendix 2.

2.2 Trees to be removed

2.2.1 Tree removal

- T1 and T2 are to be removed in order to facilitate access to the site during the construction phase.
- T3 is to be removed to accommodate the new front garden wall.
- T4 is to be removed in order to accommodate new hard surfacing at the rear of the property.

2.2.2 Mitigation for Tree Removal

2.2.2.1 The only mitigation for tree removal is replacement planting of trees of a sufficient number to compensate for the area of canopy lost.

2.2.2.2 The tree planting proposal consists of one Himalayan birch *Betula utilis* var. *jacquemontii* and one Yew *Taxus baccata* at the front of the property on the road side, and one Sweet Gum *Liquidambar styraciflua* adjacent to the rear boundary of the property.

2.3 Below Ground Constraints

2.3.1 Hard Surface Installation

2.3.1.1 There is to be no hard surface installation within RPA of retained trees.

2.3.1.2 If during construction the design should change and there is to be additional hard surface installation within the RPAs of retained trees (such that paragraph 2.3.1.2 is no longer valid), the client must seek advice from a qualified arboriculturist, and the new design should be approved by the LPA.

2.3.2 Ground Level Changes

2.3.2.1 There are to be no ground level changes within RPAs of retained trees.

2.3.3 If during construction the design should change and there are to be ground level changes within the RPAs of retained trees, such that the above statement (2.3.2.1) is no longer valid, the client must seek advice from a qualified arboriculturist and the new design should be approved by the LPA.

2.3.4 Soil Compaction Within the RPA

2.3.4.1 Tree protection fencing should be used along the RPA of the retained hedge (at a minimum distance of 1.68m from the hedge) in order to prevent machinery access to the soft landscape within the RPA. Tree Protection Fencing to be used must be in accordance with BS 5837 standards.

2.3.4.2 Under no circumstances must construction machinery pass over unprotected soils within the RPA of the retained hedge.

2.3.4.3 Compaction of soil reduces oxygen and water movement through the soil which can lead to the suffocation and the eventual death of roots.

2.3.5 Changes to Soil Condition

2.3.5.1 It is vital that current soil condition is maintained within the RPA of retained trees (including the hedge) and areas of proposed tree planting. Effects on bulk density on the soil from construction activity and the quality of the soil can impact on the trees severely as roots have adapted to the current conditions.

2.3.6 Underground Utilities/Service Provision

2.3.6.1 The underground services and utilities are to be routed outside the RPAs of retained trees.

2.3.7 If during construction the design should change and services and utilities are to be routed within the RPAs of retained trees, such that the above statement (2.3.6.1) is no longer valid, the client must seek advice from a qualified arboriculturist, and the new design should be approved by the LPA.

2.3.8 Landscaping

2.3.8.1 There is to be no landscaping within the RPA of the retained trees in H1.

2.3.8.2 Under no circumstances must mechanical rotavating of the soils within the protected RPA of H1 occur as part of landscaping.

2.3.9 If during construction the design should change, such that additional landscaping within the RPAs of retained trees is required, then the client must seek advice from a qualified arboriculturist, and the new design should be approved by the LPA.

2.4 Above Ground Constraints.

2.4.1 Access Facilitation Pruning

2.4.1.1 There are to be no pruning works needed on site.

2.4.1.2 Should any further pruning requirements be identified on site during the development, such that the above statement (2.4.1.1) is no longer valid, advice should be sought by a qualified Arboricultural consultant and the relevant LPA should be consulted.

2.5 Construction Access and Activities

2.5.1.1 Access to the site for the proposed development will be from the Southeast of the site from Tivy Dale Drive.

2.5.1.2 The location of any necessary site cabins or construction material storage areas has not yet been determined but such temporary structures will be situated outside of the RPAs and canopy spreads of retained trees.

2.6 *Post Development Pressures*

2.6.1.1 The processes of construction are unlikely to have a detrimental effect upon the health of the retained trees assuming recommendations made within this Arboricultural Impact Assessment and the subsequent Method Statement are always adhered to by the contractor.

2.6.1.2 An example of this is the positioning of a suitable fence between the retained trees and construction activities prior to commencement of works and that the fence remains intact and in position throughout the duration of the project.

Appendix 1. Table 1- 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 towards property. Trifurcation at	Retain or remove as per development plans	30+	C1	2.28	16.33

												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 – refers to the biomechanical properties of a tree or tree-part such as its strength and resilience to physical stresses. Influenced by factors such as the shape and distribution of weight, and the presence of any physical defects or decay.

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

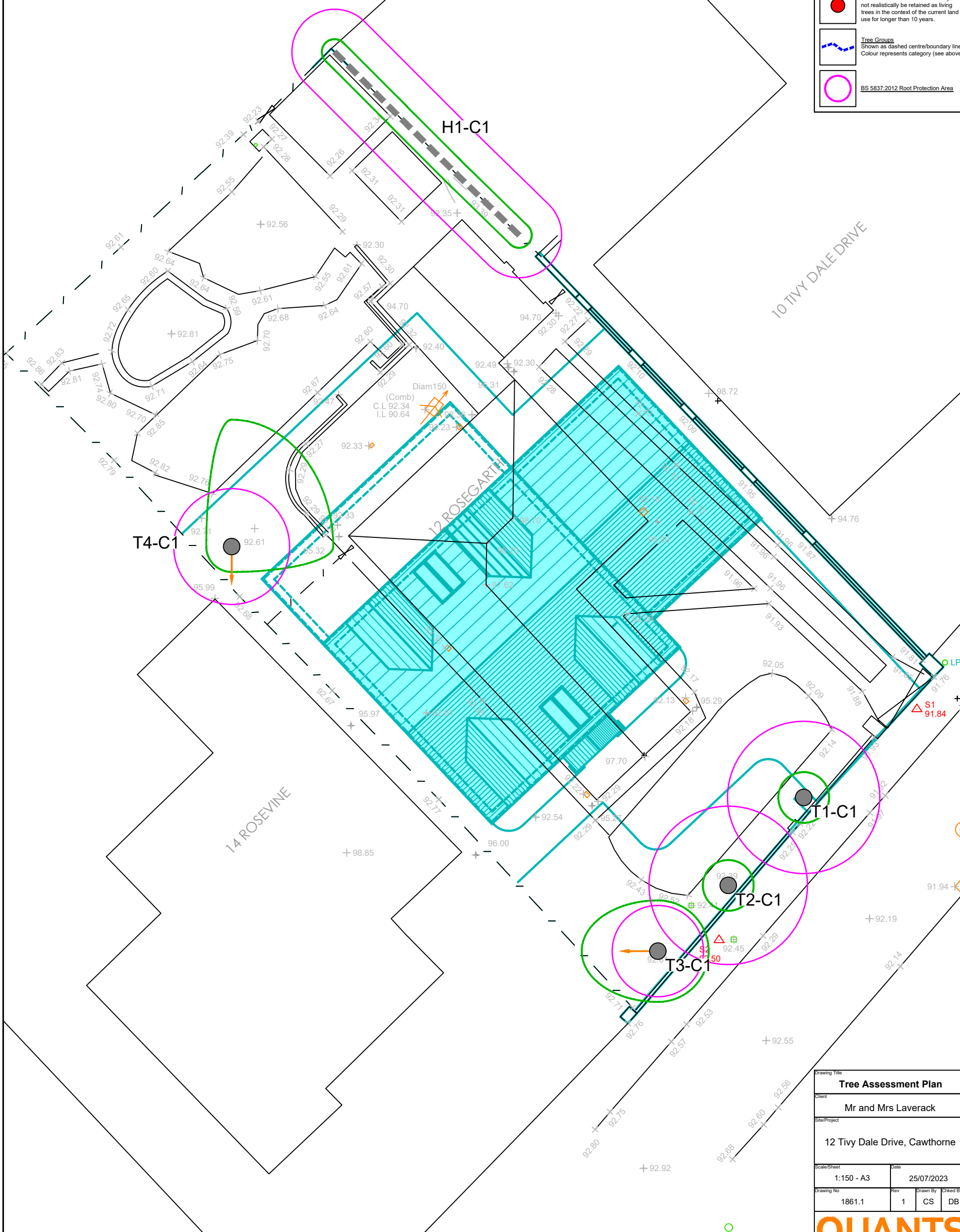
Appendix 2. Tree Assessment Plan

1:150



0 5m

BS 5837:2012 Root Protection Area



Drawing Title			
Tree Assessment Plan			
Client			
Mr and Mrs Laverack			
Site/Project			
12 Tivy Dale Road, 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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