Arboricultural Impact Assessment & Method Statement

Land off Track Road, Batley, WF17

7 February 2023

Statement prepared by

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Summary

Apollo Estates instructed Treeplan to undertake a BS5837 tree survey to inform a site design and then an arboricultural impact assessment and method statement to inform proposed development at Land off Track Road, Batley, WF17.

The proposal is the construction of one detached dwelling.

A site visit and BS5837 tree survey was undertaken on 31 May 2022.

Three plans have been annotated to include tree related data relevant to the proposal and are included at the rear of this report, in Appendix 2.

- A Tree Constraints Plan shows the recorded trees and the current site
- A Tree Impact Plan showing the recorded trees and proposed dwelling
- A Tree Protection Plan showing the retained trees and temporary protection measures through construction

It is considered that the proposed development could be undertaken with suitable temporary tree protection measures and tree considerate techniques remaining compliant with BS5837 without detriment to the health, longevity or amenity of the retained trees.

1. INTRODUCTION

1.1 Instruction

Apollo Estates instructed Treeplan to undertake a BS5837 tree survey to inform a site design and then an arboricultural impact assessment and method statement to inform proposed development at Land off Track Road, Batley, WF17.

The proposal is the construction of one detached dwelling.

A site visit and tree survey was undertaken on 31 May 2022. The tree survey and this report follow guidelines contained in *British Standard 5837:2012 Trees in relation to design, demolition and construction* (hereafter BS 5837).

1.2 Qualifications & Experience of Author

The author of this report is Ross Cannon. Conclusions and recommendations of this report are based on my site observations and experience. I have experience and qualifications in Forestry and Arboriculture which are summarised in Appendix 1.

2. SITE & TREE DETAILS

See Tree Data Schedule & Tree Constraints Plan in Appendix 2 showing current site and its trees.

2.1 Protection Status

A desktop check at Tree preservation orders | Kirklees Council indicates some of the trees on site are the subject of a tree preservation order (TPO) although the map is not definitive enough to accurately determine individual trees on site. This web page only provides a snapshot in time so clients and contractors should make additional checks/ site visits with the local planning authority prior to any works at their own risk.

2.2 Tree Categorisation

Section 4.5.2 of BS 5837 states *'The purpose of the tree categorisation method, which should be applied by an 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 development occurring'*.

There are four retention category's, U, A, B and C.

- Category U – Trees in such **poor** condition that they cannot realistically be retained in the context of the current land use for greater than 10 years.
- Category A – Trees of **high** quality with an estimated life expectancy of at least 40 years.
- Category B – Trees of **moderate** quality with an estimated life expectancy of at least 30 years.
- Category C – Trees of **low** quality with an estimated life expectancy of at least 20 years, or young trees with a stem diameter of less than 150mm.

2.3 Soil Type

Section 4.3 of BS 5837 states that a soil assessment should be undertaken by a competent person to determine structure, pH and composition to inform new planting as well as 'shrinkability'. I am not a soil scientist and therefore recommend a specialist in this field is consulted as part of the foundation design stage.

2.4 Tree Constraints

2.4.1 Above Ground Constraints – Tree Trunk and Canopy

The trees current canopy/ crown spread is marked on plans to aid site design. Consideration needs to be made to the following:

- Mature height and spread
- Species characteristics such as evergreen or deciduous, honeydew (sap) drip, fruit fall
- Shade potential
- Potential incompatibilities between layout and trees proposed for retention
- Working/ access space needed for construction phase
- Protection of tree canopies from machinery impact or scaffold clearance
- Infrastructure requirements- easements, lighting, solar collectors, CCTV

2.4.2 Below Ground Constraints – Root Protection Area

BS 5837 states a *'root protection area (RPA) is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority'*.

For single stems the RPA is calculated as an area equivalent to a circle with a radius 12 times the stem diameter.

The RPA is plotted on plans as a circle, but where pre-existing site conditions are considered to have altered the rooting area a polygon will be produced.

The default position is that proposed structures should be located outside the RPA's of retained trees. If operations are proposed within the RPA, the arboriculturist should:

- Demonstrate that the tree can remain viable, and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA

If utility operations within the RPA are proposed consideration should be given to NJUG4 (National Joint Utilities Group Volume 4 (Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees)).

2.5 Tree Constraints Plan

Plans accompanying this report have highlighted the trees retention category (as per 2.2 above), their current below ground constraints (RPA) and can aid site design through shade and species consideration.

3. ARBORICULTURAL IMPACT ASSESSMENT

See Arboricultural Impact Plan in Appendix 2 showing proposed site.

3.1 Above Ground Impacts – Stems and Canopy

Table 1 - Tree work to enable development

	Impact/ work required	BS Retention Category			
		U	A	B	C
1	Trees to be removed to enable development	G4 T11	-	T7	G8 (two stems)
2	Trees to be pruned to enable development	-	-	T3 T5 T10	-

- Trees in Row 1 of Table 1 above need to be removed in order to enable the development. These trees are internal to the site of low retention quality or of low amenity value – it is considered they could be removed without detriment to the amenity of the wider area
- Trees in Row 2 of Table 1 above would require pruning in order to provide build/ scaffold clearance and post development clearance from the proposed dwellings. These trees are mature and are unlikely to grow significantly further in size. The pruning proposed would be lateral reductions of branches that currently extend out of the canopy line. As such it is considered this work could be undertaken without detriment to their health, longevity or the amenity of the area. Sycamore and Lime in the opinion of this reports author tolerate pruning/ cyclical pruning. See images below indicating perceived pruning lines

T3 perceived pruning line in yellow	T10 perceived pruning line in yellow
	

- Shade – The norther half of the proposed dwelling would see some shade, in summer months, by the trees immediately east and west of it. This shade is transient, with all the southern half of the dwelling in full sun, all day. The adjacent trees are mature and unlikely to grow significantly in size, therefore current shade is likely to be the maximum the trees will cast
- Sycamore and Lime have robust leaf and seed, additionally they deposit a sticky substance due to the action of aphids, as such rooflines, windows, doors and gutters may require more regular cleaning than elsewhere

3.2 Below Ground Impacts - to Root Protection Areas

Table 2 – Root Protection Area (RPA) Impacts

RPA loss to dwelling foundation		RPA surfaced by presumed 1.6m wide dwelling boundary footpath
Tree No. & Type	% loss	% surfaced
T3 Sycamore	8	8
T5 Sycamore	-	8
G8 Holly	-	4
T10 Lime	8.5	9

- Trees in Row 1 of Table 1 above need to be removed in order to enable the development. These trees are internal to the site of low retention quality or of low amenity value – it is considered they could be removed without detriment to the amenity of the wider area
- The percentage loss of RPA to the dwelling foundation/ build footprint is shown in Table 2 above. The 8/ 8.5% loss to trees T3 and T10 respectively can be compensated elsewhere contiguous to their RPA's within good quality woodland soils. As such this impact is not considered to be detrimental to the these trees health or longevity
- A presumed footpath to the exterior of the dwelling will surface retained trees RPA's, also as shown in Table 2 above. These areas will initially need to be temporarily protected from compaction and degradation through the build, then a minimal dig footpath installed – see section 4 below
- Utilities in and out of the proposed dwelling will be routed to the south from the existing road, outside the RPA's of retained trees
- Retained trees could still see potential impacts to the RPA's from site clearance works, construction activity/ access and hard landscaping through compaction, degradation and contamination. Therefore, temporary tree protection measures would need to be installed prior to and maintained throughout the build stages, only removed at the very end of the development, controlled through an Arboricultural Method Statement and Tree Protection Plan – see section 4 below and Tree Protection Plan in Appendix 2

4. ARBORICULTURAL METHOD STATEMENT

4.1 Project Arborist

BS 5837 recommends the appointment of a Project Arborist to ensure that on and off-site trees are fully considered during the development process. This is normally a requirement of a planning condition. Treeplan can be instructed if required.

4.2 Requirements to Protect Site Trees

It is **essential** that the following methodologies are followed in order that the proposed development is not to have a significant impact on the retained trees

- Physical protection – by the use of protective fencing and ground protection to limit or prevent the physical impact on above ground tree parts or below ground rooting areas
- Site management – by detailing suitable methods for activities where they may influence trees which may include arboricultural supervision
- Use of a **Tree Protection Plan**, showing locations of protection measures

4.3 Tree / Ground Protection – Generic Precautions

I suggest enforcing these general precautions within the RPAs during the construction phase:

- No soil disturbance, including compaction or level change by stripping or filling*
- No excavation, without prior discussion with the Project Arborist and/or the Local Planning Authority*
- No redirection of surface water runoff into or out of the RPA
- No temporary buildings, sheds, or offices, without prior discussion with the Project Arborist and/or the Local Planning Authority
- No storage of materials or fuel
- No dumping of materials, whether into a skip or onto the ground
- No fires within 10m of the RPA or tree canopy, whichever is greater
- No refuelling of mechanical equipment
- No storage or mixing of cement
- No washing of cement mixers within or uphill of the RPA
- Follow the guidance contained within the National Joint Utilities Group Volume 4 (Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2, 2007); www.njug.org.uk) when installing underground services inside or other excavation in the RPA of a tree

*unless if footprint of approved development

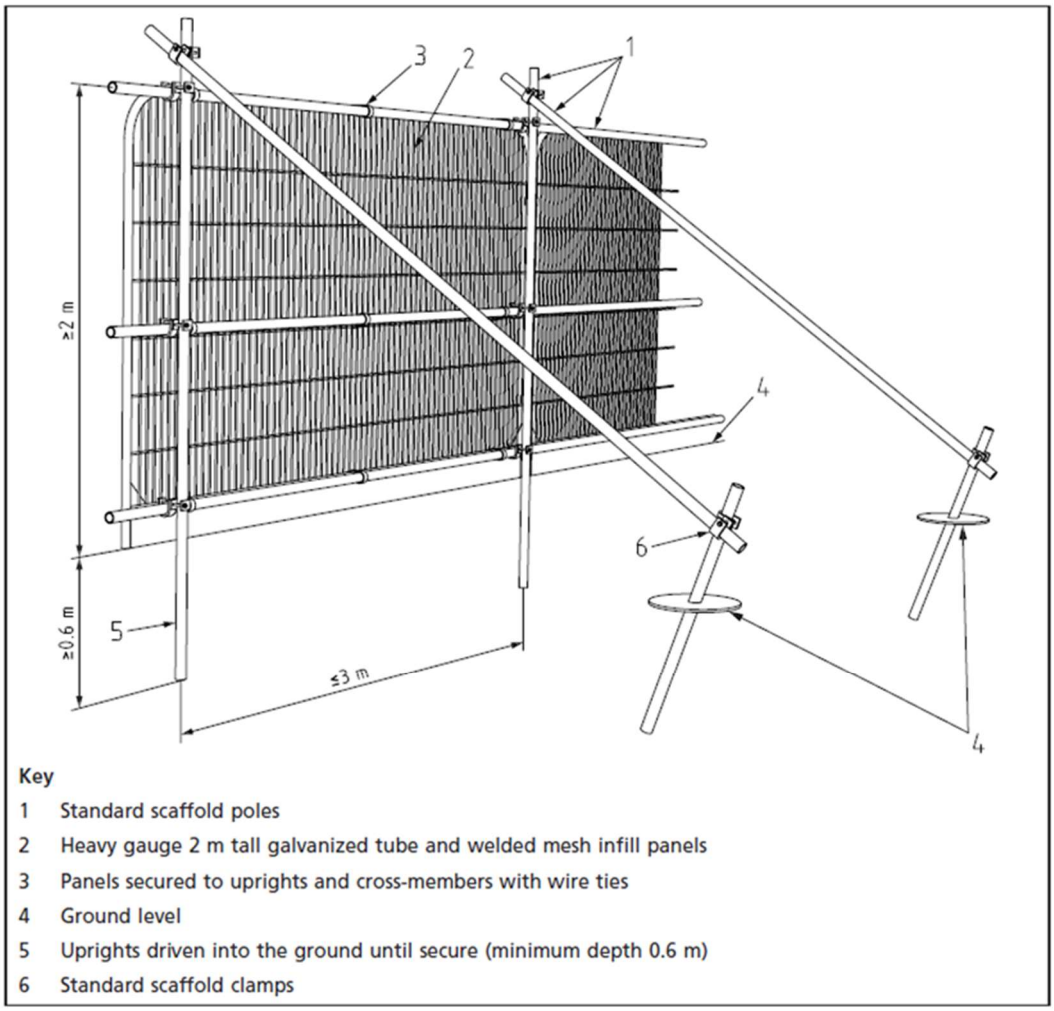
4.4 Tree Protective Fence – Construction Exclusion Zone

Protective fencing should be erected along the line shown on the Tree Protection Plan. The area inside this fence becomes the 'Construction Exclusion Zone'.

This fence will prevent construction activity that could cause damage occurring close to the retained trees. No plant, equipment or vehicles should operate inside the protective fencing without suitable ground protection and agreement from the Project Arborist or Local Planning Authority. Further to this no activities as listed in Section 4.3 above should occur inside the protective fence/ construction exclusion zone.

This product is to be installed before any plant or vehicle comes on site or soil stripping occurs. This product is to remain in situ until all construction work (up to and including all electrical and decorating) is completed.

The diagram below demonstrates the required fence specification of BS 5837. Angled support poles closest to tree/s. Attach weatherproof signs to outside with the words 'CONSTRUCTION EXCLUSION ZONE – NO ACCESS'.



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

4.5 Temporary Ground Protection

Ground protection systems will have to be in place to ensure the health of RPAs where the set back of a tree protection barrier/ fencing is required to enable access/ use of the site through the development process. Potential products include:

BS 5837 recommends '*temporary ground protection should be capable of supporting any traffic entering the site without being distorted or causing compaction of underlying soil'*

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2t, a proprietary, interlinked ground protection boards placed on top of a compression resistant layer (e.g. 150mm depth of woodchip) laid on a geotextile membrane;

Example Photographs of Temporary Ground Protection

4.6 Dealing with Tree Roots - Excavation for New Build Foundation

- Roots should be moved to one side of the excavation or be cut back with a sharp tool, such as secateurs, leaving as small a wound as possible, except where they occur in clumps
- Installation of new footing should take place as soon as possible after excavation to reduce the time roots will be exposed

4.7 Boundary Path to Dwelling in RPA's

- Retain temporary ground protection until dwelling complete, all plant and machinery have been removed
- Remove temporary ground protection
- Remove turf/ soil below with hand tools
- Use retaining walls (if levels to be raised) within footprint of path rather than broad level raising
- Install geotextile base, lay subbase upon this and final wearing course on that

5. ORDER OF WORKS AND STAFF RESPONSIBILITIES

Order	Task	Person Responsible	Signature & Date
1	Once planning permission gained discharge any relevant conditions	Architect	
2	Instruct Project Arborist	Architect/ Client	
3	Undertake tree removal/ Pruning works. Check consents with local planning authority and also ensure no nesting birds/ bat roosting present before works		
4	Install temporary tree protective fence as per Tree Protection Plan and section 4.4 above	Builder	
5	Install temporary ground protection as per Tree Protection Plan and section 4.5 above	Builder	
6	Project Arborist to attend and check fence and ground protection to ensure it is fit for purpose. Project Arborist to write to Local Planning Authority confirming as such	Client in liaison with Project Arborist	
7	Deal with any roots exposed during house build foundation excavation as per section 4.6 above	Builder in liaison with Project Arborist	
8	Construct boundary path in RPA as per section 4.7 above	Builder	
9	When all works complete seek consent to remove temporary tree protective fence form Local Planning Authority	Architect/ Client	

APPENDIX 1 – Qualifications & Experience of Author

The Qualifications and Experience of Ross Cannon

1. Qualifications

In 2001 I was awarded a National Diploma in Urban Forestry.

In 2006 I was awarded the Arboricultural Associations Technicians Certificate.

In 2011 I became a Technical Member of the Arboricultural Association.

2. Experience

I have been working and studying within the field of arboriculture since 1999, first as a tree surgeon and latterly in an advisory capacity. Between 2001 and November 2007 I was a tree surgeon for a large local authority. Between November 2007, and December 2008 I worked as a Tree Surveyor and then Arboricultural Officer for Leeds City Council. This involved various large-scale tree condition and management surveys and carrying out detailed tree inspections. Between December 2008 and December 2011 I was a Trees & Woodlands Officer for the Yorkshire Dales National Park Authority administering tree preservation orders, trees in conservation areas and providing advice to the development control section on matters relating to trees in relation to proposed development. From December 2011 to present I have been undertaking independent tree consultancy services.

3. Continuing professional development

I attend courses, conferences, seminars and workshops run by land management, forestry and arboricultural organisations, colleges and universities.

APPENDIX 2 – Tree Data & Plans

Tree Data – Glossary

N, S, E, W = Compass direction

= An estimated measurement.

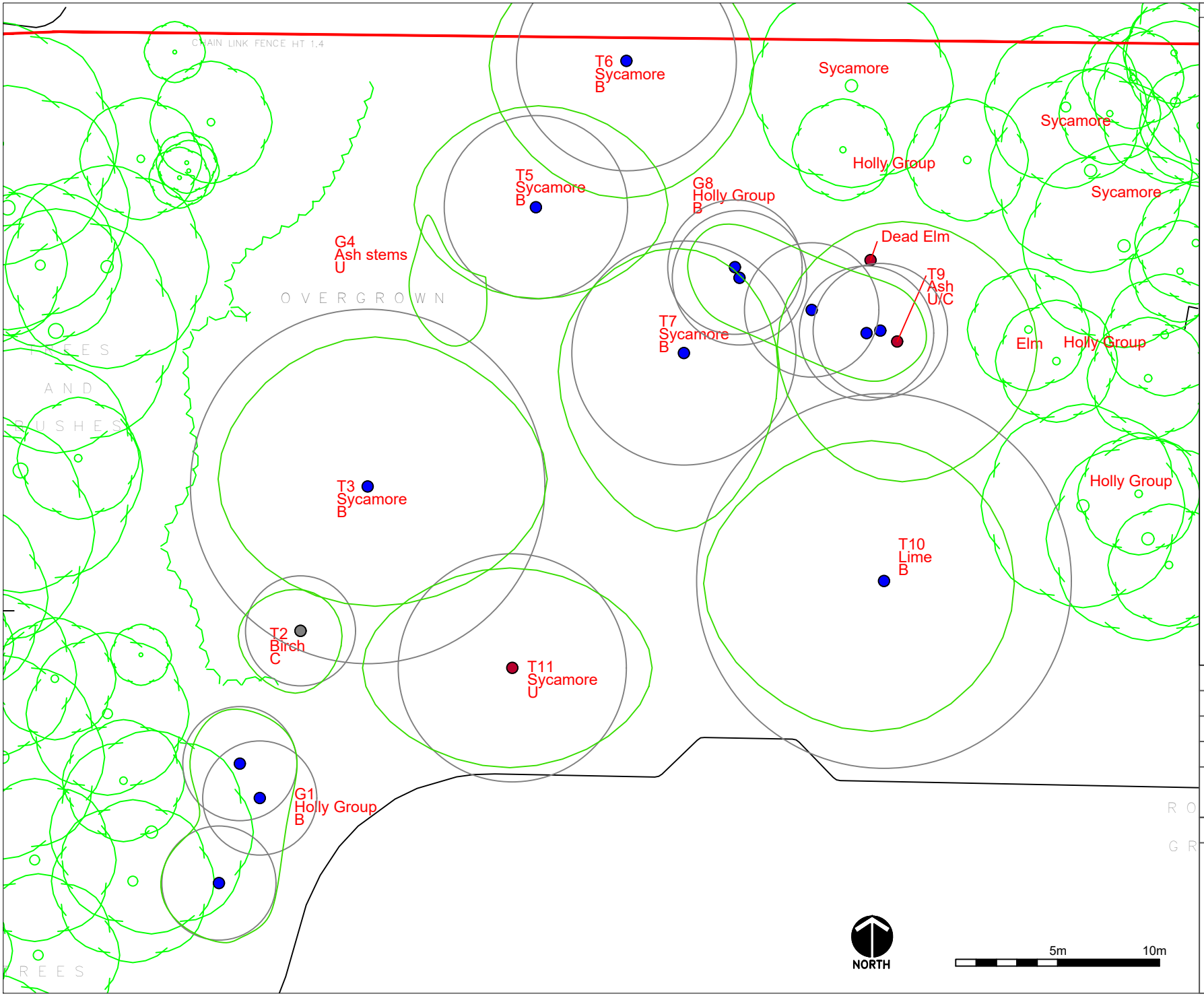
1. Tree Number/ tags - Individual tree = T+ Number, Group of trees = G+ Number, Hedge = H+ Number
2. Tree Type - Common name
3. Height - Over all tree height, measured in M
4. Diameter at breast height - Measurement of stem @1.5m in mm
5. Root Protection Area - As per section 4.6 of BS 5837(2012).
6. Canopy spread - Extent of tree branches taken at each compass point in m.
7. Low canopy & first direction branch height (m)
8. Age Class – Young, early mature, mature, old mature
9. Health – good, fair, poor, dead
10. Management
11. U or A to C Category grading - See BS 5837(2012) Table 1 For details of each Category

Tree No.	Tree Type	Height (m)	Stem Diameter (mm)	Root Protection Area (Radius, m)	North (m)	East (m)	South (m)	West (m)	Low Canopy (m)	First Branch (m)	Age Class	Health	Comment	Management	BS Category
G1	Holly group	9	240	2.8	As plan				0	4	M	G	-	None	B
T2	Birch	12	230	2.7	1.5	2	3	3	2	5	EM	G	Burrowing in root plate?	None	C
T3	Sycamore	14	730	8.7	7.5	9	6	7.5	4	4.5	M	G	Good health and form	If permission given crown lift to 8m to east and reduce lateral canopy to east from current 9m to 5m, to suitable growing points	B
G4	Ash group	<9	<100	1.2	As plan				1	1	SM	P	Infected with ash dieback	If permission given remove	U
T5	Sycamore	10	380	4.5	5	6.5	4.5	6	3	3	EM	G	Ivy prevents full inspection	If permission given reduce lateral canopy to south from current 4.5m to 2.5m, to suitable growing points	B
T6	Sycamore	12	450	5.4	6	6.5	7	7	3	4.5	EM	G	Ivy prevents full inspection	None	B
T7	Sycamore	11	460	5.5	5	4.5	8.5	6	1	3.5	EM	G	Historic wound and decay to base	If permission given remove	B
G8	Holly group	8	280	3.3	As plan				0	0	M	G	Linier group	If permission given remove two western stems	B
T9	Ash	15	550	6.6	6	7	7	6	8	5	M	F	Historic wound to east, base to 4.5m, canopy sub optimal consistent with ask dieback infection	None/ Inspect annually	C
T10	Lime	17	760	9.2	7	6.5	7.5	9	2	4	M	G	Good health and form	If permission given reduce lateral canopy to west from current 9m to 4m, to suitable growing point	B
T11	Sycamore	14	470	5.6	5	7	5	7.5	4	5	M	P	Canopy in irreversible decline	If permission given remove	U

Tree Constraints Plan - **Current** site and trees

Tree Impact Plan - **Proposed** site and trees

Tree Protection Plan - **Proposed** site and temporary tree protection measures



Key

- Category A
- Category B
- Category C
- Category U

Category — Crown Spread
Root Protection Area — 13 Birch B2 — Tree Number / Species / Category

For planning purposes only, check all measurements on site
Read in colour & with associated report. Copyright.

PLAN 1 OF 3

Scale	1:250@ A3
Plan Title	Tree Constraints Plan
Site	Off Track Rd, Batley
Date	7.2.23

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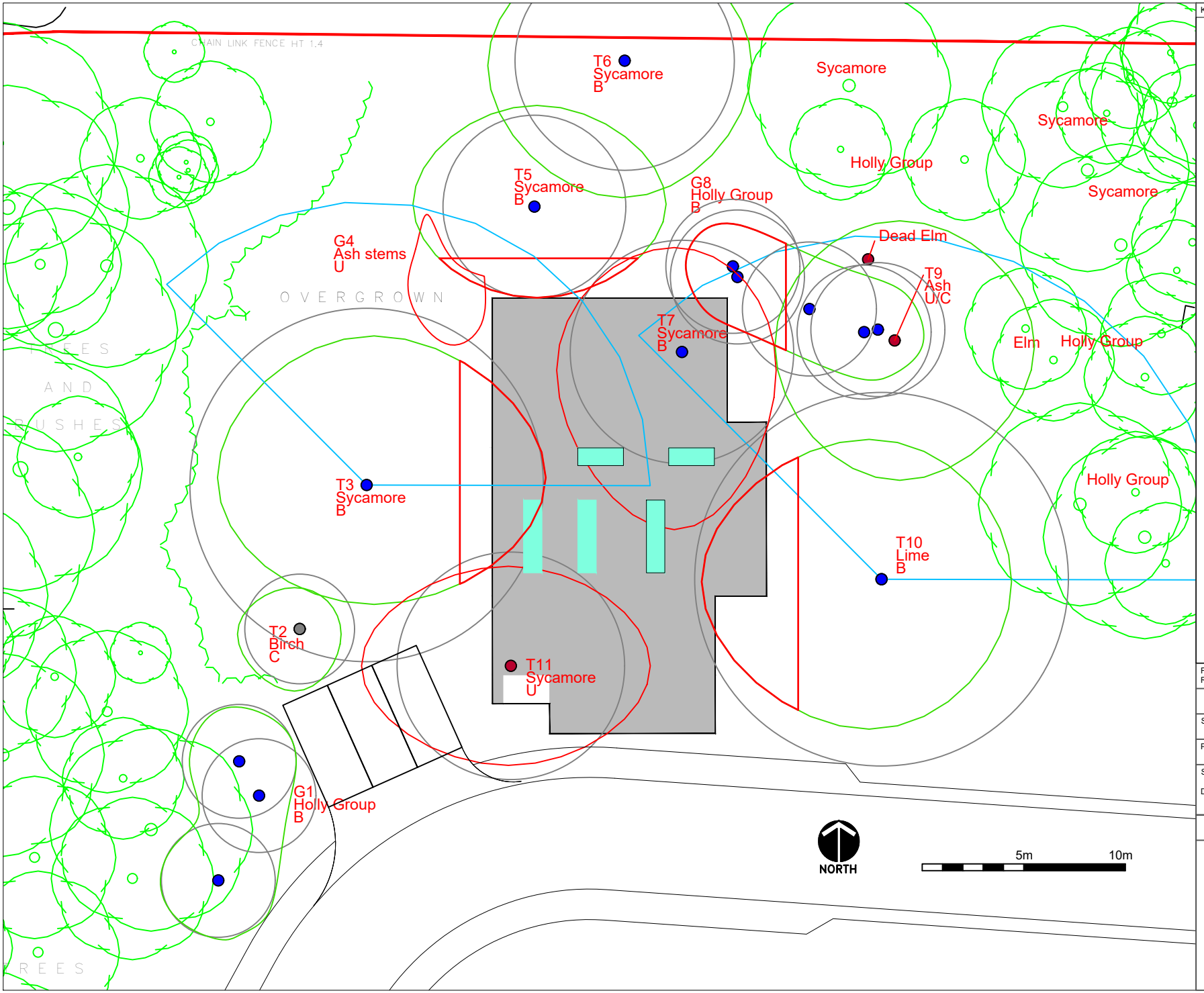

Key

- Category A
- Category B
- Category C
- Category U

Category — Crown Spread
Root Protection Area — 13 Birch B2 — Tree Number / Species / Category

Tree Proposed for Removal (Canopy shown Red)

Retained tree, but with canopy pruned (Canopy pruned shown Red)

AM — PM

Approximate sweep of shade cast by trees in midsummer, plotted as per description in BS5837: 2012

"An indication of potential direct obstruction of sunlight can be illustrated by plotting a segment, with a radius from the centre of the stem equal to the height of the tree, drawn from due north-west to due east, indicating the shadow pattern through the main part of the day."

PLAN 2 OF 3

Scale	1:250@ A3
Plan Title	Tree Impact Plan
Site	Off Track Rd, Batley
Date	7.2.23

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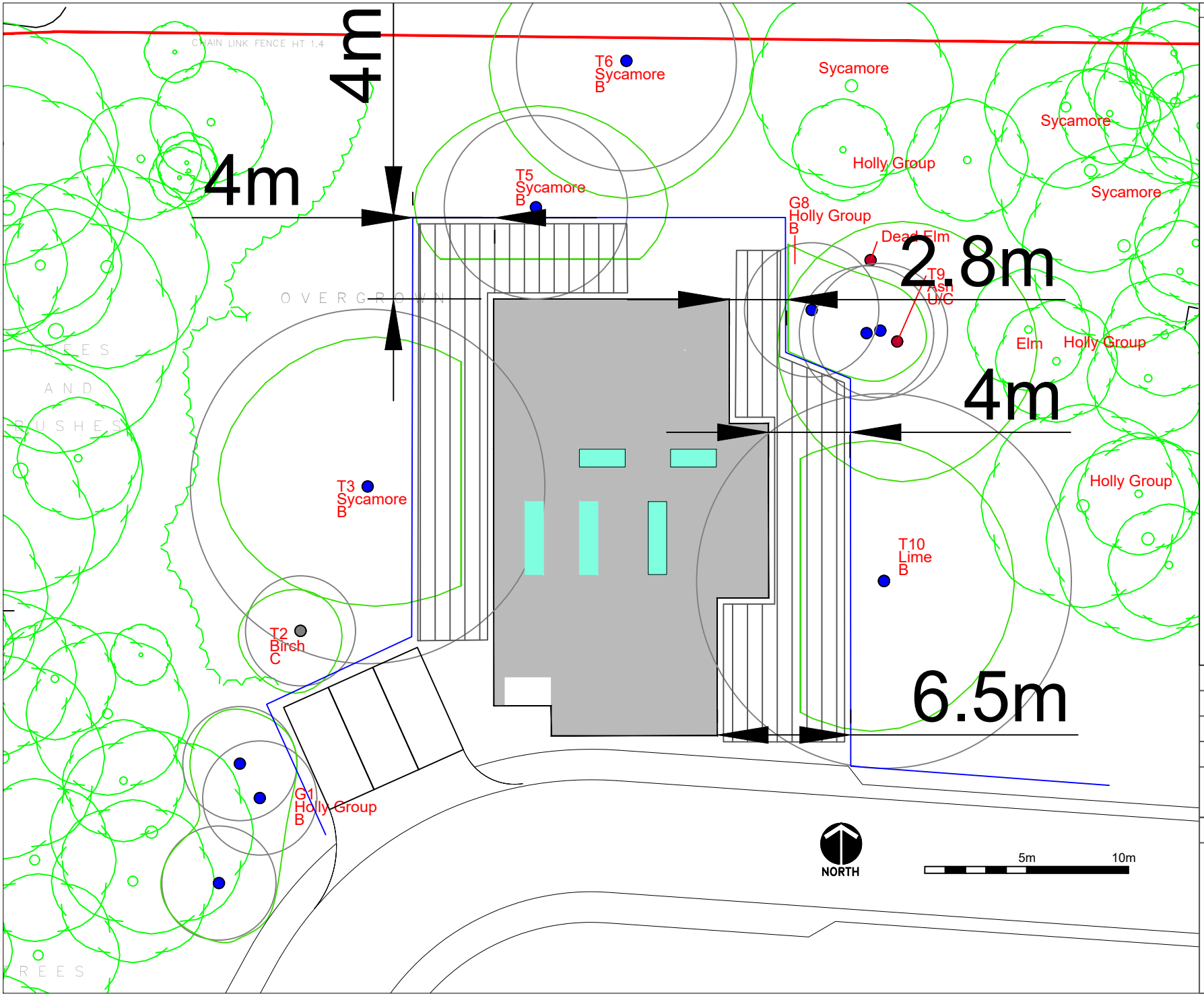

Key

- Category A
- Category B
- Category C
- Category U

Category — Crown Spread
Root Protection Area — 13 Birch B2 — Tree Number / Species / Category

Temporary Tree Protective Fencing as per Fig 2 of BS5837

Temporary Ground Protection as per section 6.2.3.3 of BS5837

PLAN 3 OF 3

Scale	1:250@ A3
Plan Title	Tree Protection Plan
Site	Off Track Rd, Batley
Date	7.2.23

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