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[redacted]

Arboricultural Report
BS5837:2021 (Trees in Relation to Design, Demolition & Construction)

Client: Manor Farm Tidmarsh Ltd.
Site: The Rancher, Manor Farm Lane, Reading, RG8 8EX.
Date of survey: August 07th 2023
Date of report: September 15th 2023
Surveyor: Jon Harper cert.Arb (RFS)
Report reference: 2023053 v1.0

CONTENTS

1. INTRODUCTION

1.1. BS5839:2012

The current British Standard for trees in relation to design, demolition, and construction is BS5837:2012. This became current in May 2012, and supersedes the old 2005 standard.

1.2. Terms and Definitions

1.2.1. Access Facilitation Pruning

One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.

1.2.2. Arboricultural Method Statement (AMS)

Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in the loss of, or damage to a tree to be retained.

1.2.3. Arboriculturist

Person who has through relevant education training and experience, gained expertise in the field of trees in relation to design, demolition, and construction.

1.2.4. Competent Person

Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task which is being approached.

1.2.5. Construction

Site-based operations with the potential to affect existing trees.

1.2.6. Construction Exclusion Zone (CEZ)

Area based on the root protection area (2.7) from which access is prohibited for the duration of the project.

1.2.7. Root Protection Area (RPA)

Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain a tree's viability, and where the protection of roots and soil structure is treated as a priority.

1.2.8. Services

Any above or below-ground structure or apparatus required for utility provision.

1.2.9. Stem

Principal above-ground structural component(s) of a tree that supports its branches.

1.2.10. Structure

Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.

1.2.11. Tree Protection Plan

Scale drawing, informed by descriptive text where necessary, based on the finalised proposals, showing trees for retention, and illustrating the tree and landscape protection measures.

1.2.12. Veteran Tree

Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

1.3. The Proposal/Relevant History

The proposal, in this instance, is to demolish the existing dwelling on site and to construct two new detached dwellings with access and parking as shown using the purple colour on the tree constraints plan (2023053/TCP001) in this report.

1.4. Brief and Purpose

This report has been commissioned by Manor Farm Tidmarsh Ltd to;

- Survey the trees on site in accordance with BS5837:2012.
- Detail the arboricultural implications of the proposed project.
- Present an effective tree protection strategy for the duration of the development.
- Provide the necessary arboricultural information to accompany a planning application to West Berkshire Council.

1.5. Scope

The trees have been surveyed in accordance with the BS. Trees on and immediately adjacent to the site with a stem diameter over 75mm have been included.

A full hazard assessment of the trees (including the assessment of decay or defects and their implications), has not been undertaken as this is considered beyond the scope of this report. Any obvious hazards and defects have, however, been identified in the Tree Survey Schedule and appropriate works recommended for action.

1.6. Documents Supplied/Used

Document	Supplied by	Format/Reference
9255-106 Proposed Site Plan	The Keen Partnership	DWG

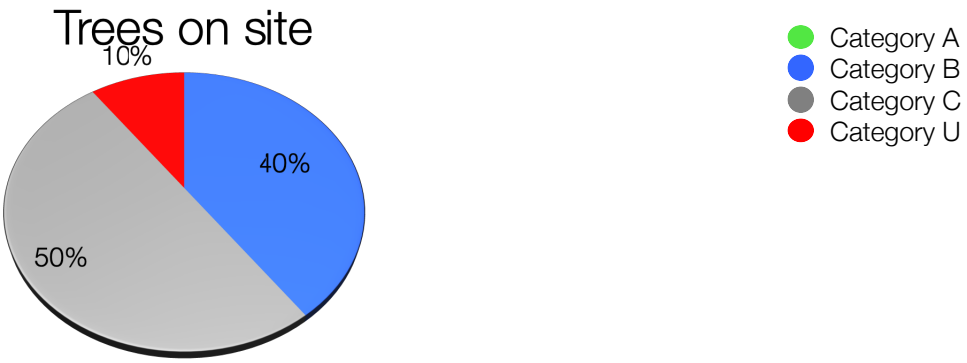
1.7. Executive Summary

The application site is a moderately sized residential plot within a farm area. There is currently a single detached dwelling there.
The site has a tree preservation order that covers trees 1 to 5 on our survey. Most of the trees are concentrated around the boundaries of the site, and in the north western corner.
The current proposal involves the demolition of the existing dwelling and the con struction of two new detached dwellings. The only RPA incursion would be a small piece of pedestrian bearing hard surfacing that will not require any ground level changes if cellular confinement is used.

2. TREE SURVEY

2.1. Survey Summary

Total number of trees	29 + H30 (hedge)
Category A	0
Category B	12
Category C	14 + H30
Category U	3



2.2. Survey Method

The trees were surveyed on August 07th 2023.
Locations of the trees were plotted using the topographical survey provided by The Keen Partnership.
All trees were inspected from ground level only using widely accepted Visual Tree Assessment techniques, and no trees were climbed during the survey.
No trees were internally investigated. Should a more detailed inspection be required then this will be pointed out in the recommendations on the survey schedule.

2.3. Tree Details

With regard to their desirability for retention, the trees surveyed have been graded with their trunks colour coded on the tree constraints plan, and tree protection plan using the criteria contained in BS5837:2012. A summary of this grading is as follows.

A= Light Green. Trees of high quality and value, in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

B= Mid Blue. Trees of moderate quality and value in such a condition as to make a significant contribution (a minimum period of 20 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

C= Grey. Trees of low quality and value, in adequate condition condition to remain until new planting could be established (a minimum of 10 years is recommended in the British Standard), or trees with a stem diameter below 150mm. Not usually worthy of consideration as a material constraint to any proposed development.

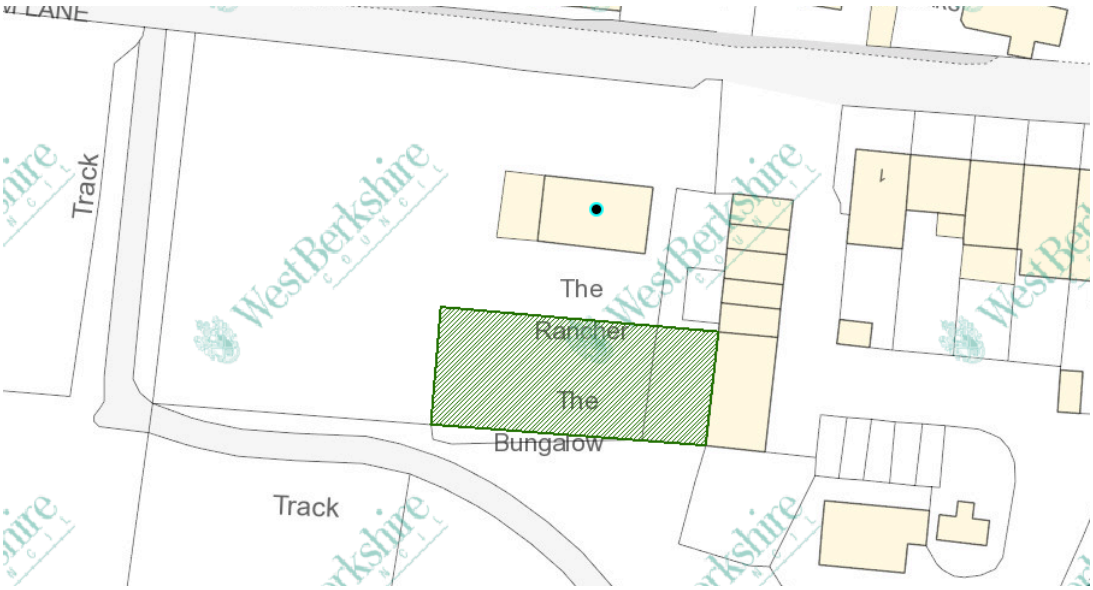
U= Red. Trees in such a condition that they cannot be realistically be retained as living specimens in the context of the current land use for longer than 10 years.

In our survey schedule, the RPA for each tree is indicated as the radius of a circle as well as in M^2. This is also plotted on the tree constraints plan and tree protection plan denoted by a heavy black line which merges the individual RPAs together where there is more than one tree.

Section 4.6 of BS5837:2012 provides for the shape of the RPA to be modified from the starting point of a circle to account for site features such as hard surface treatments where root growth may be restricted, as long as the total remains the same. In this case, no RPAs were modified. **Please Note:** The facility for offsetting an RPA by 20% for open grown trees was withdrawn on May 01st 2012.

2.4. Legal Protection Status of Trees.

Type of Protection	Details/Reference
Conservation Area	No
Tree Preservation Order	Yes (trees 1-5)
Planning conditions requiring tree retention	No



3. ARBORICULTURAL IMPACT ASSESSMENT

3.1. Summary of Impact Assessment

Total number of trees surveyed	29 + H30
Number of trees to be removed	3
Number of trees to be pruned	0
Number of trees with RPA incursions	2

3.2. Removal of trees

Category A Trees (High Grade)	Category B Trees (Moderate Grade)	Category C Trees (Low Grade)	Category U Trees (Unretainable)
N/A	N/A	T25, T26 & T29	N/A

The trees in the table above will be felled to the ground and the stumps will be ground out to prevent damage to the roots of retained trees nearby. The reason for removal may be for either of the reasons below.

A. There may be a direct conflict with the proposed development.
B. The trees may not be in a condition that makes them desirable for retention.

Trees to be removed	Impact on the character of the local area.	Mitigation (if any)
T25, T26 & T29	None: Small, poor quality trees that aren't visible from outside the site.	None required

3.3. Tree Works

Apart from the tree removals specified in section 3.2 of this report, no tree work is required for the current proposal to be completed.

3.4. Incursions into RPAs

In many instances, a low degree of root disturbance can be deemed to be acceptable
Where incursions can be fully invasive, or low level invasion can sometimes be achieved by the use of specialist methods to limit the degree of disturbance. The table details the incursions and how they are to be dealt with.

Incursions into RPAs of retained trees		
Type of incursion	Tree number	Precautions to be taken
Pedestrian hard surfacing	T1 (3.4% of the RPA) T2 (2.3% of the RPA)	No dig surfacing with a permeable finishing layer will be used.

3.5. Light and Proximity Issues

There are no arboricultural light or proximity issues associated with the current proposal.

3.6. Mitigation Planting

Because of the low grade of the three tree to be removed and the high concentration of trees on the site, mitigation planting would no be appropriate in this instance.

3.7. Conclusion

Assuming full compliance with the AMS in this report, the net arboricultural impact is acceptable.

4. ARBORICULTURAL METHOD STATEMENT

4.1. Introduction

During the development process, the tree protection measures set out in this method statement must be adhered to in order to safeguard the retained trees. The principles below are specifically designed to offer a significant degree of protection to both the root systems and aerial parts of the trees for the duration of the works.

A copy of this method statement must be made available on site at all times until the cessation of any demolition, construction, and landscaping work, and the site personnel will be made familiar with the key implications of this AMS.

It should be remembered that powers were granted to Local Planning Authorities in 2005, which allow them to serve Temporary Stop Notices if agreed protection measures are strayed away from before work is completed. This can be extremely costly and very time consuming.

4.2. Pre-commencement Meeting

If the Local Planning Authority deem it necessary, a pre-commencement meeting will be held, attended by the project Arboricultural Consultant, the Site Manager, and the LPA Tree Officer. During this meeting potential problems and protection sequencing can be discussed and it is expected that all aspects of the tree protection measures set out in this AMS will be understood and agreed. Following this meeting, all parties involved will receive an email from the Arboricultural Consultant containing a record of what was discussed and agreed.

4.3. Sequencing and Supervision

Sequencing of events and effective arboricultural supervision are important elements of the tree protection process.

Key Stages:

- AMS issued to Site Manager/Building Company
- AMS to be read by all site personnel to ensure a full understanding of implications. Any raised issues are to be addressed to the project Arboricultural Consultant
- Recommended and agreed tree works to be carried out
- Tree protective fencing and ground protection installed
- Existing buildings to be demolished where appropriate
- Construction work carried out
- Tree protective fencing and ground protection removed
- Landscaping (if any) carried out

Summary of Arboricultural Monitoring and Supervision

Activity	Level of monitoring/supervision required
Erection of tree protective fencing	Signing off of the approved tree protection measures by the project arboricultural consultant prior to any development work commencing
Installation of ground protection measures	

It is also imperative that telephone contact between the site manager and the Arboricultural Consultant is maintained with regard to any tree protection measure issues.

4.4. Site Precautions

The following points will be observed at all times:

- No fires will be lit within 15m of any retained tree on or around the site
- No access will be permitted inside the tree protection fences
- No materials, equipment, or waste will be stored inside the tree protection fencing at all
- Notice boards, telephone cables, or other services will not, under any circumstances, be attached to retained trees
- Material which contaminate soil, such as concrete, diesel oil, vehicle washings and even builders sand, will not be allowed to enter the RPA of any retained tree

4.5. Carrying out tree works

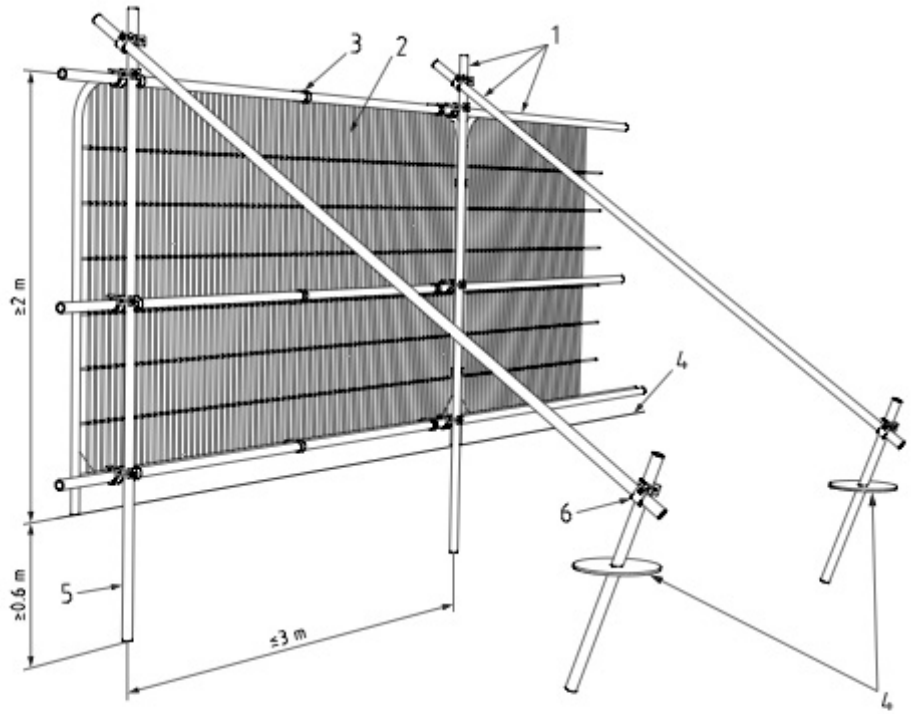
All tree works, where required, will be carried out in accordance with BS3998:2010 (Recommendations for Tree Works), and to the current arboricultural best practice. Tree works will be carried out by a suitably qualified and insured contractor. The contractor will be solely responsible for carrying out their own site risk assessment prior to the commencement of work.

If at any time during the development a need for additional tree works is highlighted to facilitate the proposed works or access for machinery/plant, the Arboricultural Consultant will be contacted to advise on appropriate works and liaise with the LPA as necessary.

4.6. Protective Fencing and Ground Protection

The required tree protective fencing should be installed to fence off the construction exclusion zone(s), or CEZ, shown on the tree protection plan (Figure 2). This must only be altered or moved as agreed in writing by the Local Planning Authority following advice from a competent Arboricultural Consultant.

The Tree Protective fencing will be 2.4m Heras fencing as specified in the BS. The fencing will be supported by a scaffold framework with supporting struts firmed into the ground on the side of the trees. The purpose of the supports is to prevent the fencing being moved during the development. Clear signs will be attached to the fencing (e.g. Tree Protective Fencing – Keep Out).



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

In this case, the ground protection will take two forms. The first being the cellular confinement for the pedestrian hard surfacing, but without its permeable finishing layer. This is mark in the gold colour on the tree protection plan 2023053/TPP001 in this report/
The second being marked in the pale blue colour and this will consist of a geotextile membrane with a compressible layer of wood chip or sharp sand on top (not builders sand due to its high salt content). This compressible layer will be 100mm deep and will have 18mm thick OSB on top. Scaffolding can be erected on top of this as required.

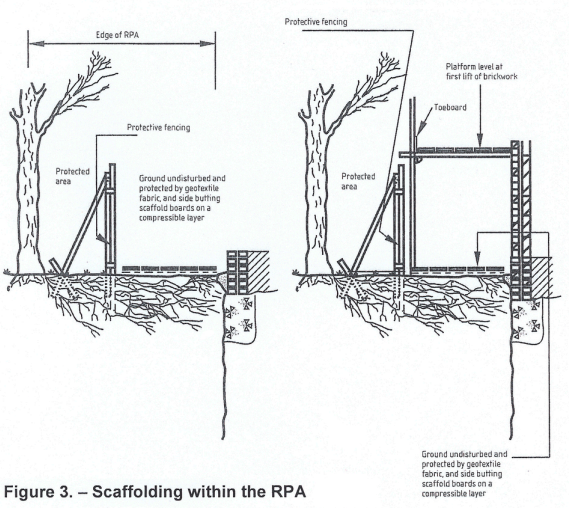


Figure 3. – Scaffolding within the RPA

4.7. Site Access

Site access will only be available via the existing site entrance on Manor Farm Lane for construction purposes

4.8. Demolition Work

Once the approved tree protection measures are in place, demolition will be carried out in the normal way. All waste from demolition will be stored away from the RPAs of all retained trees until it can be removed for disposal.

4.9. Underground Services

New underground services will be routed into the footprint of the new dwellings avoiding the RPAs of all retained trees.

Run off water will be routed into soak aways, the position of which will be agreed with the LPA before work commences.

4.10.Foundations and Construction

As the foundations for the two new dwellings are not impacting the RPAs of retained trees, no specially engineered solutions will be necessary for those.

The pedestrian hard surfacing will consist of 75mm cellular confinement with a permeable finishing layer where marked in gold on the tree constraints plan. The installation process will be as follows: -

STAGE 1 GROUND PREPARATION

1. Remove vegetation using a suitable foliar herbicide.
2. Fill any hollows with sharp sand or 4-20mm angular stone (note that ground levels must not be lowered).
3. Place geotextile membrane over area to be surfaced ensuring a 300mm overlap.
4. Mark out the areas to be protected with edging detail.

STAGE 2 INSTALLATION OF CELLULAR CONFINEMENT

1. Place cellular confinement web on top of geotextile membrane.
2. Expand cellular confinement web to required length and pin to the ground. Fix cellular confinement panels together using the manufacturers approved method.

STAGE 3 FILLING CELLULAR CONFINEMENT

1. Fill cellular confinement with a 4 to 20mm washed angular stone.
2. Allow 25mm overfill for any settlement of stone into the cells.
3. If the area is to be trafficked immediately, as is the case where it will be used as ground protection during construction, increase the surcharge of stone to a maximum of 50mm over the cell walls.

STAGE 4 FINISHING LAYERS

1. Install geotextile membrane on top of stone surcharge or overfill.
2. Spread a maximum thickness of 50mm of sharp sand.
3. Install the appropriate finishing layer as specified and approved in the planning application.

4.11.Fencing and Landscaping

During the landscaping phase of the development (if any landscaping takes place), the following precautions will be observed:

- No compaction of soil within the RPAs (or where new tree planting is to be carried out).
- No changes in ground levels.
- Unwanted vegetation to be removed manually or using contact

herbicides that will not damage existing tree roots.

- No underground irrigation or drainage pipes to be installed
- If soil has been compacted in areas where planting is proposed, measures to improve soil structure (e.g. decompaction) may be necessary to facilitate successful plant establishment.

If any fence posts are installed within the RPAs of retained trees, excavation will be carried under direct arboricultural supervision using hand tools. Posts will be re-positioned if roots in excess of 25mm in diameter are encountered. Post holes will be lined with heavy gauge polythene where concrete is used to safeguard the rooting environment of the trees from the potentially toxic effects of leaching concrete.

4.12.Amendments

Issues may arise on development sites that require amendments to the previously agreed tree protection details. Any amendments to this AMS will be approved in writing by the LPA prior to being implemented. Copies of paperwork relating to any amendments will be communicated by the Arboricultural Consultant to the Client and LPA.

This concludes the advice given in this report
Compiled and presented by
Jon Harper cert.Arb (RFS)

TREE SURVEY SCHEDULE

Please note that the recommendations on the tree survey schedule have not been considered in relation to the design of any potential proposed development, but are derived from observations made on site.

Tree Survey Schedule

Date: August 07th 2023
Site: The Rancher
Surveyor: Jon Harper cert.Arb (RFS)

= Category A trees
= Category B trees
= Category C trees
= Category U trees

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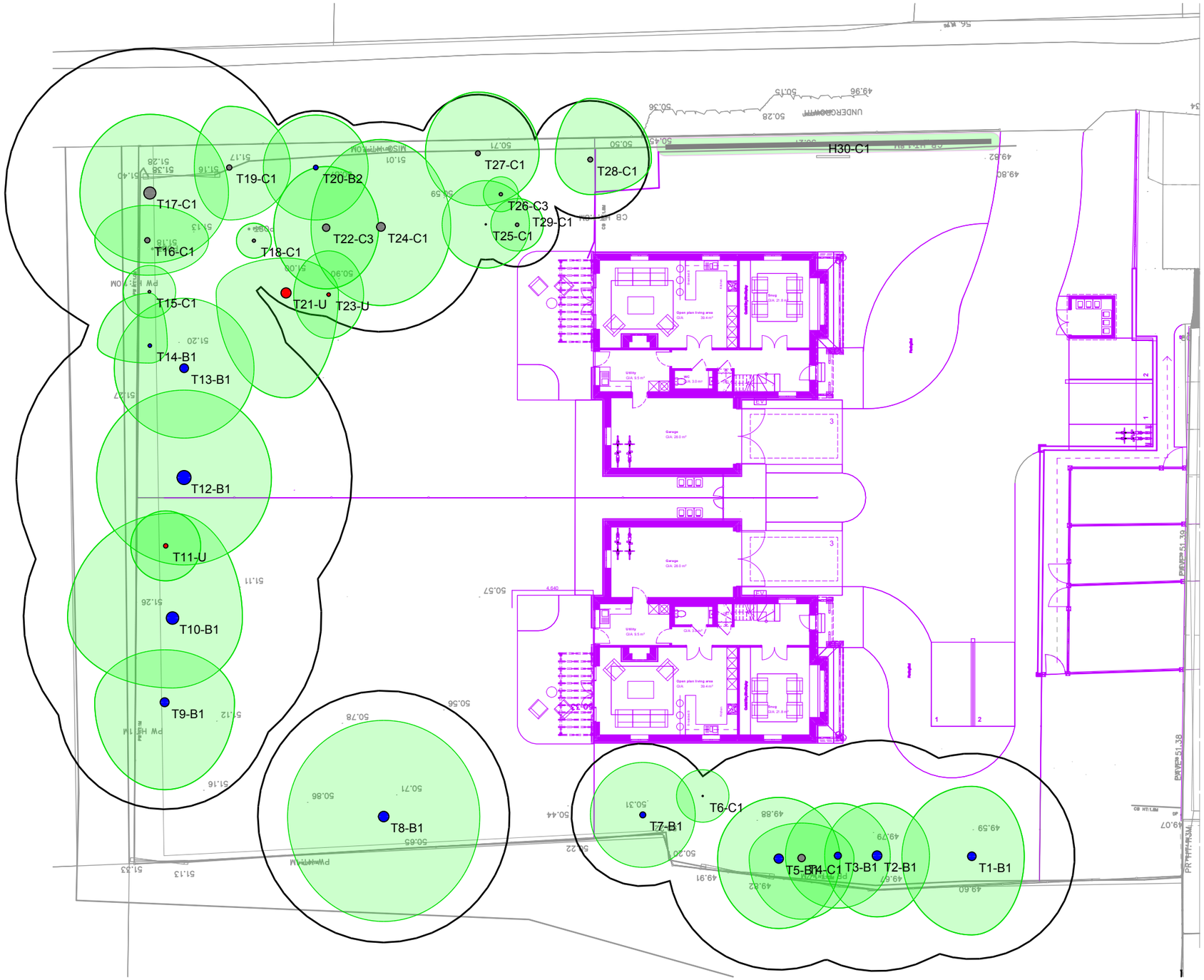
Type (Tag)	Name	Age	Category	Diameter (Stems)	Height (L/Hgt)	North	East	South	West	Condition	Life Exp	Comments	Recommendations	RPR	RPA
T1	Pinus sylvestris (Scots Pine)	M	B1	490(1)	16(4)	4	3	4.5	4	Good	20	Ivy on tree.	Sever Ivy.	5.88	108.63
T2	Pinus sylvestris (Scots Pine)	M	B1	550(1)	16(7)	3	3	3.5	3	Good	20	None at present.	None at present.	6.6	136.87
T3	Pinus sylvestris (Scots Pine)	M	B1	400(1)	15(5)	3	3	3	3	Good	20	None at present.	None at present.	4.8	72.39
T4	Pinus sylvestris (Scots Pine)	M	C1	420(1)	8(4)	2	3	3.5	3	Good	20	Poor shape & form.	None at present.	5.04	79.81
T5	Pinus sylvestris (Scots Pine)	M	B1	530(1)	15(4)	3.5	3.5	4	3.5	Good	20	None at present.	None at present.	6.36	127.09
T6	Prunus domestica (Damson)	EM	C1	106(2)	3.5(2)	1.5	1.5	1.5	1.5	Good	10	None at present.	None at present.	1.27	5.07
T7	Larix decidua (European Larch)	M	B1	340(1)	13(3)	3	3	3	3	Good	20	None at present.	None at present.	4.08	52.3
T8	Larix decidua (European Larch)	M	B1	600(1)	12(2)	5.5	5.5	6	5.5	Good	20	None at present.	None at present.	7.2	162.88
T9	Cedrus libani atlantica (Atlantic Cedar)	M	B1	510(1)	11(2)	3	4	5	4	Good	20	None at present.	None at present.	6.12	117.68
T10	Pinus nigra 'maritima' (Corsican Pine)	M	B1	710(1)	15(3)	6	4	4	6	Good	40	None at present.	None at present.	8.52	228.08
T11	Cedrus libani atlantica (Atlantic Cedar)	SM	U	250(1)	7(0)	2	2	2	2	Poor	<10	Poor shape & form. Low vitality.	Remove tree and root.	3	28.28
T12	Sequoia sempervirens (Coast Redwood)	EM	B1	800(1)	16(1.5)	5	5	5	5	Good	40	None at present.	None at present.	9.6	289.57
T13	Corylus avellana (Hazel)	M	B1	500(1)	6(2)	4	4	4	4	Good	20	Ivy on tree.	Sever Ivy.	6	113.11
T14	Corylus avellana (Hazel)	M	B1	200(1)	4(1)	3	1	1	3	Good	20	Ivy on tree.	Sever Ivy.	2.4	18.1
T15	Betula pendula (Silver Birch)	SM	C1	150(1)	8(4)	1.5	1.5	1.5	1.5	Fair	10	Spindly.	None at present.	1.8	10.18
T16	Aesculus hippocastanum (Horse Chestnut)	M	C1	300(1)	8(2)	2	3.5	2	3	Fair	10	Poor shape & form.	None at present.	3.6	40.72
T17	Chamaecyparis lawsoniana (Lawson Cypress	M	C1	690(1)	15(3)	4.5	4.5	4	4	Fair	10	None at present.	None at present.	8.28	215.41
T18	Chamaecyparis lawsoniana (Lawson Cypress	M	C1	180(1)	11(0)	1	1	1	1	Poor	10	Low bud/leaf density.	None at present.	2.16	14.66
T19	Betula pendula (Silver Birch)	M	C1	300(1)	12(4)	3.5	3.5	3	2	Fair	10	Crown distorted due to	None at present.	3.6	40.72
T20	Tilia X europaea (Common Lime)	M	B2	270(1)	8(2)	3	3	3	3	Fair	20	None at present.	None at present.	3.24	32.98
T21	Pinus nigra 'maritima' (Corsican Pine)	M	U	580(1)	13(2)	2	3	6	4	Poor	40	Low vitality. Declining. Low bud/leaf density.	Remove tree and root.	6.96	152.2
T22	Chamaecyparis lawsoniana (Lawson Cypress	M	C3	420(1)	13(0)	3.5	3	3.5	3	Poor	10	Low bud/leaf density.	None at present.	5.04	79.81
T23	Chamaecyparis lawsoniana (Lawson Cypress	M	U	200(1)	13(0)	2.5	2	2.5	2	Poor	10	Low vitality. Declining. Low bud/leaf density.	Remove tree and root.	2.4	18.1
T24	Pinus sylvestris (Scots Pine)	M	C1	500(1)	13(3)	5	4	4.5	4	Good	20	Ivy on tree. Unable to inspect stem due to Ivy.	Sever Ivy.	6	113.11
T25	Celtis tounifornii	EM	C1	168(5)	5(1)	2.5	2.5	2.5	2.5	Fair	10	None at present.	None at present.	2.02	12.82
T26	Chamaecyparis lawsoniana (Lawson Cypress	M	C3	190(1)	7(1)	1	1	1	1	Poor	10	None at present.	None at present.	2.28	16.33
T27	Betula pendula (Silver Birch)	M	C1	280(1)	11(4)	3.5	3.5	3	3	Good	20	Ivy on tree.	Sever Ivy.	3.36	35.47
T28	Betula pendula (Silver Birch)	M	C1	280(1)	11(4)	3.5	3.5	2	2	Good	20	Ivy on tree. Unable to inspect stem due to Ivy.	Sever Ivy.	3.36	35.47
T29	Celtis tounifornii	EM	C1	200(1)	2.5(0)	1.5	1.5	1.5	1.5	Fair	10	None at present.	None at present.	2.4	18.1
H30	Chamaecyparis lawsoniana (Lawson Cypress	M	C1	100(1)	3(1)	0.5	0.5	0.5	0.5	Good	10	Hedge	None at present.	1.2	4.52

TREE CONSTRAINTS PLAN

Category A trees | Category B trees | Category C trees | Category U trees

Notes & Legend:

RPAs | Trees to be removed (red crowns and numbers) | BS5837 Specification Ground Protection | No Dig Permeable Hard Surface Treatment | Tree Protective Fencing | Proposed development



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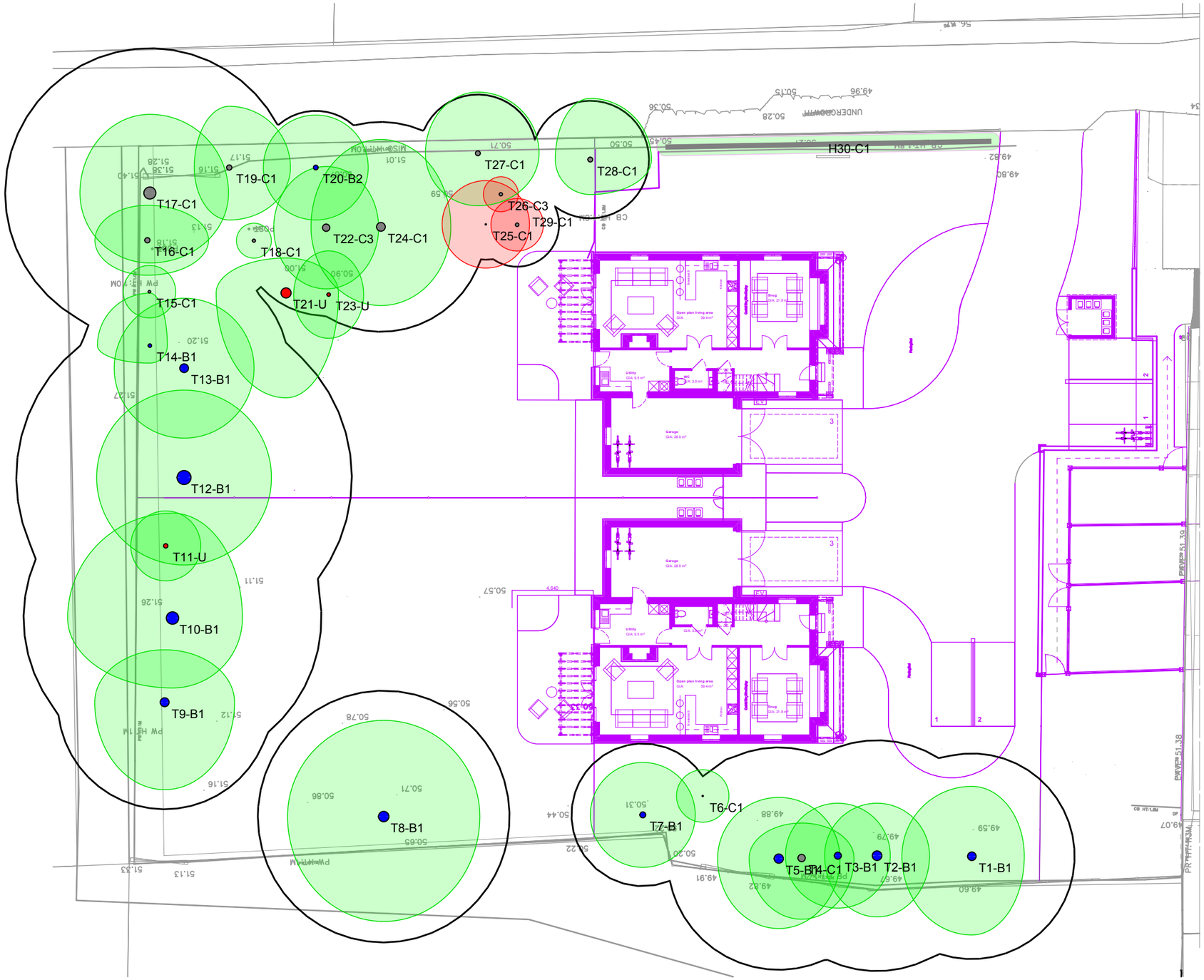
Client: Manor Farm Tidmarsh Ltd.	Date: August 07th 2023
	Ref: 2023053/TCP001
Site: The Rancher	Scale @ A3: 1:250
	Title: Tree Constraints Plan

TREE REMOVAL PLAN

Category A trees | Category B trees | Category C trees | Category U trees

Notes & Legend:

RPAs | Trees to be removed (red crowns and numbers) | BS5837 Specification Ground Protection | No Dig Permeable Hard Surface Treatment | Tree Protective Fencing | Proposed development



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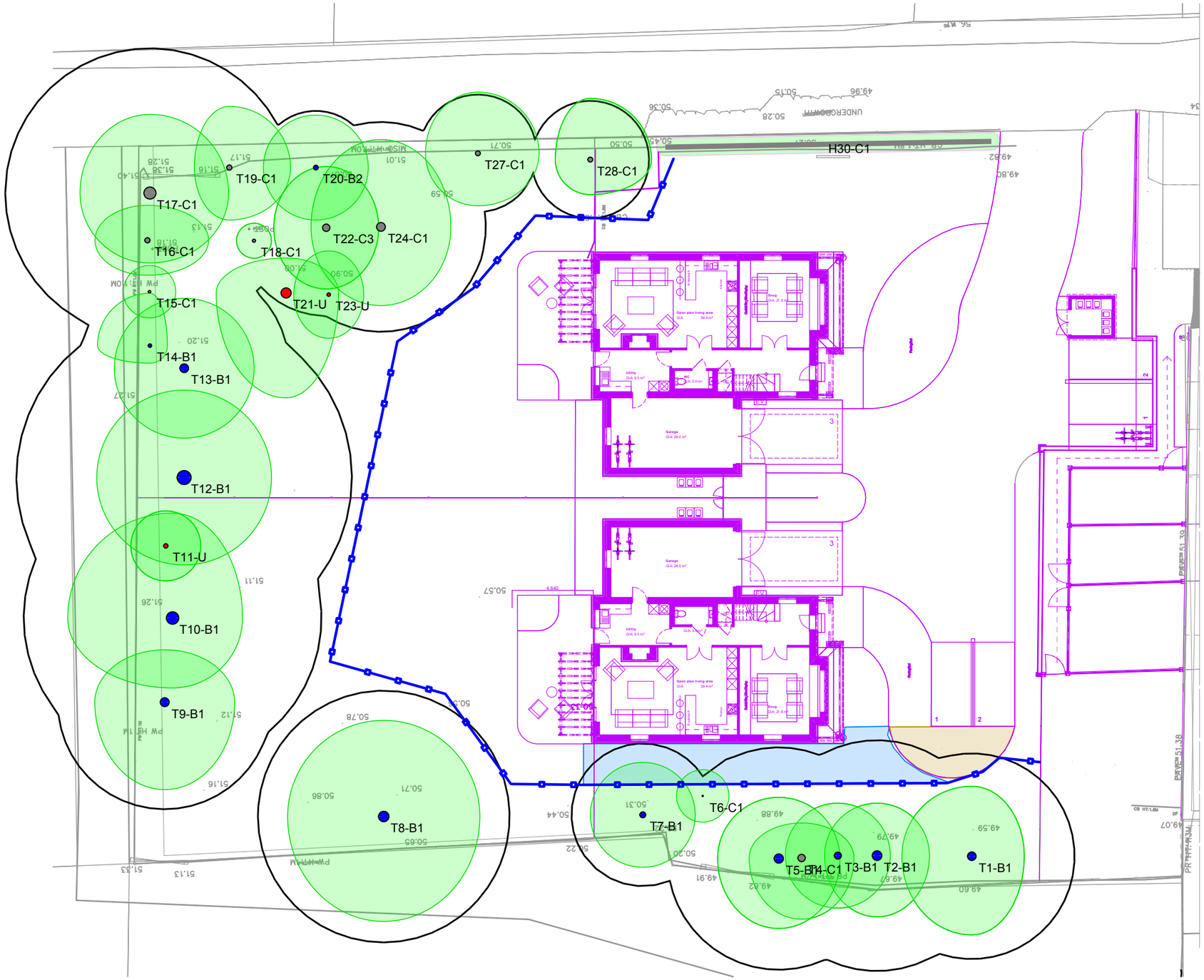
Client: Manor Farm Tidmarsh Ltd.	Date: August 07th 2023
	Ref: 2023053/TRP001
Site: The Rancher	Scale @ A3: 1:250
	Title: Tree Removal Plan

TREE PROTECTION PLAN

Category A trees | Category B trees | Category C trees | Category U trees

Notes & Legend:

RPAs | Trees to be removed (red crowns and numbers) | BS5837 Specification Ground Protection | No Dig Permeable Hard Surface Treatment | Tree Protective Fencing | Proposed development



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Client: Manor Farm Tidmarsh Ltd.	Date: August 07th 2023
	Ref: 2023053/TPP001
Site: The Rancher	Scale @ A3: 1:250
	Title: Tree Protection Plan