

# Arboricultural Impact Assessment and Tree Protection Plan

for trees at

## Pool Cottage, Willcrick



*On behalf of*

**Consensus**

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*Inspected and prepared by*

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4<sup>th</sup> April 2025

## SUMMARY

This Arboricultural Impact Assessment report supports a planning application, submitted by Consensus, for the demolition of the existing conservatory and the construction of a two-storey extension up to roof level to provide the additional space required to form 4 flats.

Arboricultural advice was taken early in the planning process with the aim of incorporating the best trees on the site. No trees will need to be removed to enable the proposed development to be constructed.

During construction, temporary fencing will be used to protect retained trees situated near works areas. For effective tree protection, fencing must be installed before any heavy plant machinery is used on the site and must remain in place until the construction works have been completed.

Supervision by a suitably qualified arboriculturist will be required in the event of any unforeseen construction activity within the root protection area of retained trees at or near the development site. It is advised to inform the project arboriculturist and the local authority's arboricultural officer of necessary works near trees as soon as they become apparent.

This report details how trees are to be protected during construction works. The site manager must be provided with a copy of this report and it will be their responsibility to impart the information herein to all construction staff.

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## 1 INTRODUCTION

### 1.1 Background

1.1.1 Consensus proposes a new development at Pool Cottage in Wilcric, Magor (NP26 3DA). This land is hereafter referred to as the 'site'. This would involve demolition of the existing conservatory and the construction of a two-storey extension up to roof level to provide the additional space required to form 4 flats; these proposals are hereafter referred to as the 'proposed development'.

1.1.2 The following documents have been reviewed to inform this report:

- Topographical Survey - Dando Surveying - Drawing # SLIpoolcottTOPO
- Proposed Roof Block Plan - Studioline - Drawing # SL\_P24035\_DWG\_0\_PR05\_Rev\_P01

1.1.3 An initial tree constraints plan was produced in March 2025 and this has informed the design of the proposed site layout.

1.1.4 A check of the Newport City Council online mapping system confirms that none of the trees at the property are protected by a tree preservation order (TPO), and nor is the site situated within a Conservation Area.

### 1.2 The assignment

1.2.1 Instructed by Consensus, Bosky Trees conducted a site visit, surveyed the trees that might be affected by the proposed development and specified suitable tree protection measures in the event of a successful planning application. The information compiled in this report is in accordance with the British Standard *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations*<sup>1</sup>.

1.2.2 This report includes the following to accompany a planning application for the proposed development:

- A tree survey plan based on the topographical survey provided, with any additional trees indicatively plotted.
- An arboricultural impact assessment of the proposed development, identifying trees that will be lost, as well as trees that can be retained and protected during development works.
- A Tree Protection Plan, including information on the location of tree protection fencing and ground protection measures.
- Recommendations for remedial works for retained trees to be undertaken before site clearance and construction.
- Method statements for works near trees.

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<sup>1</sup> British Standards Institution (2012). *BS5837 Trees in relation to design, demolition and construction – Recommendations*. BSI: London.

## 1.3 Limitations

- 1.3.1 The assessment and works recommendations relate to conditions found at the time of inspection. Any significant alteration to the site that may affect present trees, or have implications for planning (including level changes, hydrological changes, storms, extreme climatic events or site works) will necessitate re-assessment of the trees.
- 1.3.2 Note that this survey is not a tree safety inspection; it has been carried out to inform the planning process. Where clear and obvious hazards have been observed, these have been addressed in the works recommendations. A full assessment of the risks posed by trees would be informed by consideration of site use together with hazards present within a tree. Changes in site use are likely to occur during, and result from, the proposed development. Given these factors, regular tree risk assessments are advised.
- 1.3.3 This report does not consider tree-related building subsidence. If shrinkable clay soils are present on site, then guidance given in the National House Building Council (NHBC) Standards, chapter 4.2<sup>2</sup> should be used to avert the risk of future subsidence of new buildings.
- 1.3.4 No detailed assessment of the potential conflict between future site use and the shade cast by trees has been undertaken within this report.

## 2 TREE SURVEY INFORMATION

### 2.1 Details of the site visit

- 2.1.1 I visited the site and carried out tree survey on 6<sup>th</sup> March 2025. The survey was not constrained by weather conditions and considered all trees on and around the site. The survey considered all the trees in and around the expected works areas.
- 2.1.2 The proposed development site is currently a vacant building and the trees are in the adjacent garden and on the motorway verge that is immediately to the south of the site.

### 2.2 Data collection

- 2.2.1 Trees and tree groups were allocated a unique identifying number, used throughout this report. ID numbers are listed in the tree schedule and are used on the tree plans.
- 2.2.2 Trees were inspected at ground level using the visual tree assessment method.<sup>3</sup> As described in table 1 of BS5837,<sup>4</sup> each tree was placed into one of four retention categories: A, B, C or U. Stem diameter was used to calculate the root protection area (RPA)<sup>5</sup> required by each tree during construction. Information on each tree and tree group is given in Appendix 1.

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<sup>2</sup> National House Building Council (2008). *NHBC Standards Chapter 4.2 - Building near trees*. NHBC: Milton Keynes.

<sup>3</sup> Mattheck, C. and Breloer, H. (1995). *The body language of trees: a handbook for failure analysis*. Research for Amenity Trees 4. HMSO: London.

<sup>4</sup> British Standards Institution (2012). *BS5837 Trees in relation to design, demolition and construction – Recommendations*. BSI: London.

<sup>5</sup> The 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 roots and soil structure is treated as a priority.

2.2.3 A total of four individual trees and two groups of trees were surveyed (see table 1).

**Table 1: Summary of the retentive worth of trees and tree-groups included in the survey.**

<b>BS5837 Category</b>	<b>Quality</b>	<b>Number of trees</b>	<b>Number of groups</b>
A	High	-	-
B	Moderate	-	1
C	Low	4	1
U	Very poor	-	-
	<b>Total</b>	<b>4</b>	<b>2</b>

## 2.3 The tree plans

2.3.1 The Tree Constraints Plan (TCP-1) shows the root protection areas required by each tree and identifies which trees are to be removed to enable the proposed development (this is provided as Appendix 3). The Tree Protection Plan (TPP-1) shows where fencing and other protection measures are required to safeguard trees during construction (see Appendix 4). These plans are provided at the rear of the report.

## 3 ARBORICULTURAL IMPLICATIONS AND PROPOSED MITIGATION

### 3.1 Trees for removal

3.1.1 No trees will need to be removed to enable the proposed development to be constructed.

### 3.2 New service runs

3.2.1 Typical 'open trench' installation of underground services near trees is likely to sever roots; this will harm the tree's physiological condition, provide an opportunity for fungal infection, and could leave them prone to windthrow. Therefore, new underground services will be located and designed to avoid retained trees' root protection areas.

3.2.2 If any additional underground services are required it will be necessary for suitable members of the project team, including an arboricultural consultant, to design their routes. An appropriate specification and method statement are required for their installation and guidance provided in Volume 4 of the National Joint Utilities Guidelines (NJUG4)<sup>6</sup> must be followed.

### 3.3 Level changes and retaining walls

3.3.1 Level changes or slopes must comply with the constraints attached to the construction exclusion zones. This means that any soil grading must take place outside of the fenced areas identified on the Tree Protection Plan.

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<sup>6</sup> National Joint Utilities Group (2007). *Guidelines for the planning, installation, and maintenance of utility apparatus in the proximity to trees*. Volume 4 (NJUG4). National Joint Utilities Group: Eastleigh.

### **3.4 Tree protection fencing**

- 3.4.1 Temporary fencing and/or barriers must be used during construction to protect retained trees situated near works areas. The locations of such fencing/barriers is indicated on Tree Protection Plan at the rear of the report (TPP-1). For effective tree protection, protective fencing must be installed before any heavy plant machinery is used on the site and must remain in place until completion of construction works (unless under arboricultural supervision). The fenced off areas will be designated as ‘construction exclusion zones’.
- 3.4.2 A specification for suitable tree protection fencing is provided in Appendix 2.

### **3.5 General method statement for effective tree protection**

- 3.5.1 Trees are vulnerable to root damage caused by ground disturbance, direct injury of the trunk or branches, environmental change, pests and diseases. Construction work often exerts pressures on existing trees. A tree that has taken many decades to reach maturity can be irreparably damaged in just a few minutes by unwitting or negligent actions.
- 3.5.2 The site manager must be informed of the tree protection requirements at the site and the guidance in this report. A pre-start meeting is strongly encouraged to ensure correct erection of temporary barriers forming construction exclusion zones to protect retained trees at the site (see also: Section 3.4).
- 3.5.3 Soil compaction can occur quickly by vehicles passing over an area of soil. Compaction may cause reduced infiltration rates of water, poor drainage, reduced availability of water and reduced air and oxygen supply to roots. This leads to reduced root growth and, as a result, the health of the tree is affected. To avoid soil compaction, no vehicles should enter the fenced-off areas during construction operations.
- 3.5.4 All construction staff should be made aware of the following restrictions applying to construction exclusion zones:
- 1) Excavation or raising of soil levels is prohibited within construction exclusion zones without written permission from the project arboriculturist.
  - 2) Site offices and staff welfare facilities must be located outside of construction exclusion zones unless agreed with the local authority’s arboricultural officer.
  - 3) No materials of any kind should be stored within the construction exclusion zone.
  - 4) No utility trenches should be routed through a construction exclusion zone without written permission from the local authority’s arboricultural officer.
  - 5) Care must be taken when planning site operations to ensure that wide or tall loads, or plants with booms, jibs and counterweights, can operate without coming into contact with retained trees. If necessary, branches may be tied out of the way.
  - 6) Potential contaminants, such as fuel, oils and chemicals, must be stored on an impervious base within a bund able to contain at least 110% of the volume stored. Provision must also be made for any spillage or run-off to be contained away from the protected area.
  - 7) Cement and concrete mixing must take place at least 10m from any trees, over a suitable hard surface to prevent soil contamination from spillage or washing out.

## **4 ARBORICULTURAL IMPACT ASSESSMENT**

### **4.1 Evaluation of the proposed development's arboricultural impact**

- 4.1.1 There is currently an existing building where the new extension is proposed, and this is located on a concrete foundation. Given the circumstances I do not expect any of the adjacent trees to be rooting where excavations will be required for the proposed development.
- 4.1.2 Overall, provided that the tree protection measures detailed in this report are followed, I consider that the proposed development can be constructed without causing significant damage to any of the trees on or around the site. Therefore, I am satisfied that the proposed development will have an acceptable impact on local tree cover.

## **5 RECOMMENDATIONS**

### **5.1 Tree work**

- 5.1.1 All tree works necessary for the proposed development are listed in the schedule in Appendix 1. This includes cutting back the trees in G1 back
- 5.1.2 All permitted and approved tree work must be undertaken in accordance with BS3998:2010 *Recommendations for tree work*,<sup>7</sup> ideally at the beginning of the construction phase before protective fencing is erected. Only qualified and insured tree surgeons should be employed.

### **5.2 Legal restrictions to tree works**

- 5.2.1 At present none of the trees at the site are protected. If this report is submitted to support a full planning application, and that application is subsequently approved, any tree works listed in the report may be carried out prior to the commencement of construction without the requirement for further permission from the planning authority. But if any arboricultural works are intended before planning permission has been approved then, before works start, the local planning authority should be contacted again to confirm if any of the trees have subsequently become protected since the previous check. Also, if trees are owned by a third-party, permission for any arboricultural management must be agreed with the owner in advance of the works. Please contact Bosky Trees if you would like these matters explained in more detail.
- 5.2.2 Works may be constrained between March and August because it is illegal to disturb an active bird's nest. Bat roosts are also protected, so tree works might be delayed if roosting bats are encountered. A tree surgeon or ecologist will advise on this matter.

### **5.3 Arboricultural supervision**

- 5.3.1 Supervision by a suitably qualified arboriculturist is required if any unforeseen construction activity is to take place within the root protection area of any trees retained on or near the site. The project arboriculturist and the local authority's arboricultural officer should be informed of necessary works near trees as soon as they become apparent.

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<sup>7</sup> British Standards Institution (2010). *BS3998 Recommendations for tree work*. BSI: London.

**Appendix 1: Tree Schedule**

Site: **Pool Cottage, Willcreek, NP26 3DA**

Surveyor: **Ben Rose**

Date of Survey: **6th March 2025**



Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T1	Silver birch	3	1	11	1	1	1	1	2	EM	F	10+	Small tree. Recent heavy crown reduction.	No action required at present.	<b>C1</b>
T2	Apple	3	MS	<b>10</b>	1	1	1	1.5	1	M	G	40+	Small fruit tree. Basal shoot growth. Situating on higher ground.	No action required at present.	<b>C1</b>
T3	Apple	3	MS	<b>10</b>	1	1.5	1.5	1	1	M	G	40+	Small fruit tree. Basal shoot growth. Situating on higher ground.	No action required at present.	<b>C1</b>
T4	Plum	7	1	19	3	1	1	2	3	M	F	40+	Small fruit tree. Shaded by larger trees to the south.	No action required at present.	<b>C1</b>

A key explaining each category is provided at the rear of the schedule

Appendix 1: Group Schedule

Site: Pool Cottage, Willcreek, NP26 3DA

Surveyor: Ben Rose

Date of Survey: 6th March 2025



Group Number	Tree Species	Number in Group	Height (m)	Number of stems	Stem $\phi$ (mm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
G1	Hazel, goat willow, ash and sycamore	9	8	1	9	4	1	2	2	3	M	G	40+	These trees are on adjacent land but their crowns overhang the site boundary.	Prune back to the boundary.	C1
G2	Mixed woodland	50+	20	1	30	3	3	3	3	5	M	G	40+	These are part of a plantation on a steep bank beside the motorway. Not impacted by the proposed development.	No action required at present.	B2

A key explaining each category is provided at the rear of the schedule

## Tree Schedule - KEY

### Tree/Group/Hedge Number

Tree, tree-groups or hedges have been allocated a number for the purpose of this survey. Numbers within the Tree Schedule relate to those marked on the Tree Removal Plan and Tree Protection Plan drawings.

Trees protected by a tree preservation order (TPO) are highlighted by grey colouration in the tree schedule.

### Species

Common names are listed.

### Number in Group

Number of trees within a group. A group of trees may comprise of more than one species.

### Height (m)

All heights are estimated in metres.

### Number of Stems

The number of stems is either 1, 2, 3, 4, 5 or MS (multi-stemmed). This feature influences how the area of the recommended root protection area is calculated.

### Stem or Combined Diameter (cm)

Single stem diameters are measured at 1.5m with a diameter tape. The combined stem diameters for trees with up to five stems and trees with more than five stems (MS) trees are calculated in accordance with the guidance.

### Crown Spread Radius (m)

The crown radius from tree trunk to crown limit identified at the four cardinal points (N, S, E and W) in order to allow presentation of the above ground constraints on the Tree Protection Plan.

Measurements are approximate and recorded to the nearest half metre.

### 1<sup>st</sup> Branch (m)

This is a record of the height of the lowest branch. This is useful when planning access routes or considering if pruning will be required to site new features under a tree crown.

### Age Class

(Y) Young, (SM) Semi-Mature, (EM) Early-Mature, (M) Mature, (FM) Fully-Mature or (V) Veteran.

### Overall Health

An overall assessment of the physiological condition of the tree recorded as (G) Good, (F) Fair, (P) Poor, (D) Dead.

### ULE (Years)

Useful Life Expectancy. Anticipated future contribution to amenity, in years.

### Tree Structural Condition & Site Notes

Observations on the form of the tree, condition and structural integrity.

Site notes are detailed when relevant to the growth conditions or rooting constraints.

### Management Recommendations

Recommended tree surgery works to be carried out prior to construction. Terminology used is based on guidance detailed in BS3998:2010 – Recommendations for tree work<sup>1</sup>.

### Category

Tree category as defined within BS5837:2012. Categories A (high quality), B (moderate quality) and C (low quality) are trees that should be considered for retention. Category U trees are unsuitable for retention.

<sup>1</sup> British Standards Institution (2010). BS3998 - Recommendations for Tree Work. BSI, London.

## APPENDIX 2

### SPECIFICATION FOR TREE PROTECTION FENCING

The location of the tree protection fencing that will be required is shown on the tree protection plan, (this is provided at the rear of this document). **For effective tree protection it is crucial that the protective fencing is installed before any heavy plant machinery is used on the site.** The tree protection fencing must remain in place until the construction works have been completed (unless under arboricultural supervision). The fenced off areas will be construction exclusion zones.

Most planning permission notices include a condition for tree protection that requires proof to be provided to demonstrate that the tree protection fencing has been put up properly and in accordance with the tree protection plan. This can be done by installing the fencing and informing the council two weeks in advance of starting construction, or by employing an arboricultural consultant to check the fencing and produce a record of the inspection. Alternatively, photos could be taken as evidence that the fencing has been put up before any other works have started.

Fencing (or other forms of barrier) must be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees. In most cases fencing should consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m (as detailed in in Figure 2 of BS5837). That would be appropriate, but for this project I expect that the most practical fencing to use would be Heras fencing that has been fixed in place (as detailed in figure 3a of BS5837). Therefore, it is proposed that Heras fencing is used, and that the feet are pinned, or the panels braced, to prevent contractors from being able to easily move the feet and alter the fence alignment during construction. Heras produce support braces that can be used to stabilise fence panels.

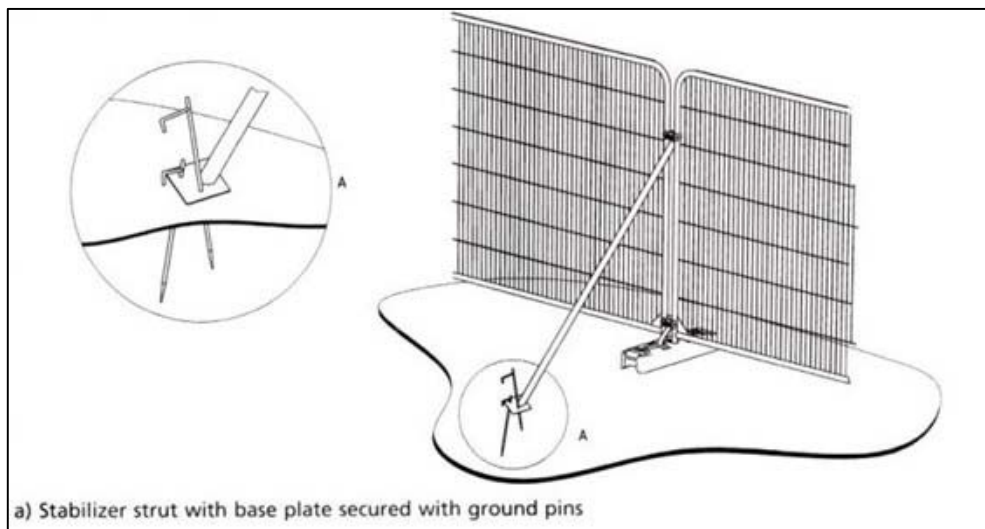
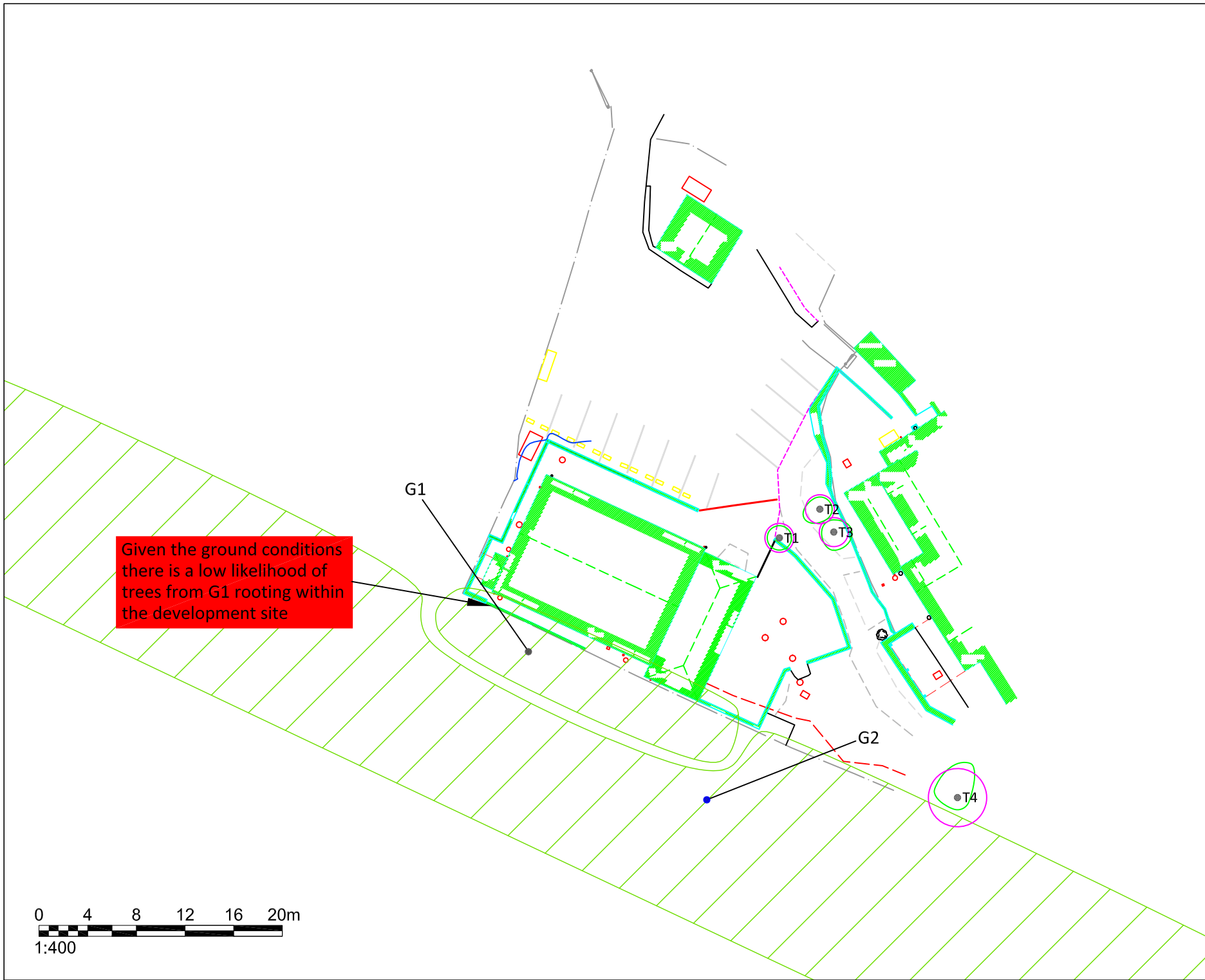


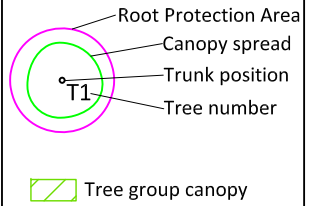
Figure 3a of BS5837:2012.

Once the barriers have been erected the areas of land within the construction exclusion zone should be regarded as sacrosanct, and should not be removed or altered without prior consultation with the project arboriculturist and, where necessary, approval from the local planning authority. All-weather notices should be attached to the fencing with words such as: 'Construction Exclusion Zone - No Access'. Throughout the construction period attention should be paid to ensure that barriers remain rigid and complete.

**Arboricultural supervision will be required whenever construction and development activity is to take place within a construction exclusion zone.** This supervision must be carried out by a suitably qualified arboriculturist.



**Key**



**BS5837:2012 - Tree Category**

- **Category A Trees**  
High quality and value  
At least 40 years life-expectancy
- **Category B Trees**  
Moderate quality and value  
At least 20 years life-expectancy
- **Category C Trees**  
Moderate quality and value  
At least 10 years life-expectancy
- **Category U Trees**  
Poor quality and value  
Less than 10 years life expectancy



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**Project Name:**  
Pool Cottage  
Willcrick

**Drawing Title:**  
Tree Constraints Plan

<b>Drawing Number:</b> TCP-1	<b>Revision</b>
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**Client:**  
Consensus

**Agent:**

**Date:**  
10-3-2025

**Scale:**  
1:400 @ A4





**Key**

- Root Protection Area
- Canopy spread
- Trunk position
- Tree number
- Tree group canopy
- Tree protection fence



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 Tel: 01373 832778  
 Email: info@boskytrees.co.uk

**Project Name:**  
 Pool Cottage  
 Willcrick

**Drawing Title:**  
 Tree Protection Plan

<b>Drawing Number:</b> TPP-1	<b>Revision</b>
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**Client:**  
 Consensus

**Agent:**

**Date:**  
 4-4-2025

**Scale:**  
 1:400 @ A4

