



Arboricultural Implications Assessment and Arboricultural Method Statement

SITE ADDRESS:

Bonnyknox, Arbroath, Angus, DD11 2PR

CLIENT:

Arthian

DATE:

21 May 2025

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REVISION: 03

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Scope of Report

- 1.1.1. This Arboricultural Impact Assessment (AIA) and the Arboricultural Method Statement (AMS) have been prepared by The Tree Consultants Limited (TTC) on behalf of Arthian to assess the arboricultural implications for the construction and operation of a solar farm with all associated works, equipment, necessary infrastructure at Fallaws Farm, Arbirlot, Arbroath.
- 1.1.2. This Arboricultural Impact Assessment (AIA) is intended to evaluate the direct and indirect effects of the proposed design on the trees on site and, where necessary, recommend mitigation to prevent or minimise damage to the retained trees during the proposed construction.
- 1.1.3. The Arboricultural Method Statement (AMS) details the measures and procedures required to ensure the retained trees can be successfully retained throughout the works on the site.
- 1.1.4. This report has been written in accordance with industry best practice and guided by the recommendations of the British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' (BS5837).
- 1.1.5. This assessment is based on the supplied layout drawing. 05114-RES-LAY-DR-PT-003 Rev 4
- 1.1.6. This report should be read in conjunction with the **Tree Protection Plan (TPP) (see Appendix 2)**

1.2. Site and Tree Survey

- 1.2.1. A tree survey of the site has been completed in accordance with BS5837. Findings for each of the trees surveyed are detailed in the **Tree Survey Schedule (See Appendix 1)**. The Tree Survey Schedule provides a record of each survey entry, including tree reference numbers, species, tree and root protection area (RPA) dimensions, life stage, physiological and structural condition, and arboricultural value.
- 1.2.2. The site survey was conducted in August 2024.
- 1.2.3. The site currently comprises of 95.45 hectares (Ha) of agricultural land which forms part of Fallaws Farm. The land within the Application Site is divided into 7 fields, which are largely screened from view by hedgerows, woodland and established trees.
- 1.2.4. It was found that only four trees are located within the application site. The remaining trees found at the survey are growing along field margins consisting of woodland groups, particularly those located to the north and east of the site.

1.3. Statutory Designations Relating to Arboriculture

- 1.3.1. From information on the Local Planning Authority's website (LPA's) - Angus County Council - on the 7th February 2025, no trees within the site are shown to be subject of a Tree Preservation Order ('TPO').
- 1.3.2. The site is not in a Conservation Area.

Arboricultural Implications Assessment (AIA)

- 2.1.1. This impact assessment is intended to evaluate the direct and indirect impacts on the trees on the site in relation to the proposed development. Any potential tree impacts are identified as per BS5837:2012 section 5.4, and details are given of proposed mitigation.
- 2.1.2. Any potentially damaging activities proposed in the vicinity of retained trees are identified, such that mitigation to significantly reduce or avoid this impact can be detailed in the Arboricultural Method Statement and Tree Protection Plan as recommended in BS5837:2012 section 5.4.2.
- 2.1.3. This impact assessment should be viewed in line with the **Tree Protection Plan (TPP)** at **Appendix 2**. The TPP shows the finalised layout in relation to the existing trees that may be impacted by the proposed development.
- 2.1.4. The TPP shows the tree locations and constraints plan in relation to the existing site and shows the protection measures required during the construction periods for the trees which are to be retained.

2.2. Evaluation of Tree Removals.

- 2.2.1. The proposed development will result in the removal of two lower quality trees within G35, as shown with a red dashed canopy on the TPP. This is from a new farm track alignment leading into the site. Its location is restricted by a new crossing of a stream, resulting in the removal of two trees.
- 2.2.2. The trees in question are small in both height and canopy spread, having been planted along the existing track within the last ten years. Their removal will have little to no impact on the wider landscape due to their size. They could easily be replaced with new planting elsewhere within the application site.

2.3. Tree Pruning

- 2.3.1. No trees require pruning to facilitate the proposed development.
- 2.3.2. Consideration was given to crown lifting the trees overhanging the existing farm track that will be utilised for site access. The crown height of these trees is currently sufficient to allow farm traffic and articulated lorries to pass freely. No equipment larger than this is anticipated to be required therefore no pruning is necessary.

2.4. Proposed structures within Root Protection Areas (RPAs')

- 2.4.1. The footprint of all proposed solar panels, security fencing, and access tracks are located outside the RPAs of the retained trees.
- 2.4.2. Therefore, there will be no impact on the existing trees on this or adjacent to this site from the proposed development.

- 2.4.3. To protect the retained trees, tree protection fencing has been proposed. As solar sites are constructed with the security fence installed first, in many areas such as along the north and east of the site the security fence will also act as tree protection fencing in these areas.

2.5. Proposed Services.

- 2.5.1. Detailed design of proposed underground services forming the new connection to the National Grid are not available at this time, thus any potential impacts between trees shown retained on the TPP and proposed services have not been identified.
- 2.5.2. It is likely, however, that power connections can be installed outside the RPAs of retained trees, by utilizing the existing farm track or overhead cables within the site.
- 2.5.3. This report will be updated when this information becomes available.

2.6. Shade and Future Pressure to Prune.

- 2.6.1. The solar array layout has been assessed in terms of shading and future pressure to prune. Given the orientation of the site and the relationship between the proposed areas and the retained trees, the juxtaposition is viable for long-term tree retention, and it is considered that shading by trees is unlikely to be a concern in the future.
- 2.6.2. This assumption is largely down to the majority of the trees being located towards the northern end of the site. Larger trees to the south have a sufficient distance (23m minimum) between themselves and the proposed panel locations so as not to cast shade over the panels for the majority of the day/year.
- 2.6.3. As a result, it is considered unlikely that there would be any undue pressure to remove trees or excessively prune them in the future.

2.7. Conclusion

- 2.7.1. The proposed layout has taken account of the existing trees and the constraints they pose. Resulting in a design that has little to no impact on the existing tree stock or further pressure to prune for shading.
- 2.7.2. Some tree protection is required to protect the trees within the site interior. The proposed security fence can act as sufficient protection for the trees located along the site boundaries.

Arboricultural Method Statement

- 3.1.1. Copies of this report must be available for inspection on site and all personnel must be made aware of the key implications of this AMS during the construction of the development. Improper implementation or deviation from working methodology set-out within this report could represent a breach of the planning conditions and trigger enforcement action from the Local Planning Authority (LPA).
- 3.1.2. This AMS will need to be read in conjunction with **Tree Protection Plan (TPP) Appendix 2**.
- 3.1.3. The TPP shows the Root Protection Areas (RPAs) and branches spread of retained trees. The RPA signifies the area that must be protected during the construction works to avoid harm to the rooting environments of trees. Where development and site works occur within RPAs or close to tree branches, there are mitigative measures and protocols that must be adhered to as detailed within this document. Unless otherwise stated within this document, within the areas protected by tree protection barriers the following shall apply:
- No excavation
 - No lowering of levels
 - No storage of plant or materials
 - No vehicular access
 - No fires shall be lit in within 15m of the trees canopy.
 - No parking
 - No welfare facilities
 - No substances harmful to the environment or trees' health shall be stored adjacent to or allowed to flow into tree protection areas. This includes all fuels, oils, bitumen, cement storage towers and washing areas, building sand, salt or any other chemicals.

3.2. Arboricultural Site Supervision

- 3.2.1. Due to the nature of the proposed development and subject to agreement from the LPA, no regular arboricultural monitoring or supervision is proposed.

3.3. Tree Removal and Pruning Works

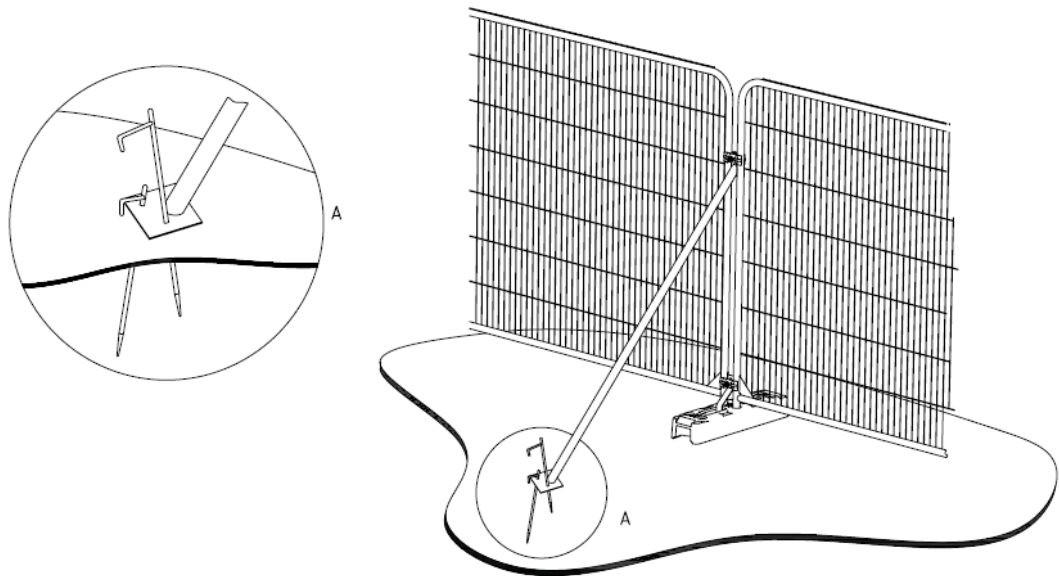
- 3.3.1. Trees to be removed are marked on the TPP with a red dashed canopy and red cross on the TPP
- 3.3.2. Trees to be removed and pruned will be clearly identified on-site (via spray marking / taping / tagging as required) to avoid erroneous tree works. The appointed Project Arboriculturist will be contacted if there is any uncertainty on what trees to be removed or pruned.
- 3.3.3. Tree removals will be carried out prior to the installation of tree protection barriers.
- 3.3.4. A geocoordinate AutoCAD file of the TPP is available upon request which can be used by a surveyor to mark out the extent of tree group and hedgerow removals.
- 3.3.5. Tree works must be undertaken in accordance with BS3998:2010 by a competent tree contractor and should avoid the main nesting season for birds between 1st March and 31st

August each year. If such timescales are unachievable, the advice of an ecologist will need to be sought to determine any further necessary protective and precautionary working measures to avoid disturbance to nesting birds and other wildlife.

- 3.3.6. The tree surgery contractor is responsible for carrying out any relevant health and safety risk assessment, and insurance, prior to any tree work being carried out.
- 3.3.7. No trees to be retained shall be used for anchorage or winching purposes.
- 3.3.8. Stumps that are within the RPAs of retained trees are either to be cut flush with ground level or ground out with a stump grinder. They will not be pulled out with a machine.

3.4. Tree Protection Fencing

- 3.4.1. Tree protection barriers will be fully installed before the arrival of any plant or construction activity on-site. The barriers will serve to prohibit any access into the RPAs, and unless otherwise stated in this AMS, tree protection barriers will remain in place for the duration of the construction works until the construction work is deemed completed.
- 3.4.2. The TPP identifies the location of the tree protective fencing. To ensure accurate positioning and to avoid costly adjustments, the tree protection fence must be set out by a surveyor with all node points being marked clearly on site for the fencing contractor to work to. A geocoordinate AutoCAD file of the TPP is available upon request.
- 3.4.3. The protective fencing shall be at least 2.1m in height and comprise standard 'Heras' welded mesh fence panels mounted on rubber or concrete feet (see image below). The panels shall be fixed to each other with at least two anti-tamper clamps, installed so that they can only be removed from inside the fence.
- 3.4.4. The fencing shall be supported on the side closest to the retained trees by stabiliser struts braced to the ground at an angle of 45 degrees, and attached to a base plate secured to the ground with ground pins. Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabiliser struts should be mounted on a block tray. Notices stating "Tree Protection Zone – Keep Out" will be attached with cable ties to every other panel.



a) Stabilizer strut with base plate secured with ground pins

3.4.5. Stages for installing Tree Protection Fence are as follows:

- Clearance of vegetation (where required) to allow working access to install the protection fence.
- Setting out of fencing node points for accuracy.
- Fence is installed and signs installed.
- Site accessible to construction traffic.

3.4.6. Special attention is essential in maintaining the protective barriers during construction ensuring that it remains rigid and complete as well as fit for the purpose intended. Protective barriers will be inspected frequently and repairs shall be made immediately where required.

3.4.7. All-weather notices will be attached to the barriers with words such as 'Construction Exclusion Zone – No Access' (See signage example at **Appendix 3**).

3.4.8. Any alterations to the tree protection fence otherwise as stated within this AMS must only be completed under the guidance of a suitably qualified arboricultural consultant.

3.5. General Site Precautions

3.5.1. The following points must be observed during both advanced works and the construction process:

- The site compound area must be established outside of the unprotected RPAs prior to undertaking construction works on-site, inclusive of any areas for materials storage, contractor parking, mixing must also be established outside of the RPAs;
- No fires will be lit on-site;
- Cutting down, uprooting, damaging or otherwise destroying any retained tree is prohibited;

- No access will be permitted inside RPAs unless under the guidance of a suitably qualified arboricultural consultant or otherwise stated within this AMS;
- No materials, equipment or debris will be stored within the RPA at any time unless otherwise stated within this AMS;
- If during demolition or construction, there are any excessive levels of dust build-up on retained trees then trees must be hosed down immediately with a clean water supply;
- Notice boards, telephone wires or other services must not be attached to any part of retained trees; and;
- Materials which will contaminate the soil (e.g. concrete, cement, chemical toilets, diesel oil, vehicle washings etc.) must not be permitted within, or close to RPAs of retained trees. Consideration must be given to any sloping ground on-site to ensure that contamination of soil in the RPA would not occur if there were spillage. To avoid any associated damage or injury occurring to the trees as a direct result of contact with contaminants, works including cement mixing, re-fuelling and tool or machine washing will not be permitted within 20m uphill of any retained tree.
- Contamination of the soil by fuel and lubricant leaks must be avoided at all costs. If such a situation arises the project arboriculturist must be notified to assess the situation and prescribe remedial measures.

Appendix 1: Tree Survey Schedule

Notes for the Tree Schedule

This schedule is based on an inspection carried out by Rob Anderson on the 27 -28th August 2024. Deciduous trees were in leaf.

The information contained in this schedule reflects the conditions of those specimens at the time of inspection. They were inspected from the ground only; they were not climbed and no internal investigations were undertaken, thus no guarantee may be given as to their structural integrity.

As trees are dynamic organisms and subject to continual change no dimensions expressed in this schedule may be relied upon for development purposes for more than 24 months from the date of survey. Estimated dimensions are marked 'est'.

1. **No:** Expressed in sequential order starting from number 1 – woodlands, groups & hedges are prefixed as W, G, & H respectively.
2. **Species:** The common name as given in "Collins Tree Guide", Johnson & More (2004).
3. **Height:** Estimated with the aid of a 'Disto' laser range finder and expressed in metres.
4. **Trunk Diameter:** Measured at 1.5m above ground level and expressed in millimetres to the nearest 10mm; where multiple stems are present they are measured individually and a cumulative total calculated in accordance with BS5837 (2012).
5. **Radial Crown Spread:** Distance in metres from the centre of the trunk to each cardinal point of the compass and rounded up to the nearest half metre.
6. **Crown Clearance:** Mean height from adjacent ground level to the lowest point of the crown.
7. **Height to First Branch:** Height, in metres, of the first significant branch (100mm) or to crown break from ground level.
8. **Life Stage:** Young, Semi mature, Mature, Veteran/Ancient.
9. **Physiology:** Health and condition of the tree in comparison to a typical specimen of species and age: Good, Average, Below Average, Poor, Dead.
10. **Structure:** The structural condition of the tree based on an assessment of any visible roots, trunk and crown, noting the presence of any defects or decay: Good, Moderate, Indifferent, Poor, Hazardous.
11. **Estimated Years:** Estimate of remaining contribution expressed in years <10, 10-20, 20-40, 40+.
12. **Comments:** Notes relating to health and condition, structure and form, estimated life expectancy and importance within the local landscape.
13. **Category:** - A rating given to individual trees based on Table 1 in the British Standard, BS 5837 (2012) "*Trees in relation to design, demolition and construction - Recommendations*".

Category 'U' - Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboriculture management.

Category 'A' - Trees of high quality and value; in such a condition as to be able to make a substantial contribution (Normally a minimum of 40 years).

Category 'B' - Trees of moderate quality and value; those in such a condition as to make a significant contribution (Normally a minimum of 20 years).

Category 'C' - Trees of low quality and value; currently in adequate condition to remain until new planting could be established (Normally a minimum of 10 years), or young trees with a stem diameter below 150mm.

Sub-categories (where appropriate); 1 – Mainly arboricultural qualities; 2 – Mainly landscape qualities; 3 – Mainly cultural values, including conservation.

Tree Number	Common Species Name	Height (m)	Trunk Diameter and stem count	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)
				N	E	S	W							
G1	Sycamore (Acer pseudoplatanus), Scots Pine (Pinus sylvestris), Beech (Fagus sylvatica)	18(2)	610(1)	3.00	3.00	3.00	3.00	2.00	Mature	Good	Average	B2	Group of trees, not all stems are plotted on the topo. Some of the pines to the north are lightly damaged by fire. Overall form a cohesive group. Diameter is estimated average.	7.3
T2	Sycamore (Acer pseudoplatanus)	18(2)	880(1)	7.00	7.50	4.50	5.50	2.00	Mature	Good	Good	A2	Basal and some stem growth. Growing on Northam end of group	10.6
G3	Sycamore (Acer pseudoplatanus), Beech (Fagus sylvatica)	17(3)	620(1)	5.00	5.00	5.00	5.00	3.00	Mature	Good	Average	B2	Plotted by eye on plan. Branches encroaching upon a building. Line of trees not fully plotted on topo. Predominantly sycamore with crowns growing as one. Some trees have decay pockets within stems but overall moderate quality. Diameter is estimated average.	7.4
T4	Ash (Fraxinus excelsior)	12(0)	570(1)	4.50	5.50	6.00	4.00	0.00	Over mature	Below average	Average	C1	Plotted by eye on plan. Low vigour/poor extension growth. Sparse foliage.	6.8
H5	Privet (Ligustrum vulgaris)	1.75(0)	50(1)	1.00	1.00	1.00	1.00	0.00	Early Mature	Good	Average	C2	Plotted by eye on plan. Small boundary hedgerow	.6
T6	Sycamore (Acer pseudoplatanus)	16(3)	860(1)	5.00	8.00	7.00	7.50	3.00	Mature	Good	Average	B2	Cavity on stem. Large secondary limb has included bark along seam.	10.3
T7	Sycamore (Acer pseudoplatanus)	13(3)	380(1)	3.00	6.00	2.00	2.00	3.00	Mature	Average	Average	C2	Major deadwood in crown. One sided crown: suppressed by adjacent specimen.	4.6
T8	Sycamore (Acer pseudoplatanus)	13(3)	380(1)	3.00	2.00	2.00	5.00	3.00	Mature	Average	Average	C2	One sided crown: suppressed by adjacent specimen.	4.6
T9	Sycamore (Acer pseudoplatanus)	14(3)	870(1)	6.50	8.00	4.50	4.00	3.00	Mature	Average	Good	B2	Old pruning wounds on stem, slightly smaller than normal leaf size	10.4
T10	Copper Beech (Fagus sylvatica 'Purpurea')	3.5(0)	100(1)	3.50	3.50	3.50	3.50	0.00	Semi mature	Good	Average	C2	Establishing tree	1.2
T11	Copper Beech (Fagus sylvatica 'Purpurea')	3.5(0)	100(1)	3.50	3.50	3.50	3.50	0.00	Semi mature	Good	Average	C2	Establishing tree. Low crown break	1.2
T12	Goat Willow (Salix caprea)	4(0)	100(5)	4.50	4.50	4.50	4.50	0.00	Early Mature	Good	Average	C2	Plotted by eye on plan. Multiple stems at ground level. Growing on North Bank of stream	2.7
T13	Sycamore (Acer pseudoplatanus)	10(0)	430(1)	5.50	5.50	5.50	5.50	0.00	Mature	Good	Below average	B2	Plotted by eye on plan. Low crown break with tight forks. Growing on North Bank of stream	5.2
T14	Goat Willow (Salix caprea)	7(1)	200(3)	4.50	4.50	4.50	4.50	1.00	Mature	Average	Average	C2	Plotted by eye on plan. Multiple stems at ground level. Growing on South side of stream at bottom of bank Inaccessible: diameter estimated.	4.2

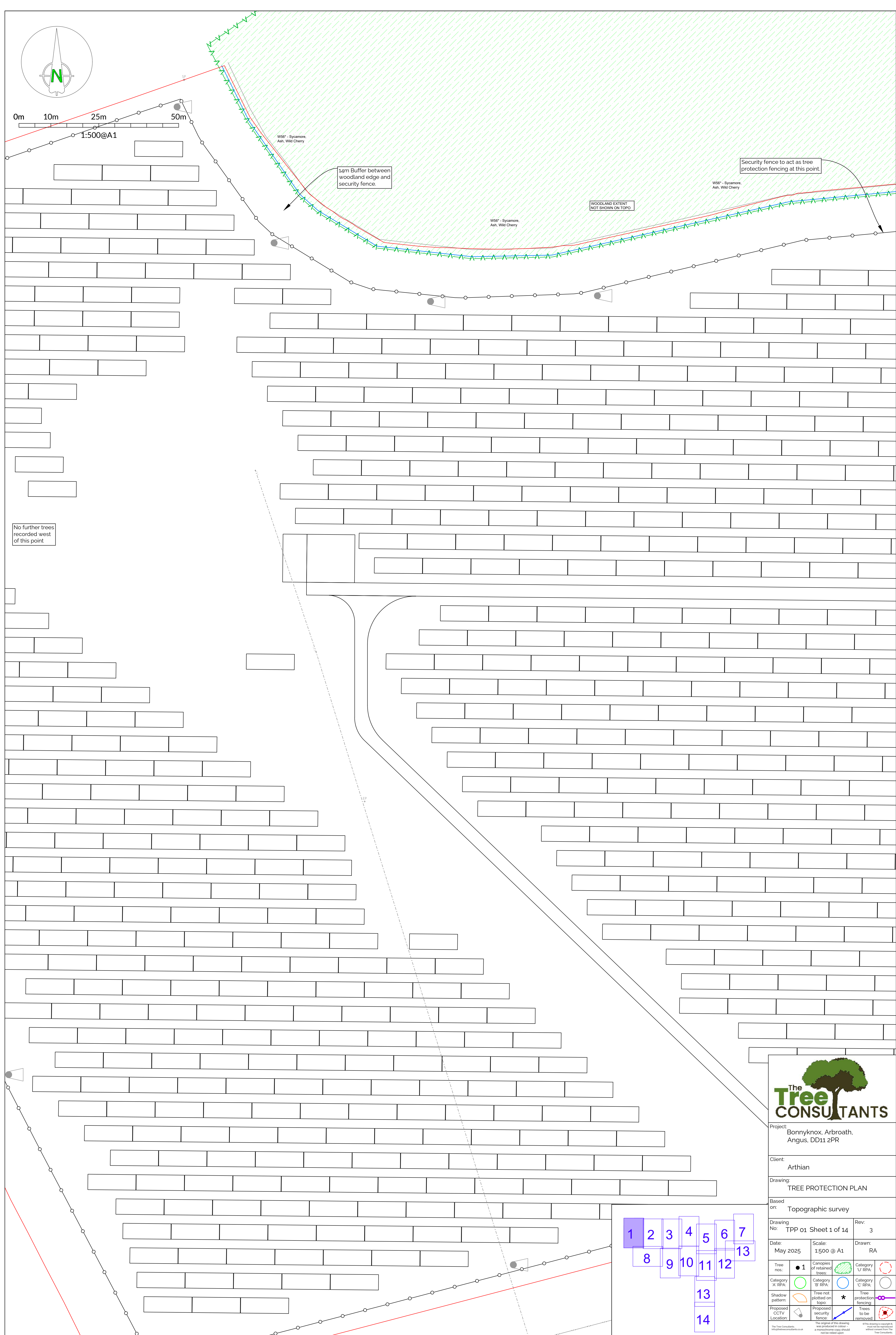
Tree Number	Common Species Name	Height (m)	Trunk Diameter and stem count	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)
				N	E	S	W							
G15	Rowan (Sorbus aucuparia), Bird Cherry (Prunus padus), Common Oak (Quercus robur), Sycamore (Acer pseudoplatanus)	5(2)	250(1)	3.00	3.00	3.00	3.00	2.00	Mature	Below average	Average	C2	Dimensions are estimated average. Linia group that extends slightly further to West than shown on topo. Overall canopies are fairly sparse possibly from wind. Diameter is estimated average.	3.0
T16	Silver Birch (Betula pendula)	9(2)	180(1)	2.00	4.00	4.00	2.00	2.00	Early Mature	Good	Average	C2	Tight fork, slightly one sided crown.	2.2
T17	Blackthorn (Prunus spinosa)	3(1)	50(3)	1.75	1.75	1.75	1.75	1.00	Early Mature	Average	Average	C2	Bark wound on stem.	1.0
T18	Blackthorn (Prunus spinosa)	3(1)	50(5)	1.75	1.75	1.75	1.75	1.00	Early Mature	Average	Average	C2	Multiple stems at ground level. Bark wound on stem.	1.3
T19	Blackthorn (Prunus spinosa)	3(1)	100(1)	1.75	1.75	1.75	2.25	1.00	Early Mature	Average	Average	C2	Bark wound on stem.	1.2
T20	Crack Willow (Salix fragilis)	6(0)	160(5)	4.00	4.00	4.00	4.00	0.00	Mature	Average	Average	C2	Plotted by eye on plan. Multiple stems at ground level. Sparse foliage.	4.3
G21	Wild Cherry (Prunus avium)	7(1)	100(1)	3.00	3.00	3.00	3.00	1.00	Early Mature	Average	Average	C2	Plotted by eye on plan. Line of trees growing on edge of ditch. Diameter is estimated average.	1.2
T22	Beech (Fagus sylvatica)	12(2)	480(1)	2.00	4.00	4.00	4.00	2.00	Mature	Average	Average	B2	Plotted by eye on plan. Growing on edge of garden within beech hedge. Been pruned on North side for OHC. Diameter estimated due to undergrowth.	5.8
T23	Beech (Fagus sylvatica)	12(2)	480(1)	9.00	4.00	2.00	3.00	2.00	Mature	Average	Average	B2	Plotted by eye on plan. Growing on edge of garden within beech hedge. Stem leaning to north. Diameter estimated due to undergrowth.	5.8
T24	Beech (Fagus sylvatica)	12(2)	450(1)	3.00	4.00	4.00	4.00	2.00	Mature	Average	Average	B2	Plotted by eye on plan. Growing on edge of garden within beech hedge. Stem leaning to north. Diameter estimated due to undergrowth.	5.4
H25	Beech (Fagus sylvatica)	3(0)	80(3)	1.50	1.50	1.50	1.50	0.00	Mature	Good	Average	C2	Plotted by eye on plan. Regularly maintained hedge	1.7
H26	Beech (Fagus sylvatica)	3(0)	100(2)	1.50	1.50	1.50	1.50	0.00	Mature	Good	Average	C2	Regularly maintained field boundary hedgerow. Large gap in hedge near southern end	1.7
H27	Beech (Fagus sylvatica)	3(0)	100(2)	1.50	1.50	1.50	1.50	0.00	Mature	Good	Average	C2	Regularly maintained field boundary hedgerow.	1.7
T28	Sycamore (Acer pseudoplatanus)	15(2)	600,250(2)	5.00	5.00	5.00	5.00	2.00	Mature	Good	Good	A2	Plotted by eye on plan. Sides been tightly pruned for road. Off-site and inaccessible: diameter estimated.	7.8
T29	Rowan (Sorbus aucuparia)	8(2)	200(6)	2.00	3.00	3.00	3.00	2.00	Early Mature	Average	Average	C2	Plotted by eye on plan. Rooted on far side of bank. Stream restricts RPA. Multiple stems at ground level. Diameter is estimated average.	5.9
T30	Rowan (Sorbus aucuparia)	8(2)	200(2)	2.50	2.50	2.50	2.50	2.00	Early Mature	Average	Average	C2	Plotted by eye on plan. Rooted on far side of bank. Stream restricts RPA. Multiple stems at ground level. Diameter is estimated average.	3.4

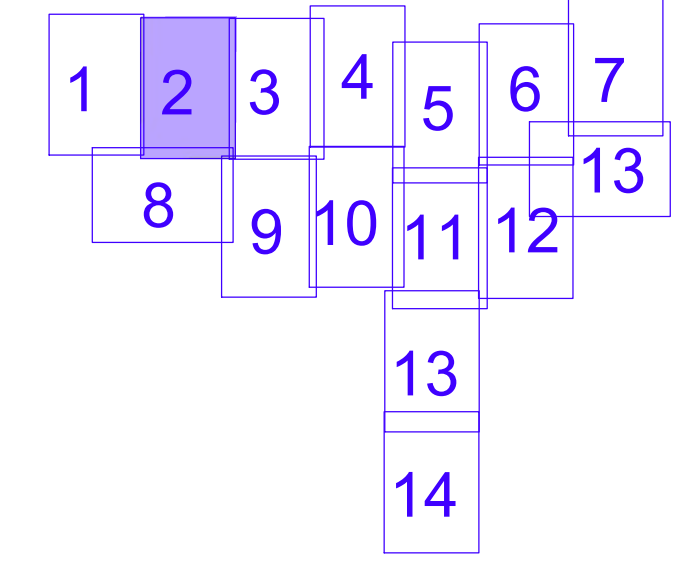
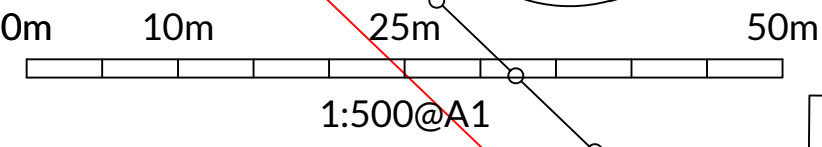
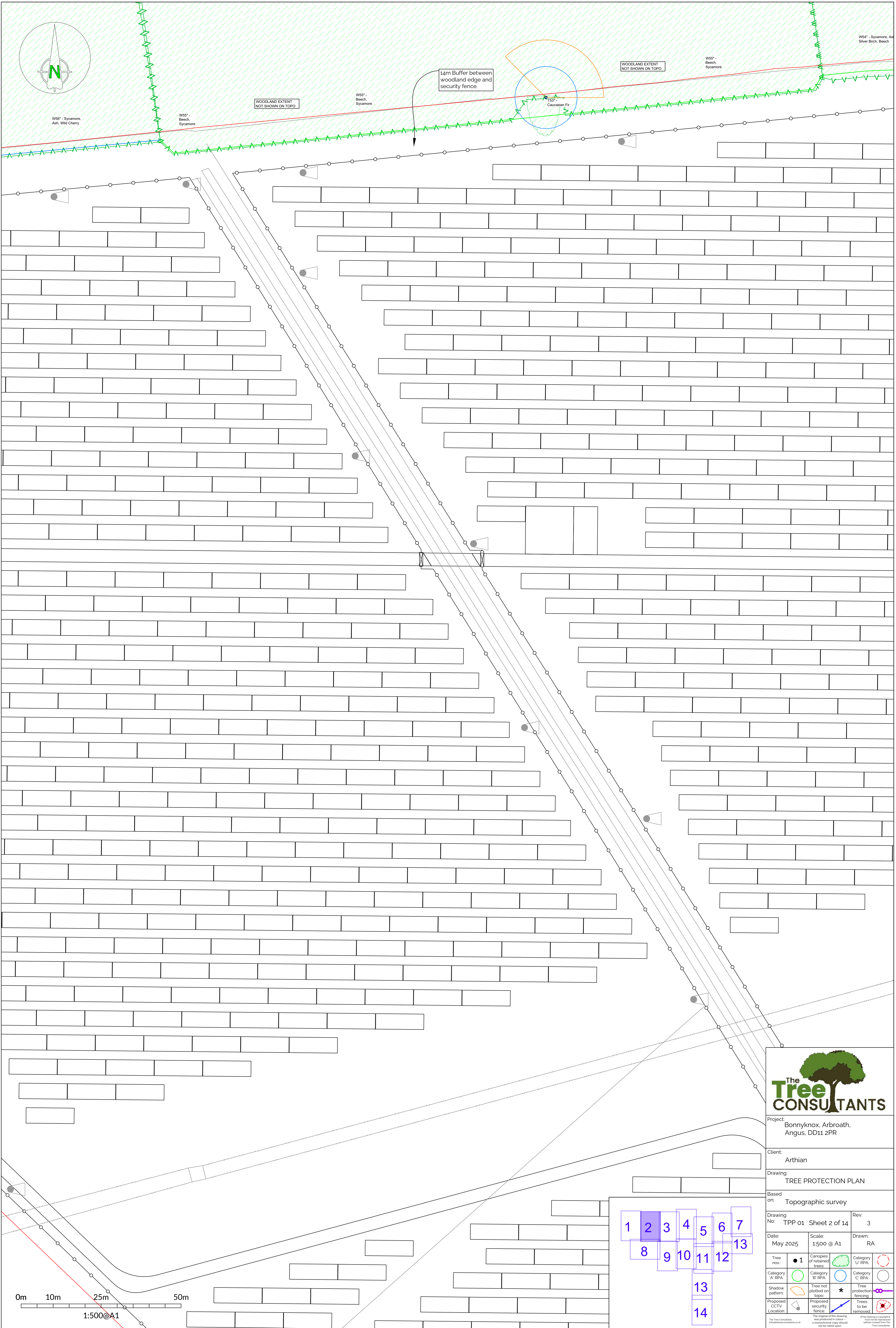
Tree Number	Common Species Name	Height (m)	Trunk Diameter and stem count	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)
				N	E	S	W							
T31	Rowan (Sorbus aucuparia)	6(2)	90(6)	2.50	2.50	2.50	2.50	2.00	Early Mature	Average	Average	C2	Plotted by eye on plan. Rooted on far side of bank. Stream restricts RPA. Multiple stems at ground level. Diameter is estimated average.	2.6
T32	Rowan (Sorbus aucuparia)	6(2)	90(6)	2.00	2.00	2.00	2.00	2.00	Early Mature	Average	Average	C2	Plotted by eye on plan. Rooted on far side of bank. Stream restricts RPA. Multiple stems at ground level. Diameter is estimated average.	2.6
T33	Rowan (Sorbus aucuparia)	6(2)	90(6)	3.00	3.00	3.00	3.00	2.00	Early Mature	Average	Average	C2	Plotted by eye on plan. Rooted on far side of bank. Stream restricts RPA. Multiple stems at ground level. Diameter is estimated average.	2.6
G34	Rowan (Sorbus aucuparia), Silver Birch (Betula pendula), Ash (Fraxinus excelsior), Common Oak (Quercus robur)	7(1)	150(1)	3.00	3.00	3.00	3.00	1.00	Semi mature	Average	Average	C2	Cluster of four trees growing within fenced off area inaccessible: diameter estimated. Plotted by eye on plan	1.8
G35	Silver Birch (Betula pendula), Rowan (Sorbus aucuparia)	7(1)	100(1)	1.50	1.50	1.50	1.50	1.00	Early Mature	Below average	Average	C2	Planted line of trees, crowns showing signs of effects of strong prevailing winds. Diameter is estimated average.	1.2
T36	Crack Willow (Salix fragilis)	6(0.5)	200(2)	5.00	5.00	5.00	5.00	0.50	Mature	Good	Below average	C2	Plotted by eye on plan. Twin stemmed from 0.5m with tight fork and included bark.	3.4
T37	Silver Birch (Betula pendula)	6(1)	180(1)	1.70	1.70	1.70	1.70	1.00	Early Mature	Good	Average	C2	Growing on bank Inaccessible: diameter estimated.	2.2
G38	Wild Cherry (Prunus avium)	9(1)	300(1)	4.00	4.00	4.00	4.00	1.00	Mature	Average	Average	C2	A cluster of trees growing on steep banks down to the stream. Canopy growing as one. Stems no plotted on topo Diameter is estimated average.	3.6
W39	Norway Spruce (Picea abies)	22(3)	480(1)	6.50	6.50	6.50	6.50	3.00	Mature	Average	Average	B2	Plotted by eye on plan. A woodland group becoming links line towards Northam end. Overall in typical condition and form for woodland plantation. Diameter is an estimated average.	5.8
T40	Goat Willow (Salix caprea)	7(3)	350(2)	4.00	4.00	4.00	4.00	3.00	Mature	Average	Below average	C2	Plotted by eye on plan. Multiple stems at ground level. Growing on North Bank of stream Inaccessible: diameter estimated.	5.9
W41	Norway Spruce (Picea abies)	15(0)	250(1)	3.00	3.00	3.00	3.00	0.00	Mature	Good	Below average	B2	Dense plantation woodland within fenced-off area. Diameter is estimated average.	3.0
T42	Goat Willow (Salix caprea)	4.5(0)	120(7)	6.00	4.50	5.00	3.00	0.00	Mature	Good	Average	C2	Plotted by eye on plan. Growing on East bank of drainage ditch, multi stemmed from ground level forming low domed canopy	3.8
G43	Aspen (Populus tremula)	4(0)	75(1)	1.25	1.25	1.25	1.25	0.00	Semi mature	Good	Average	C2	Line of staked establishing trees, still with tree stakes. Possibly off site trees	.9

Tree Number	Common Species Name	Height (m)	Trunk Diameter and stem count	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)
				N	E	S	W							
W44	Scots Pine (Pinus sylvestris)	16(4)	400(1)	6.50	6.50	6.50	6.50	4.00	Mature	Good	Average	A2	Looks to be a plantation woodland that has been thinned out. Trees are homogeneous and of moderate quality but overall warrant a higher collective group rating. Stems growing 1.5m off fence line. Diameter is estimated average.	4.8
T45	Sycamore (Acer pseudoplatanus)	9(0)	170(4)	4.50	4.50	4.00	3.50	0.00	Mature	Good	Below average	C2	Plotted by eye on plan. Multiple stems at ground level. Growing off site but abutting fence.	4.1
T46	Sycamore (Acer pseudoplatanus)	10(0)	170(6)	4.50	4.50	4.00	2.50	0.00	Mature	Good	Below average	C2	Plotted by eye on plan. Multiple stems at ground level. Growing off site but close to fence. Diameter is estimated average.	5.0
T47	Sycamore (Acer pseudoplatanus)	11(0)	320,180(2)	4.50	4.50	4.00	3.50	0.00	Mature	Good	Below average	C2	Plotted by eye on plan. Twin stemmed from ground level. Growing off site but close to fence. Off-site and inaccessible; diameter estimated.	4.4
G48	Silver Birch (Betula pendula)	14(3)	290(1)	3.75	3.75	3.75	3.75	3.00	Mature	Average	Average	B2	Plotted by eye on plan. A cluster of birch growing c.15m from fence. Warrant a higher collective group rating. Off-site and inaccessible; diameter estimated.	3.5
W49	Sycamore (Acer pseudoplatanus), Beech (Fagus sylvatica), Ash (Fraxinus excelsior), Silver Birch (Betula pendula)	13(1)	350(1)	5.00	5.00	5.00	5.00	1.00	Mature	Good	Average	A2	Performantly sycamore growing on outer edge with predominantly beech inner. Dimensions are estimated average overall. Trees individually of lower to modest quality but overall a higher group rating. Diameter is estimated average.	4.2
T50	Blackthorn (Prunus spinosa)	7(3)	140(4)	1.00	4.00	5.00	3.00	3.00	Mature	Poor	Below average	U	Plotted by eye on plan. Multiple stems at ground level. Low vigour/poor extension growth. Sparse foliage.	3.4
T51	Blackthorn (Prunus spinosa)	8(4)	230(1)	1.00	5.00	5.00	2.00	4.00	Mature	Poor	Below average	U	Plotted by eye on plan. Low vigour/poor extension growth. Sparse foliage.	2.8
T52	Ash (Fraxinus excelsior)	8(4)	280(1)	1.00	2.00	1.00	3.00	4.00	Mature	Poor	Average	U	Plotted by eye on plan. Epicormics on stem. Small crown	3.4
T53	Caucasian Fir (Abies nordmanniana)	18(4)	810(1)	0.50	4.50	12.00	6.00	4.00	Mature	Good	Below average	B2	Plotted by eye on plan. Unusual tree along tree line. Stem kinks at right angle to South at 3m then again, some 5m later. Very one-sided crown.	9.7
W54	Sycamore (Acer pseudoplatanus), Ash (Fraxinus excelsior), Silver Birch (Betula pendula), Beech (Fagus sylvatica)	13(0)	350(1)	4.00	4.00	6.00	4.00	0.00	Early Mature	Good	Average	A2	Plotted by eye on plan. Woodland group possibly planted, with predominantly sycamores on outer edge. Dimensions are estimated average. Diameter is estimated average.	4.2
W55	Beech (Fagus sylvatica), Sycamore (Acer pseudoplatanus)	19(4)	650(1)	8.00	8.00	8.00	8.00	4.00	Mature	Good	Average	A2	Plotted by eye on plan. Cluster of larger more mature predominantly beech trees. Dimensions are estimated average. Diameter is estimated average.	7.8

Tree Number	Common Species Name	Height (m)	Trunk Diameter and stem count	Crown Spread (m)				Height of Crown Clearance (m)	Age Class	Physiological Condition	Structural Condition	BS5837 Category	Comments/Preliminary Management Recommendations	RPA Radius (m)
				N	E	S	W							
W56	Sycamore (Acer pseudoplatanus), Ash (Fraxinus excelsior), Wild Cherry (Prunus avium)	14(3)	200(2)	4.00	4.00	4.00	4.00	3.00	Early Mature	Average	Average	B2	Plotted by eye on plan. Woodland area predominantly sycamore with others species becoming more common on the western end. Diameter is estimated average.	3.4
T57	Goat Willow (Salix caprea)	5(0)	72(6)	4.50	4.50	4.50	4.50	0.00	Early Mature	Average	Below average	C2	Plotted by eye on plan. Multiple stems at ground level. Growing at edge of field. Diameter is estimated average.	2.1
T58	Ash (Fraxinus excelsior)	9(1)	150(5)	5.00	5.00	5.00	5.00	1.00	Mature	Poor	Below average	U	Declining in health and condition. Plotted by eye on plan. Low vigour/poor extension growth. Scattered deadwood. Low vitality. Sparse foliage.	4.0

Appendix 2: Tree Protection Plan





Project:
Bonnyknox, Arbroath,
Angus, DD11 2PR

Client:
Arthian

Drawing:
TREE PROTECTION PLAN

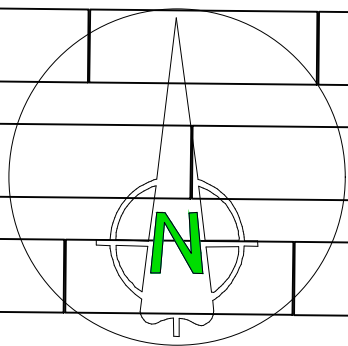
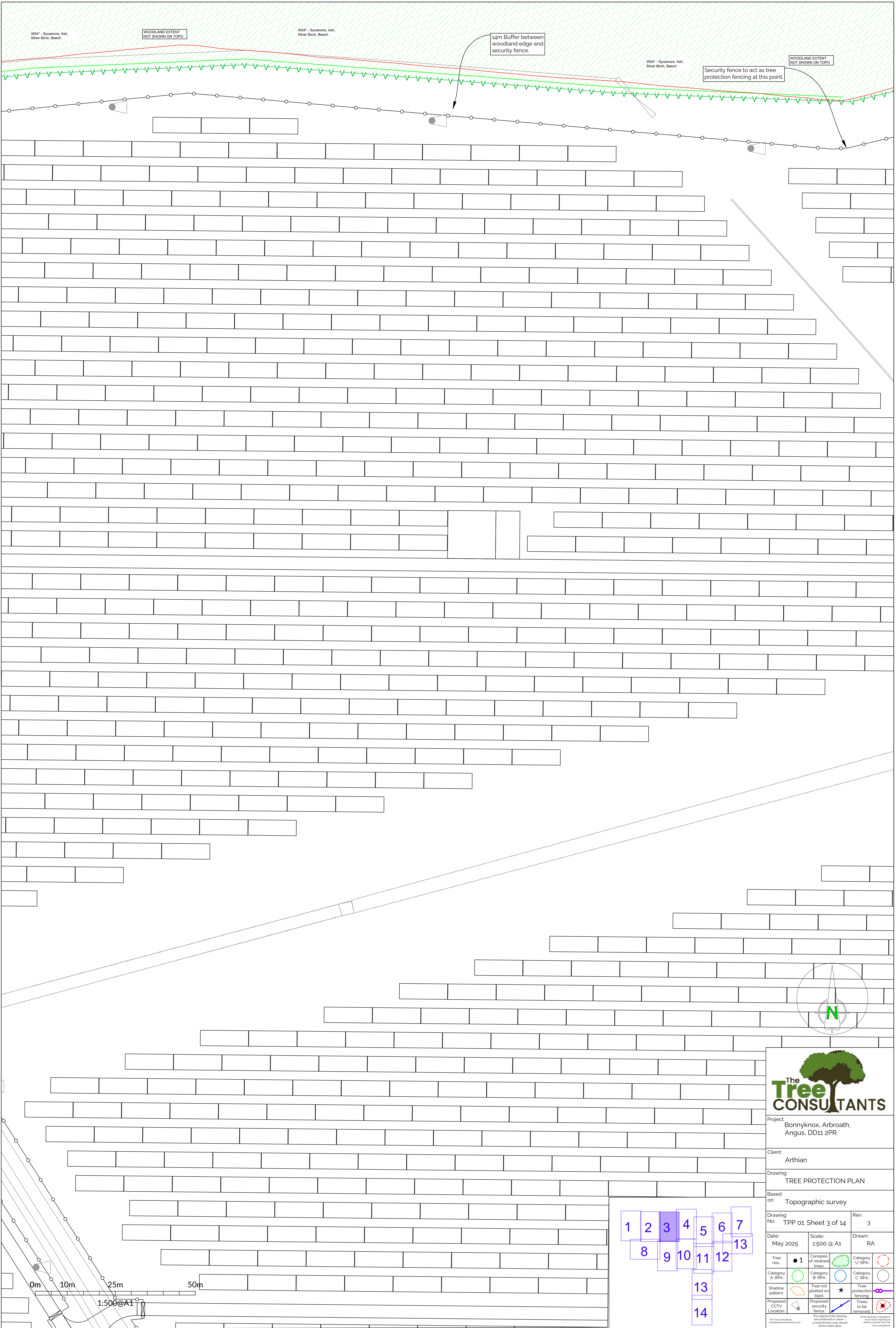
Based on:
Topographic survey

Drawing No: TPP 01 Sheet 2 of 14 Rev: 3

Date: May 2025 Scale: 1:500 @ A1 Drawn: RA

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Category 'A' RPA:	Category 'B' RPA:	Category 'C' RPA:
Shadow pattern:	Tree not plotted on topo:	Tree protection fencing:
Proposed CCTV Location:	Proposed security fence:	Trees to be removed:

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Project: Bonnyknox, Arbroath, Angus, DD11 2PR

Client: Arthian

Drawing: TREE PROTECTION PLAN

Based on: Topographic survey

Drawing No: TPP 01 Sheet 3 of 14

Rev: 3

Date: May 2025

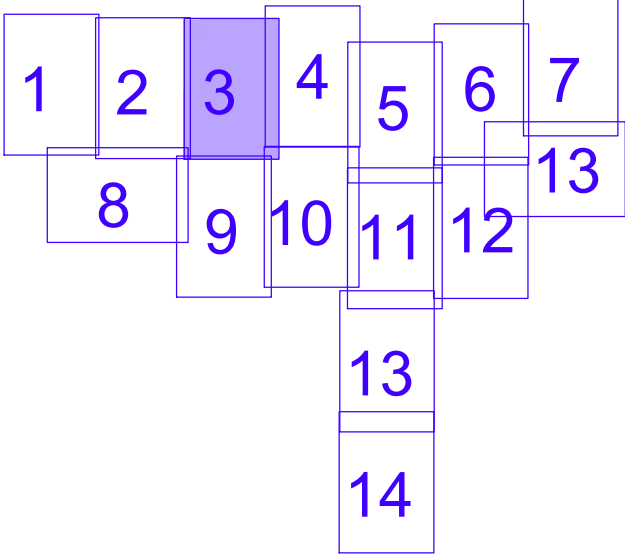
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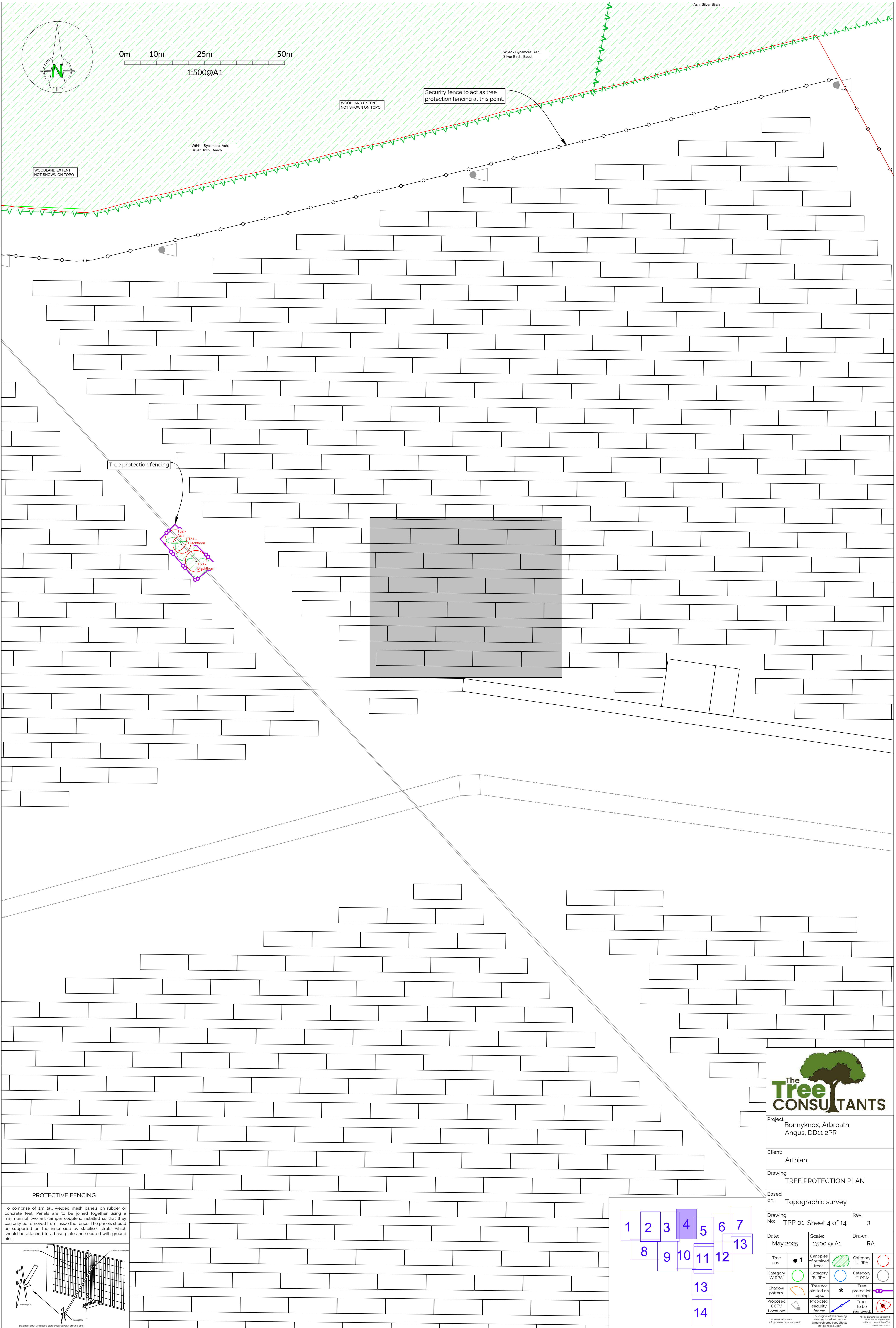
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Shadow pattern: Tree not plotted on topo: Tree protection fencing: Trees to be removed:

Proposed CCTV Location: The Tree Consultants: The original of this drawing was produced in colour - a monochrome copy should not be relied upon: If this drawing is copyright it should not be reproduced without written permission from The Tree Consultants





PROTECTIVE FENCING

To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabiliser struts, which should be attached to a base plate and secured with ground pins.

Welded mesh panels
Anti-tamper couplers
Stabiliser strut with base plate secured with ground pins

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8	9	10	11	12	13	
					13	
					14	

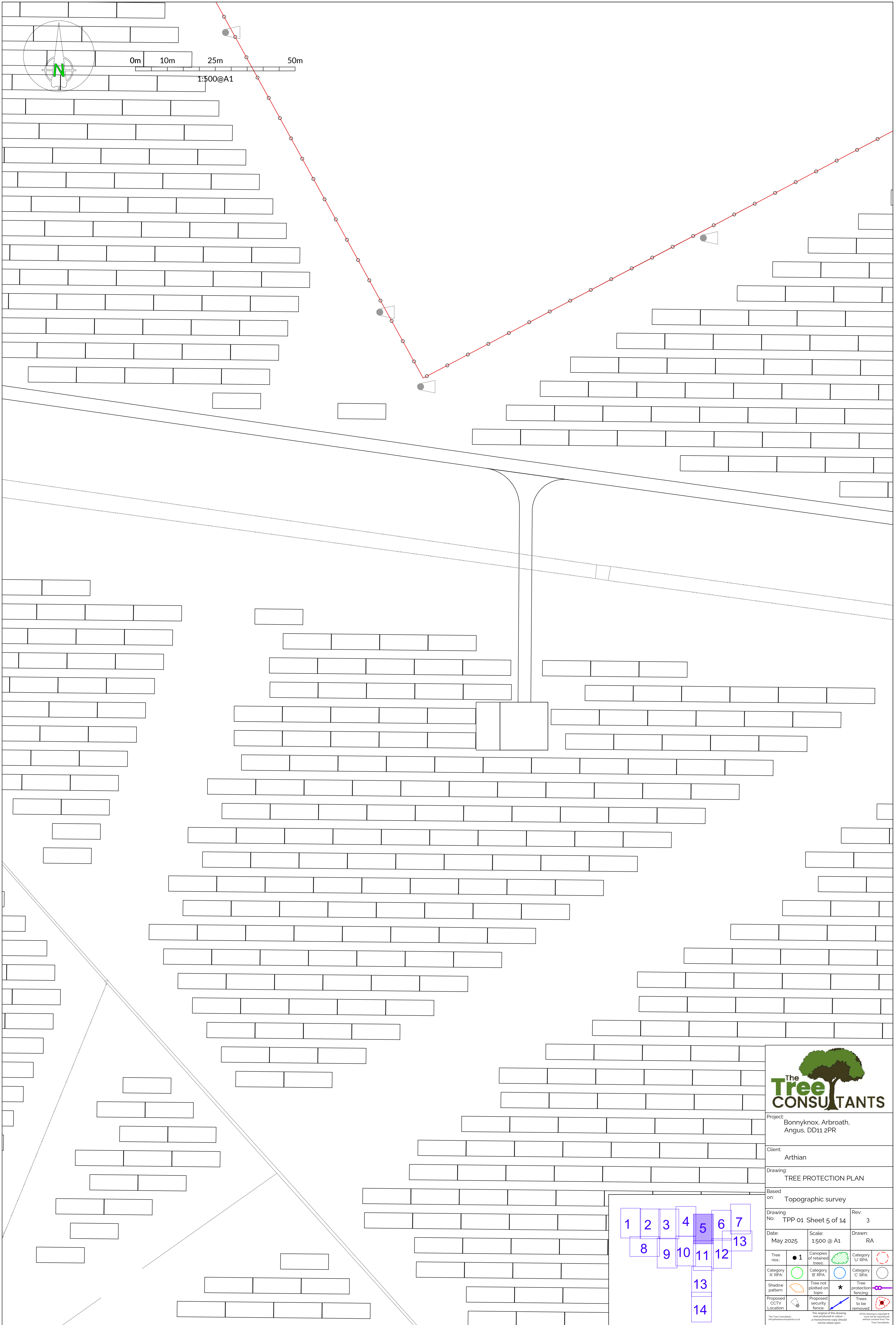


Project: Bonnyknox, Arbroath, Angus, DD11 2PR	
Client: Arthian	
Drawing: TREE PROTECTION PLAN	
Based on: Topographic survey	
Drawing No: TPP 01 Sheet 4 of 14	Rev: 3
Date: May 2025	Scale: 1:500 @ A1
Tree nos.: ● 1	Canopies of retained trees: Category 'A' RPA: Category 'B' RPA: Category 'C' RPA:
Shadow pattern: 	Tree not plotted on topo: ★
Proposed security fence: 	Tree protection fencing: Trees to be removed:
Proposed CCTV Location: 	

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Drawing:
TREE PROTECTION PLAN

Based on:
Topographic survey

Drawing No: TPP 01 Sheet 5 of 14 Rev: 3

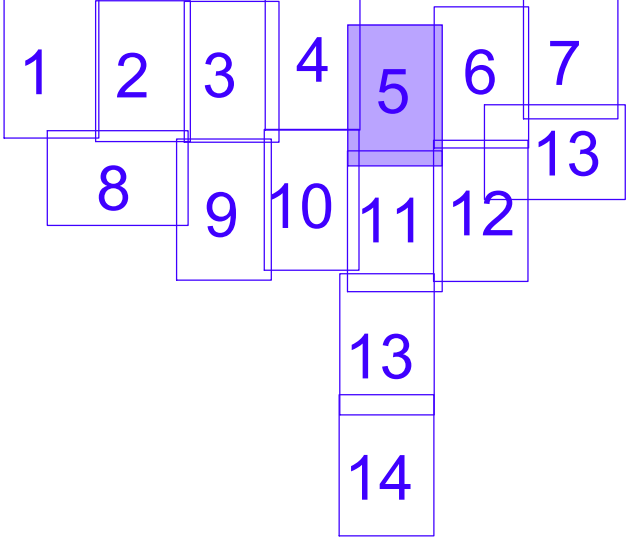
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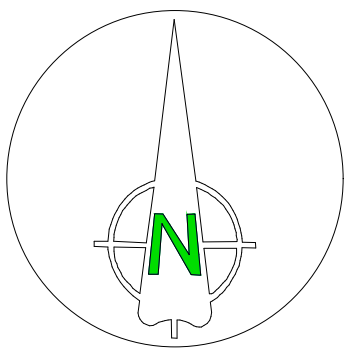
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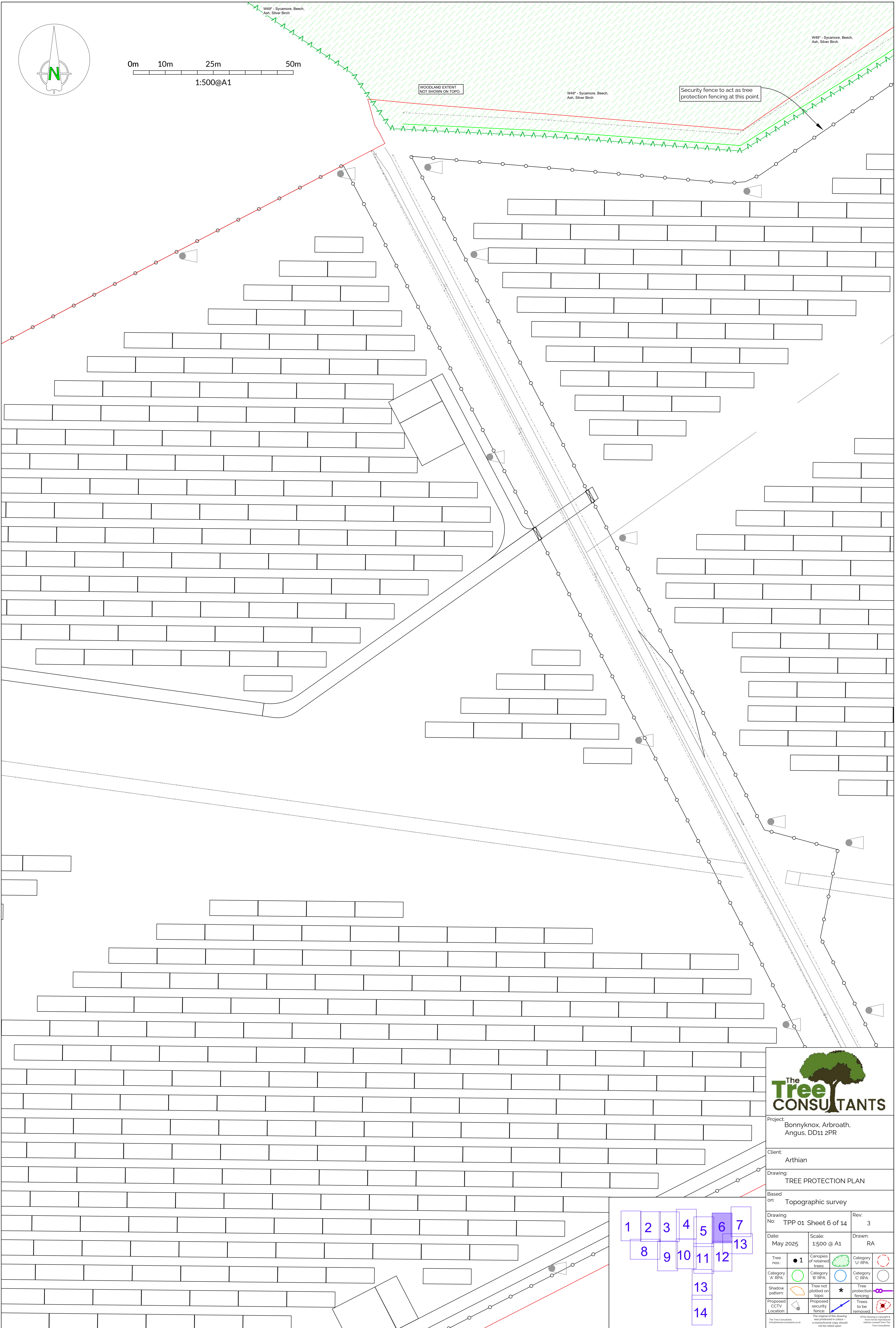
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0m 10m 25m 50m
1:500@A1



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TREE PROTECTION PLAN

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Topographic survey

Drawing No: TPP 01 Sheet 6 of 14 Rev: 3

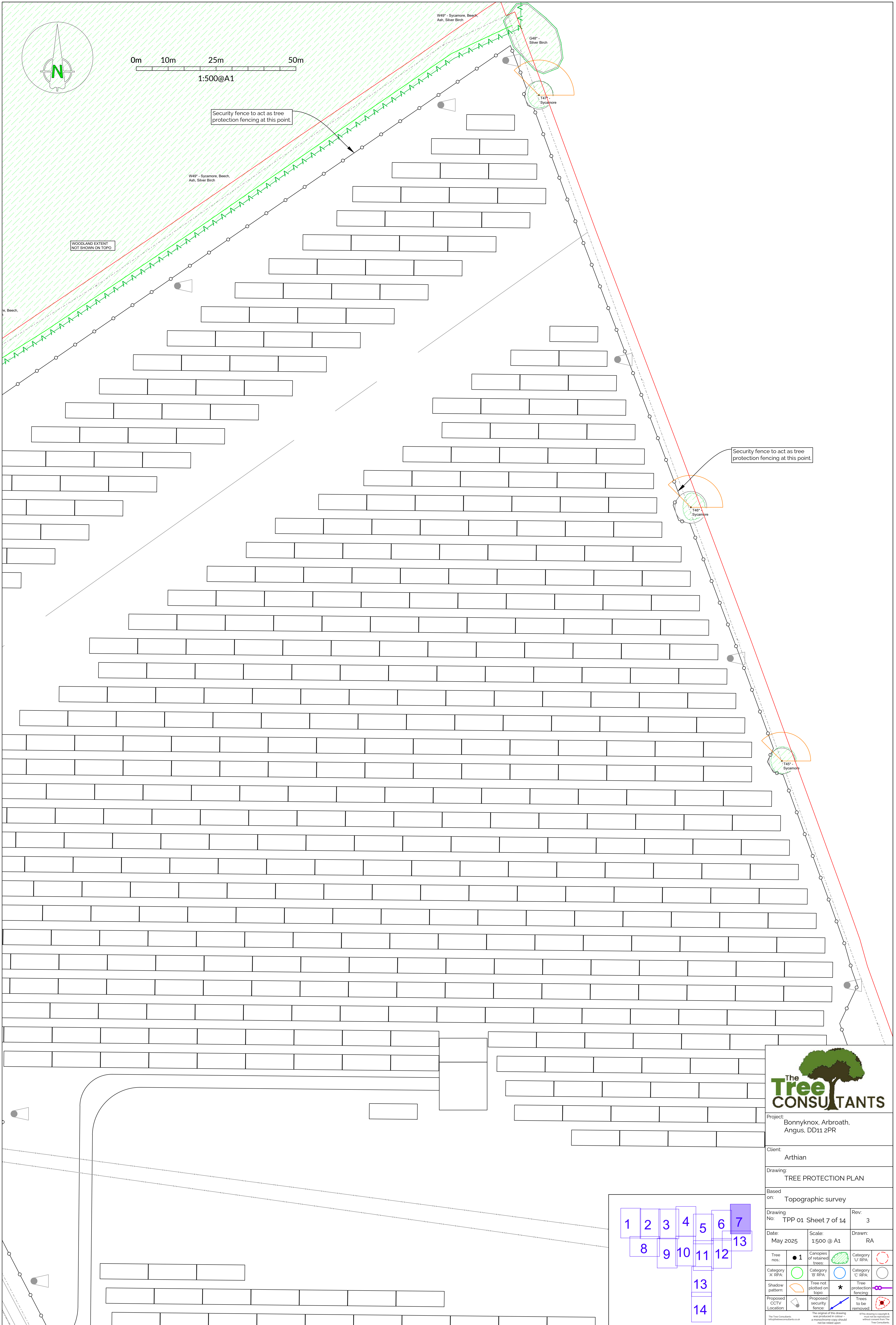
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1 2 3 4 5 6 7
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13
14





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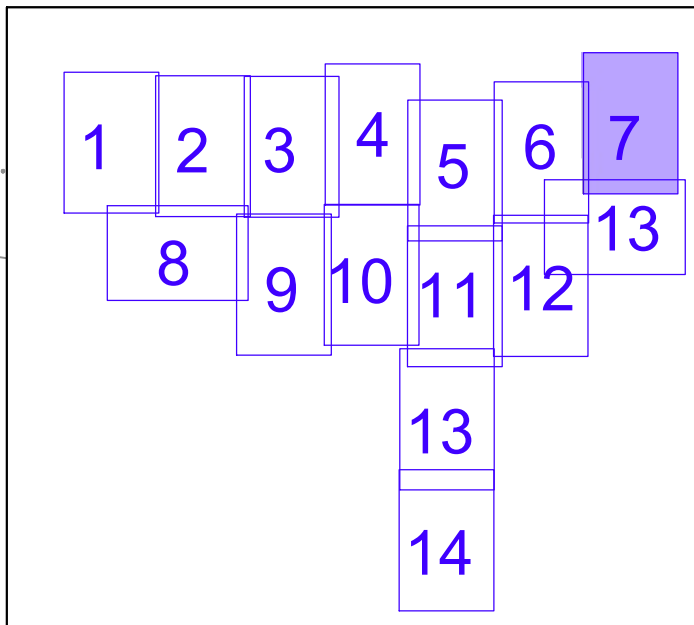
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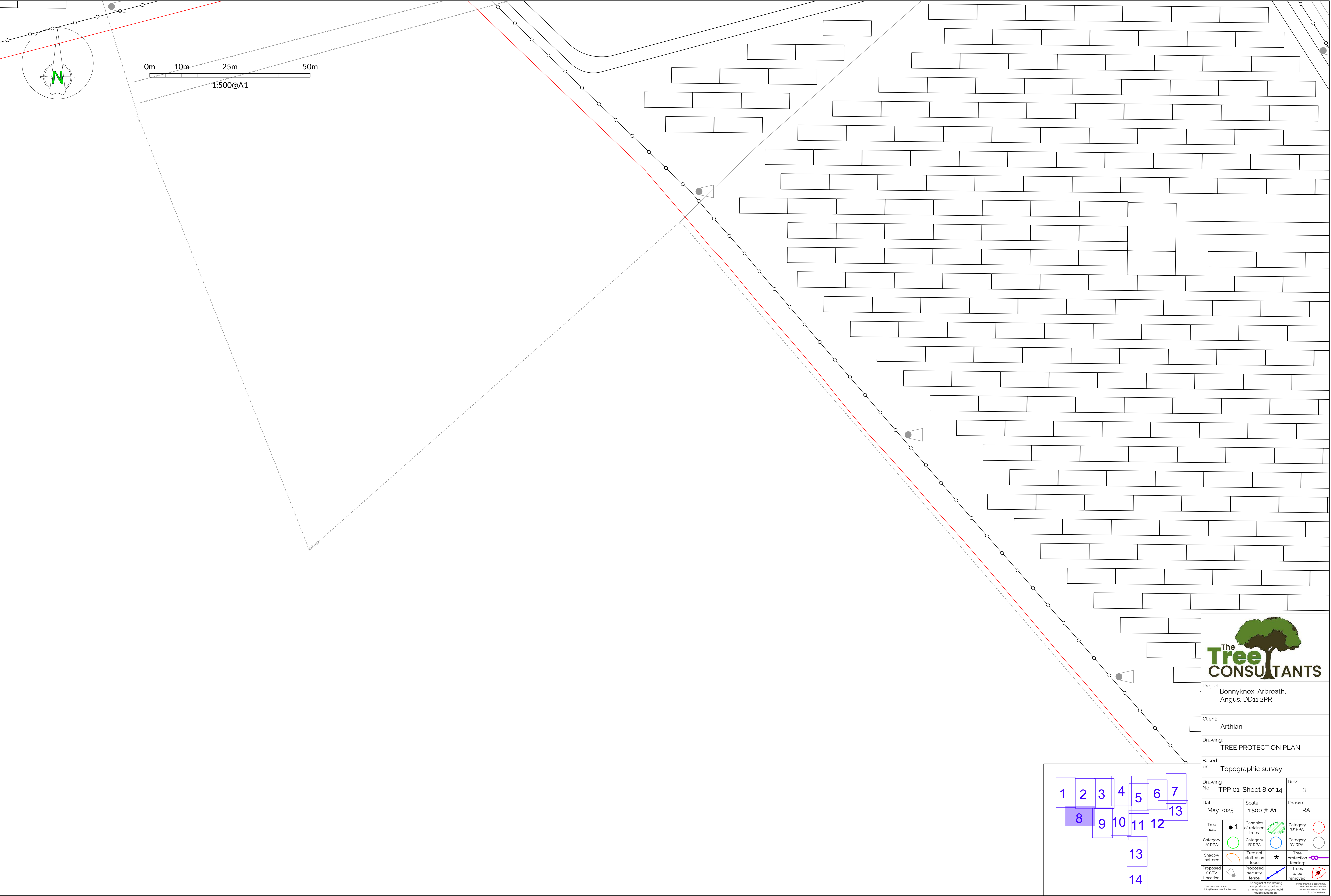
Drawing: TREE PROTECTION PLAN

Based on: Topographic survey

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Proposed CCTV Location		

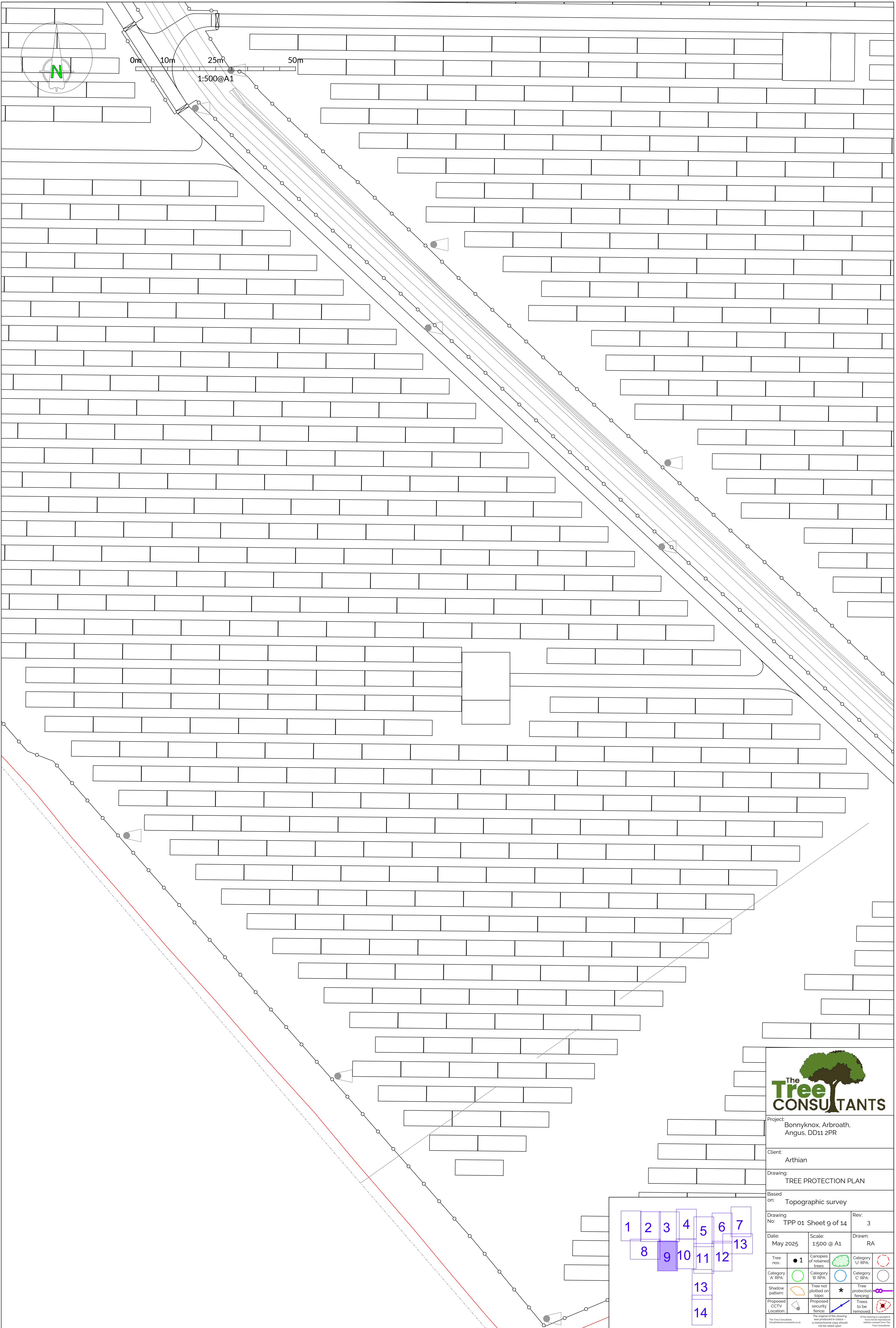
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Project: Bonnyknox, Arbroath, Angus, DD11 2PR		
Client: Arthian		
Drawing: TREE PROTECTION PLAN		
Based on: Topographic survey		
Drawing No:	TPP 01 Sheet 8 of 14	Rev: 3
Date: May 2025	Scale: 1:500 @ A1	Drawn: RA
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Shadow pattern: 	Tree not plotted on topo: ★	Tree protection fencing:
Proposed CCTV Location: 	Proposed security fence: 	Trees to be removed:
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- 1 2 3 4 5 6 7
- 8 9 10 11 12 13
- 13 14



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Arthian

Drawing:
TREE PROTECTION PLAN

Based
on: Topographic survey

Drawing
No: TPP 01 Sheet 9 of 14

Rev:
3

Date:
May 2025

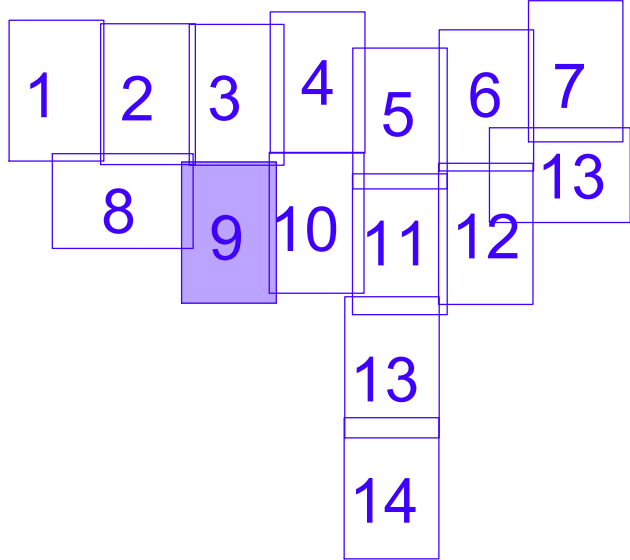
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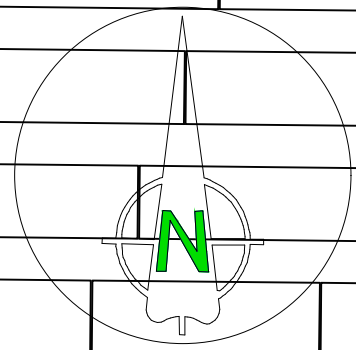
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Shadow pattern:		Tree not plotted on topo:	★	Tree protection fencing:	
Proposed CCTV Location:		Proposed security fence:		Trees to be removed:	

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0m 10m 25m 50m
1:500@A1



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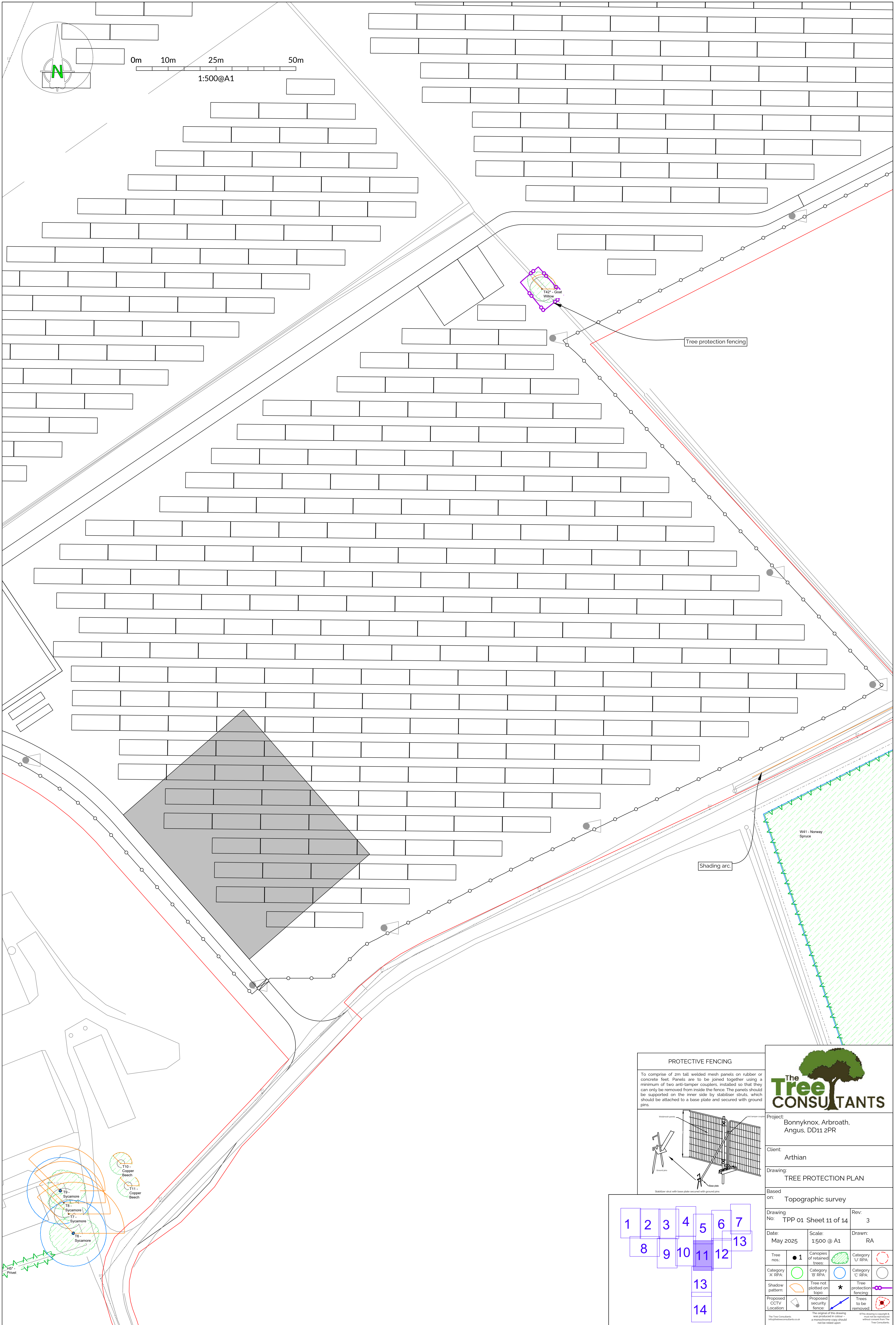
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Shadow pattern:		Tree not plotted on topo:	★
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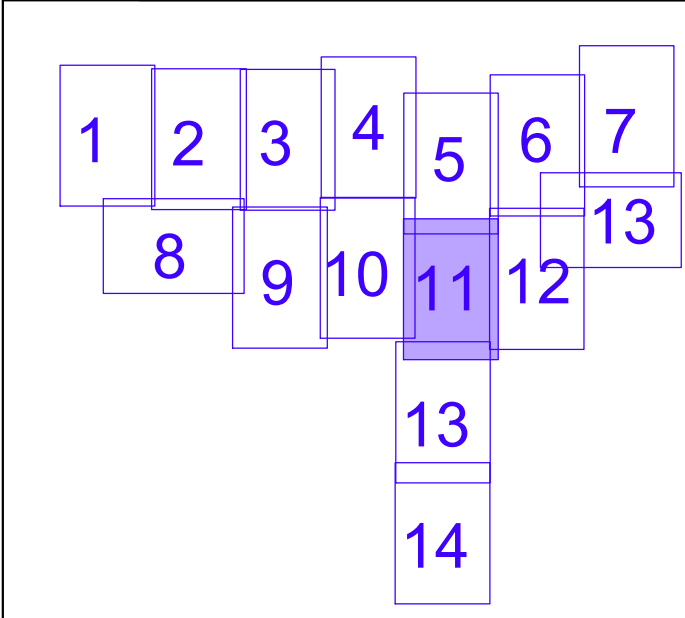
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			13			
			14			



PROTECTIVE FENCING

To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabiliser struts, which should be attached to a base plate and secured with ground pins.

Stabiliser strut with base plate secured with ground pins.



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Based on: Topographic survey

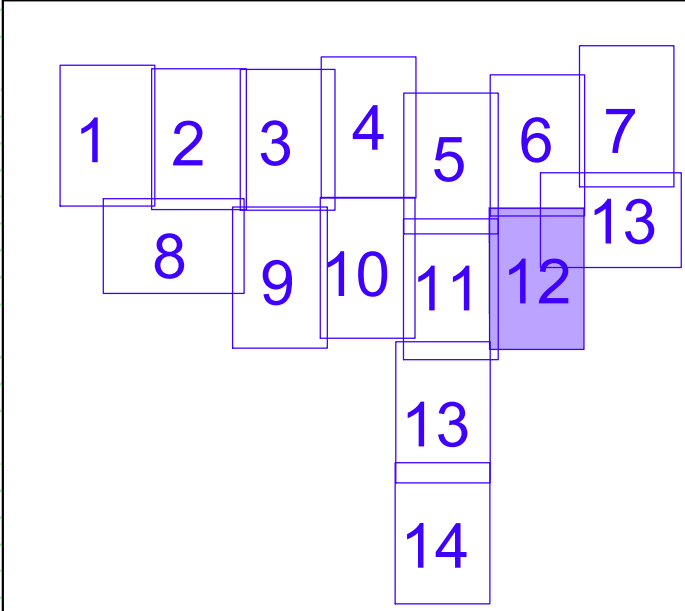
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Shadow pattern:	Tree not plotted on topo:	Tree protection fencing:
Proposed CCTV Location:	Proposed security fence:	Trees to be removed:

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










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Client: Arthian

Drawing: TREE PROTECTION PLAN

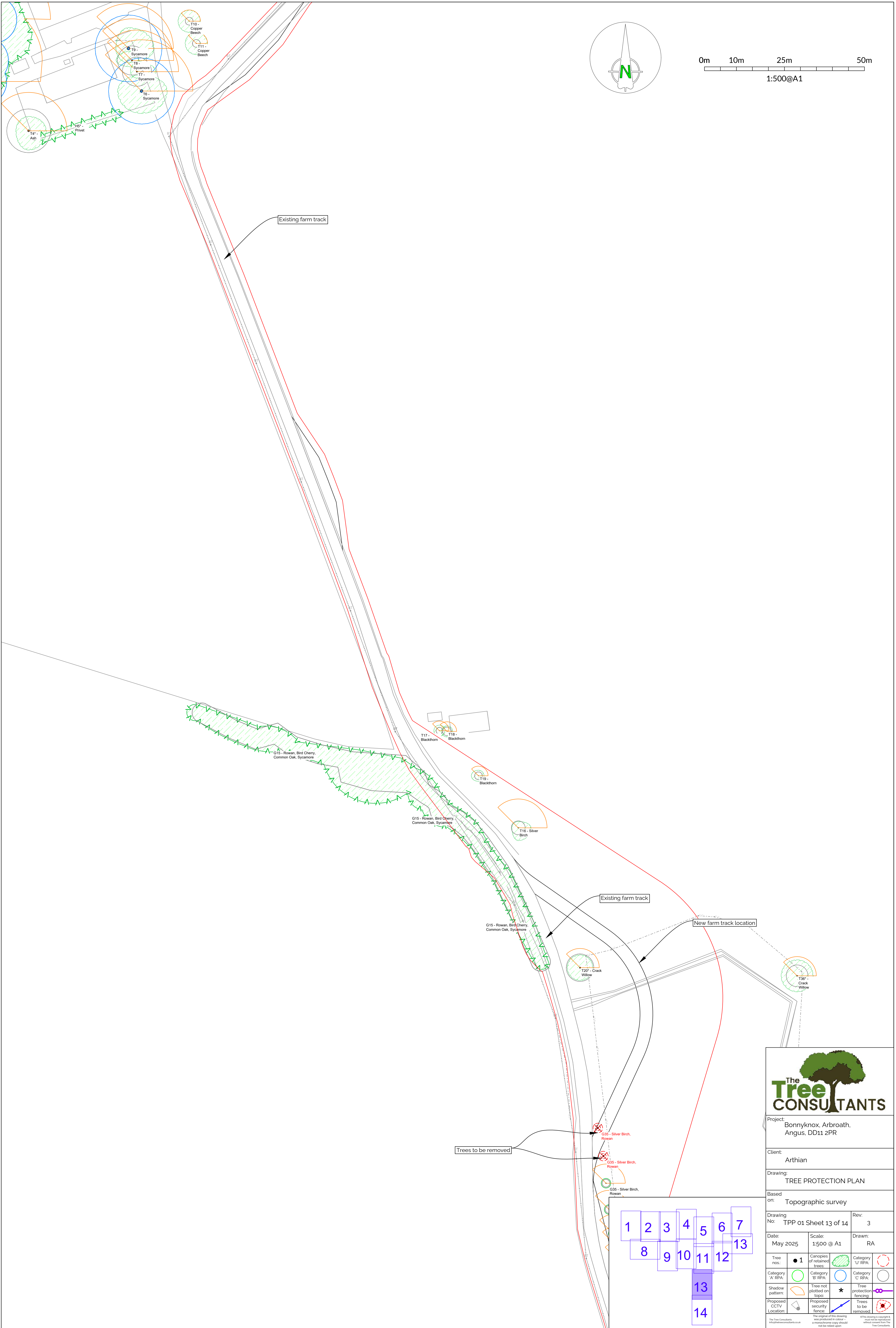
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Category 'B' RPA: 	Category 'C' RPA: 	Shadow pattern: 	
Tree not plotted on topo: ★	Tree protection fencing: 	Trees to be removed: 	Proposed CCTV Location: 
Proposed security fence: 		Trees to be removed: 	

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Project:
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Client:
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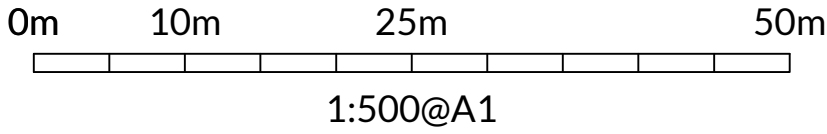
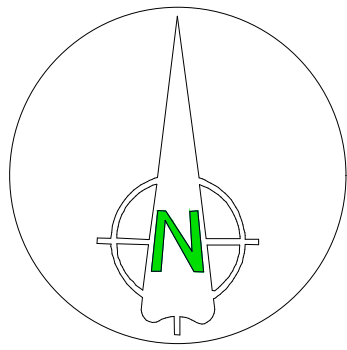
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Proposed CCTV Location:		Proposed security fence:		Trees to be removed:	

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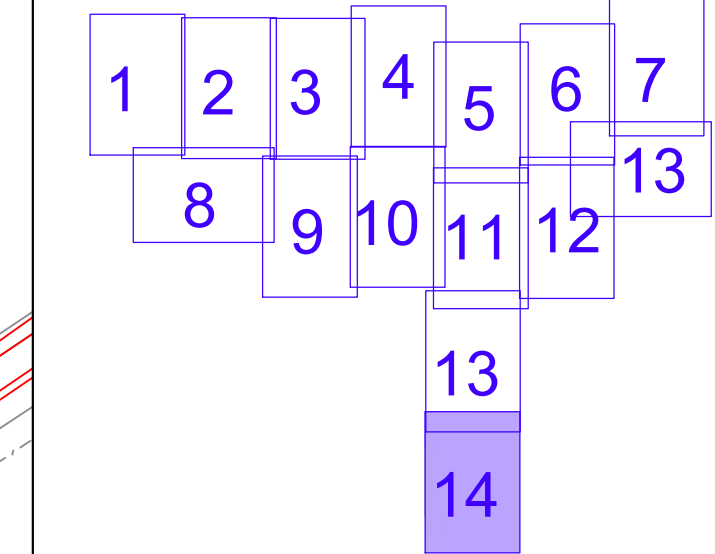


Passing place
outside of RPA's

Trees to be removed

Existing farm track

G21* - Wild
Cherry



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Client: Arthian

Drawing: TREE PROTECTION PLAN

Based on: Topographic survey

Drawing No: TPP 01 Sheet 14 of 14	Rev: 3	
Date: May 2025	Scale: 1:500 @ A1	Drawn: RA
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Category 'A' RPA:	Category 'B' RPA:	Category 'C' RPA:
Shadow pattern:	Tree not plotted on topo:	Tree protection fencing:
Proposed CCTV Location:	Proposed security fence:	Trees to be removed:

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The original of this drawing
was produced in colour -
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Appendix 3: Tree Protection Fence Signage



Note: Digital A4 copies can be obtained via contacting The Tree Consultants.

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