



Oaklands, Gloucester Road, Almondsbury

Arboricultural Report containing:

- **Arboricultural constraints**
- **Arboricultural impact assessment (AIA)**
- **Tree protection**
- **Arboricultural method statement**



On behalf of
Freemantle Developments

Prepared by:
Chris Wright. M.Arbor.A.
Arboricultural Consultant
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1.0 Instructions/Scope

Silverback Arboricultural Consultancy have been instructed to compile an arboricultural report containing tree survey, tree constraints plan, arboricultural impact assessment, tree protection plan and arboricultural method statement regarding trees growing within and adjacent to land at Oaklands, Almondsbury. This report is intended to accompany a planning application relating to the construction of a commercial development and associated works on the land. This document has been produced to demonstrate that the implications of the proposed development, to the existing trees, has been fully considered during the detailed design process.

1.1 Recommendations for the safeguarding of trees in close proximity to development are set out in, BS5837:2012 Trees in relation to design, demolition and construction – Recommendations. We have therefore carried out the assessment of the trees in accordance with that document.

1.2 Specifically, this report and the accompanying information are supplied to:

- Identify the constraints that trees on and adjacent to the site present to the development of the site, to inform the site design process.
- Present information regarding the above ground constraints (crown spreads) and below ground constraints (Root Protection Areas – RPAs), in a Tree Schedule and on a Tree Constraints Plan
- Assess the impact of the proposed development on the trees on or adjacent to the site, and the impact that retained trees will have on the site post development.
- Identify trees to be removed, trees to be retained and specify measures necessary to protect retained trees during the construction phases of the development.
- Recommend necessary remedial tree works to be undertaken to trees that will be retained prior to commencement of the construction phases of the development.
- Present information regarding the location of protective barriers or fencing and ground protection on a Tree Protection Plan
- Identify special engineering, excavation or protection measures intended to minimise the impact on retained trees where the site design layout requires a breach of the Root Protection area, (RPA)



- Provide an Arboricultural Method Statement for the recommended works detailing measures which should be implemented to protect retained trees during the construction phases of the development.

1.3 This report was compiled by Chris Wright *M.Arbor.A.* a professional member of the Arboricultural Association and Certified Lantra Professional Tree Inspector with over 30 years' experience in the industry.

1.4 The report is based on a ground level assessment of the trees. Except where stated, all dimensions are estimated. We were not presented with any information on the soil type and no soil samples have been taken. An arboricultural consultant surveyed the site on Thursday 7th September 2023. The weather was bright with good visibility.

1.5 Documents Provided

- Topographic survey
- Proposed site layout dwg N^o 3375/1

2.0 Survey Methodology

The survey includes tree and shrubs with a stem diameter over 75mm at 1.5m height, located within the area shown on the plan included in this report.

2.1 All inspections were made from ground level with the use of binoculars, sounding hammer and metal probe where necessary, using the Visual Tree Assessment method (Mattheck & Breloer 1995). The presence and condition of bark and stem wounds, cavities, decay, fungal fruiting bodies and any structural defects that could affect the structural integrity of the trees have been noted.

2.2 Tree numbers have been noted on the plan. The following details were recorded for each tree and are included in the tree schedule sheets accompanying this report:

Number: an identity number for each tree, prefixed with a 'T' which cross references locations shown on the plan with the tree survey sheets. Where several trees, normally of the same species, are located close together and are similar in character and requirements, they have been treated as a Group under a single Number, prefixed with a 'G'

Species: common name and botanical name in *italics*

Tree Height: approximate height in metres

Stem Diameter: diameter measured in millimetres, taken at 1.5m above ground. Where the tree is multi-stemmed the diameter is calculated in accordance with BS5837:2012

(# estimated dimensions for off-site or inaccessible trees)

Crown spread: approximate spread in metres taken at the four main compass points N, S, E, W

Crown clearance: approximate height from ground to lowest part of canopy

Age class: Young, Semi-Mature, Early Mature, Mature, Over-Mature, Veteran

Structural condition: Good, Fair, Poor

Physiological condition: Good, Fair, Poor, Dead

Observations : observations noted during tree inspections

Preliminary recommendations: recommended action to ensure the health and safety of the tree.

Remaining contribution (years): <10, 10+, 20+, 40+

BS Cat- category grading in accordance with BS 5837:2012

A - trees of high quality with an estimated remaining life expectancy of at least 40 years.

B - trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

C - trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

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

BS Sub Cat - sub-category grading in accordance with BS 5837:2012

1- Mainly arboricultural qualities

2- Mainly landscape qualities

3- Mainly cultural values including conservation

RPA – Root Protection Area - measured in metres from the centre of the tree stem

2.3 Presentation of the Data Collected

- Data collected regarding individual trees and groups of trees are presented in the Tree Schedule table in appendix 1 in accordance with BS5837:2012 Trees in Relation to Construction – Recommendations.
- The data significant to the proposed site layout is also presented on the Tree Constraints Plan (Drawing Number 230912-OL-TCP-Rev C-LI&AM&NB (appendix 2) and Arboricultural Impact Assessment Plan (Drawing Number 321201-OL-AIA-Rev D-LI&AM&NB (appendix 3).



- All other relevant data are presented within the main body of this report.
- Trees have been allocated an individual tree number. This tree number is used to identify individual trees and/or groups of trees throughout this report, within the Tree Schedule and on all plans presented in the appendices of this report.

3.0 Report Limitations

Trees are living, dynamic organisms that can be affected by external conditions. It is therefore not possible to state with any certainty that a tree is safe.

- 3.1 No internal decay devices, or other invasive tools to assess tree condition, were used. No soil excavation or root inspection was undertaken.
- 3.2 This report has not considered the effect that trees or vegetation may have on the structural integrity of adjacent buildings or structures.
- 3.3 The survey contained within this report 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 recommendations contained within the tree schedule sheets (appendix 1). A full assessment of the levels of risk posed by trees would be informed by considering site use together with hazards present within the aerial parts of a tree(s). Changes in site use are likely to occur during, and result from, the proposed development. In the light of these changes, regular tree risk assessments are advised.
- 3.4 Tree condition can change rapidly, the recommendations contained within this report are based on the condition of the tree at the time they were inspected. Any amendments to the design or position of the proposed development will invalidate this report.
- 3.5 While this appraisal is not a tree risk assessment it nonetheless considers observed structural defects of the inspected trees to inform conclusions regarding their retentive worth.

4.0 Legal duty

It is the responsibility of the tree owner to ensure that their tree(s) is in a safe and stable condition, including the effects of root activity, through duty of care in the *Occupiers Liability Act (1957 & 1984)*.

- 4.1 The Wildlife and Countryside Act, 1981 makes it an offence to disturb a nesting bird or recklessly endanger a bat or its roost. Professional advice should be sought, where relevant, before undertaking any recommended works.
- 4.2 We were informed that the trees are all covered by a Tree Preservation Order. Written consent will be required for South Gloucestershire Council prior to the commencement of any works to the trees.
- 4.3 Under the Tree Preservation Order regulations 2012 the removal of deadwood within living trees is exempt from the requirement to obtain prior written consent from the local planning authority (LPA). Five days' notice must be submitted to the LPA, in writing, prior to the removal of any dead trees or works to dangerous trees, except where the works must be done without delay to ensure public safety.

5.0 Tree and Site Assessment (to be read in conjunction with the survey schedule sheets)

The proposed development is for the construction of a commercial development and associated works on the land. The area proposed for development currently comprises unused land to the south of the main Oaklands estate.

- 5.1 The site is roughly triangular with the majority of the trees situated along the eastern boundary, adjacent to the Gloucester Road. There is also small group of trees in the north-west corner of the site adjacent to the existing main site access.
- 5.4 Twenty-nine trees and one group of trees were surveyed. Of the trees surveyed two trees were categorized **A**, five trees were categorized **B**, two trees were categorized **U**, the remaining trees were categorized **C**. The trees were assessed and categorized in accordance with the Cascading Chart of Tree Quality Assessment contained within BS5837:2012.

6.0 Arboricultural Constraints

Trees have a widely spreading, shallow root system. In most cases, the majority of tree roots are situated within the top 600 mm of soil although some roots may extend down to 2m. Small feeder roots can also be expected to extend beyond the outer edge of the canopy. Roots can therefore be easily damaged by construction activity.

- 6.1 Constraints on the design of the development are presented in the Tree Schedule Sheets (appendix 1) Tree Constraints Plan (appendix 2) and the Arboricultural Impact Assessment Plan (appendix 3). These constraints are also considered in the main body of the report below and recommended remedial works and mitigating measures.
- 6.2 The Tree Constraints Plan (TCP)/AIA, (appendix 2), shows the Root Protection Areas (RPAs) for the individual trees identified in the tree schedule tables. This represents the minimum area in m² which ideally, should be left undisturbed around each tree were it to be retained. Underground structures, services and other topographical feature, such as different ground levels, can influence root spread and potentially restrict extension growth.
- 6.3 The TCP/ AIA also shows a representation of the crown spread of each tree measured in four cardinal directions. The RPA has been calculated in accordance with Section 4.6 of BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

6.4 Trees Identified for Retention and Removal.

T12 and T13 will be removed in accordance with good arboricultural practice. The remaining trees will be retained and protected throughout the proposed development.

6.4.1 Trees Outside Site Boundary

There are no trees outside of the site boundary which are impacted by the proposed development.

7.0 Arboricultural Impact Assessment

- 7.1 The position of the proposed dwellings are outside the calculated Root Protection Area (RPA) of all trees proposed for retention. Any excavation or soil compaction in this area could potentially lead to root severance or damage. This could subsequently lead to a reduction in the trees ability to take up water and nutrients, which may lead to a deterioration in the tree's health.

Protective fencing, in accordance with BS5837:2012 will be erected to prevent any unauthorised access into the Root Protection Area (RPA) during the development works.



7.2 As part of the proposed drainage strategy a private foul service pipe runs through the south-west fringes of the Root Protection Area generated by T17. Any excavation or soil compaction in this area could potentially lead to root severance or damage.

The extent of encroachment is considered minimal. To reduce any potential impact on the rooting area of the tree, the installation of the drainage runs will be undertaken by hand using hand held tools, in accordance with BS5837:2012 section 7.2.

7.3 Working area will be required within the calculated Root Protection Area of several retained trees to facilitate the construction of the proposed development. Any soil compaction in this area could potentially lead to root severance or damage.

Where working area is required within the Root Protection Area of T02, temporary ground protection will be installed in accordance with BS5837:2012 Section 6.2.3.3.

7.4 Any encroachment into the Root Protection Area (RPA) of retained trees could lead to ground compaction resulting in root damage.

Protective fencing, in accordance with BS5837:2012 will be erected to prevent any unauthorised access into the Root Protection Area (RPA) during the development works.

7.5 Storage and mixing of construction materials could lead to soil compaction of ground contamination through spillage.

All storage and mixing of materials will be undertaken outside the Root Protection Area (RPA) of the retained trees. If considered necessary, due to ground levels, a suitable waterproof ground covering with bunds at the edges to prevent leakage will be laid over the storage, mixing area.

7.6 Overhanging and low branches could potentially be damaged during the erection of scaffolding or during the delivery of materials to site.

The protective fencing will enclose the branch spreads of the retained trees preventing any potential damage to the tree canopies.



- 7.7 Drainage and service routes in association with the proposed development, have been planned outside the calculated Root Protection Area of any trees proposed for retained where possible. **Should this change, installation of drainage or services runs will be in accordance with Section 7.7 (Underground and above-ground utility apparatus) of BS5837:2012.**
- 7.8 **Shading:** - Potential shading of buildings by retained trees can lead to pressure for the pruning or removal of the trees. *BS5837: 2012 par 5.3* states that proposed buildings should be designed to take account existing trees, their ultimate size and density of foliage, and the effect that these will have on the availability of light.
There are no shading issues associated with the proposed development.
- 7.9 **Future growth:** - Future extension growth of branches can result in the continuous whipping of branches against the fabric of a building or damage to the roof tiles. Structures should therefore be located with due consideration for a tree's ultimate growth.
It is considered that the layout has considered any potential future growth, siting the proposed development at a sufficient distance from the retained trees for there to be no issues.

8.0 Tree Protection

The trees to be retained on site during and after development as listed in Section 6.4 will require both above and below ground protection. Above ground protection may involve remedial tree surgery works. These works, where applicable, are presented in the Tree Schedule Sheets (appendix 1) and are discussed in Section 8.1 below.

- 8.0.1 Below ground protection measures, based on the root protection areas (RPA), indicated in the Tree Constraints Plan (appendix 2), will involve the erection of tree protection fencing as discussed in Section 8.2. Where the proposed site layout encroaches into the RPAs of retained trees, measures are recommended to minimise the potential damage to the roots and the root environment of the trees in question. The tree protection fencing is illustrated in Tree Protection Plan (Drawing Number 231201-OL-TPP-Rev F-LI&AM&NB) (appendix 4)



8.0.2 The potential position of tree roots as indicated in the Arboricultural Impact Assessment Plan (appendix 3) and Tree Protection Plan (appendix 4) are only guidelines based on calculations shown in BS5837:2012 ‘*Trees in relation to design, demolition and construction – Recommendations*’.

8.1 Recommended Remedial Tree Surgery Works

No remedial tree works are considered necessary to facilitate the proposed development.

8.2 Tree Protection Fencing

The Tree Protection Plan (appendix 4) indicates the location of the proposed tree protection fencing where appropriate. The fencing will create a Construction Exclusions Zone (CEZ) around the retained trees.

8.2.1 The Construction Exclusion Zones will be erected in accordance with the recommendations in Section 6.2 of BS5837:2012. The specification for the fencing is presented in Figure 3 from BS5837:2012 (appendix 5).

8.2.2 It is *essential* that tree protection fencing is erected before any site preparation or construction work be commenced. Once erected the protective fencing will be retained and maintained in position for the duration of the development.

8.2.3 Should any construction activity require the repositioning of the tree protection fencing, advice will be sought from Silverback Arboricultural Consultancy and approval requested from the Local Authority Tree Officer before any of the fencing is altered.

8.3 Damage Limitation-Special Measures

Areas are identified on the Tree Protection Plan (appendix 4) where special measures will be required to minimise the impact of the proposed site layout on the retained trees where the construction works breach the RPAs.

8.3.1 Where the proposed drainage extends through the south-west fringes of the Root Protection Area of T17, the installation will be undertaken by hand in accordance with BS5837:2012 Section 7.2.



8.3.2 Where working area is required within the Root Protection Area of retained trees temporary ground protection will be installed in accordance with BS5837:2012 Section 6.2.3.3.

8.3.3 In the event of any unforeseen circumstances the project arboriculturalist will be informed immediately and will advise on suitable precautionary measures.

8.4 Underground Drainage and Service Installation

Where possible drainage and service routes in association with the proposed development have been planned outside the Root Protection Area of retained trees. Should this change installation of drainage or services routes will be in accordance with Section 7.7 (Underground and above-ground utility apparatus) of BS5837:2012.

9.0 Arboricultural Method Statement

This section sets out the basis of the methodology for all works in relation to the proposed development in proximity to trees located within the site boundary.

9.0.1 Copies of the Arboricultural Method Statement document will be available for inspection on site and will form the basis of the management of all works relating to the trees on the site for the Site Agent/Manager following commencement of the project.

9.1 Programme of Works

- Arboricultural works
- Installation of drainage through the RPA of T17
- Erection of protective fencing and temporary ground protection
- Construction of new development.

9.2 Arboricultural Works

The work recommendations presented in the Tree Schedule (appendix 1) and the recommendations discussed in Section 9.2.1 set out the proposed works to trees within the development site. These works will be carried out before commencement of other site operations including the erection of protective barriers.

9.2.1 T12 and T13 will be removed in accordance with good arboricultural practice. The proposed tree works will be undertaken by a professional arborist in accordance with the recommendations contained in BS3998:2010. Tree work-recommendations.

9.3 Installation of drainage within the RPA of T17

Where the position of the drainage route extends through the RPA of T17, excavation works will be undertaken by hand, using hand tools in accordance with BS5837:2012 section 7.2.

9.3.1 During excavation, any tree roots encountered with a diameter of less than 25mm will be cleanly severed with a suitable cutting tool, in accordance with BS5837:2012 para 7.2.3. If larger roots are discovered (25mm or greater) they will be retained, where possible, and the pipe fed either over or under the root. Clumps of roots or significant roots over 25mm will only be severed following an assessment of the significance of the root, with regards the trees health and stability, by the project arboriculturalist.

9.3.2 During the excavation works, any significant roots exposed will immediately be wrapped or covered in damp hessian to prevent any desiccation or rapid temperature change until the trench is refilled. Prior to backfilling the trench, retained roots will be unwrapped and surrounded in high quality topsoil or sharp sand before the removed soil is replaced. The back filled trench will only be compacted by hand to prevent any major ground compaction around the retained tree roots.

9.4 Tree Protection Fencing

BS5837: 2012 recommends the erection of protective fencing around retained trees before development commences. The position of the fencing is calculated using the tree's diameter (DBH) measured at 1.5m up the stem. The area within the fencing is called the Root Protection Area (RPA).

9.3.1 The protective fencing will be erected at the recommended distance contained with BS5837:2012, as indicated on the Tree Protection Plan (TPP) (appendix 4). This will create a Construction Exclusion Zone (CEZ).



- 9.3.2 The protective fencing will be constructed in accordance with BS5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’. This will consist of weld mesh panels positioned in rubber feet braced with stabilizer struts secured with ground pins, in accordance with Figure 3 of BS5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’ (appendix 5).
- 9.3.3 Once erected the protective fencing will be retained and maintained in position for the duration of the development. If it is necessary to move the protective fencing advice will be sought from Silverback Arboricultural Consultancy and approval requested from the South Gloucestershire Council Tree Officer before any of the fencing is altered.
- 9.3.4 Weatherproof signage will be attached to the fencing indicating its function as illustrated (appendix 6).
- 9.3.5 In the CEZ (construction exclusion zone):
- There must be no alteration of ground levels, including soil stripping other than those detailed within this report.
 - Any installation of drainage or services will be in accordance with Section 7.7 (Underground and above-ground utility apparatus) of BS5837:2012.
 - Oil, bitumen, cement or other harmful materials will not be stored, mixed or discharged within 10m of any retained trees.
 - Fires will not be lit beneath or within 10m upwind of tree canopies.

9.4 Installation of temporary ground protection.

Prior to the commencement of any construction works on site, temporary ground protection will be installed, as indicated on the TPP (appendix 4), in accordance with BS5837:2012 Section 6.2.3.3. This will be retained and maintained in position for the duration of the development.

- 9.4.1 The temporary ground protection will consist of a geo textile membrane placed over the existing ground. This will be topped by 100mm woodchip overlaid with a single thickness of scaffold boards.

9.6 Supervision and Monitoring

The project arboricultural consultant will be employed to oversee operations relating to works close to or within Root Protection Areas of retained trees and to issue a site inspection report of practical completion for the following operations:

- Installation of drainage within the RPA of T17
- The erection of protective barriers and temporary ground protection in accordance with TPP (appendix 4)

9.6.1 A record of site visits completed by the project arboriculturalist will be maintained for inspection on site and copies are forwarded to the Local Planning Authority Tree Officer.

9.6.2 This development will be overseen Silverback Arboricultural Consultancy. If there are any alterations to the proposed working methodology necessary, works will be stopped until the arboricultural consultant has been notified and agreement reached with the Local Planning Authority Tree Officer.

10.0 Contact Details

10.1 Arboricultural Consultant

Chris Wright

Silverback Arboricultural Consultancy

E-mail: chris@silverbackarb.co.uk

10.2 Local Authority Tree Officer

Lea Bending

Arboricultural Officer

South Gloucestershire Council

E-mail: lea.bending@southglos.gov.uk



11.0 References

Mattheck, C. and Breloer, H. (1995). The Body Language of Trees: A handbook for failure analysis. Research for Amenity Trees **4**. HMSO, London.

British Standard 5837:2012 - Trees in relation to design, demolition and construction – Recommendations. British Standards Institution, London

British Standard 3998:2010 - Tree Work Recommendations. British Standards Institution, London

12.0 Appendices

- Tree schedule sheets
- Tree constraints plan
- Arboricultural impact assessment (AIA)
- Tree protection plan
- BS5837:2012 Trees in relation to construction: Recommendations Protective Fencing Detail
- Protective fencing sign
- Drainage Strategy

Chris Wright. MArbora.

Principal Consultant

Silverback Arboricultural Consultancy

4th December 2023

Arboricultural Survey Oaklands, Almondsbury

Tree Number	Common name	Botanical name	Height (m)	Number of stems	Calculated stem diameter (mm)	Crown Spread (m)				Crown Clearance (m)	Life Stage	Structural Condition	Physiological Condition	Observations	Preliminary Recommendations	Remaining contribution (yrs)	BS Category	Root Protection Area Radius (m) Area m2
						N	S	E	W									
T01	Hornbeam	Carpinus betulus	10	1	400	5	5	5	5	2	Mature	Good	Good	No significant defects visible at time of inspection	No action required at the time of inspection.	40+ Years	B1,2	Radius: 4.8m. Area: 72 sq m.
T02	Yew, English	Taxus baccata	9	4	575	2	2	4	3	2	Mature	Fair	Fair	Suppressed by neighbouring trees Asymmetric crown Prolific ivy throughout canopy Ivy growing up main stem	Sever ivy at base.	20+ Years	C2	Radius: 6.9m. Area: 150 sq m.
T03	Pine, Scots	Pinus sylvestris	8	1	300	1	2	5	0	2	Semi Mature	Poor	Fair	Totally suppressed by neighbouring trees Asymmetric crown	No action required at the time of inspection.	20+ Years	C2	Radius: 3.6m. Area: 41 sq m.
T04	Hornbeam	Carpinus betulus	10	1	410	4	4	4	4	2	Mature	Good	Good	No significant defects visible at time of inspection	No action required at the time of inspection.	40+ Years	B1,2	Radius: 4.9m. Area: 75 sq m.
T05	Hornbeam	Carpinus betulus	11	1	490	5	5	5	4	2	Mature	Good	Good	No significant defects visible at time of inspection	No action required at the time of inspection.	40+ Years	A1,2	Radius: 5.9m. Area: 109 sq m.
T06	Hornbeam	Carpinus betulus	10	1	440	5	4	5	3	1.5	Mature	Fair	Good	Altered exposure due to removal of adjacent trees Asymmetric crown	No action required at the time of inspection.	20-40 Years	B2	Radius: 5.3m. Area: 88 sq m.
T07	Oak, pedunculate	Quercus robur	15	1	850	4	5	5	5	3	Over Mature	Fair	Fair	Tree appears to be in terminal decline Dieback in the canopy chlorotic, sparse foliage Major deadwood in canopy	No action required at the time of inspection.	10+ Years	C2	Radius: 10.2m. Area: 327 sq m.
T08	Chestnut, Horse	Aesculus hippocastanum	11	1	750	6	7	6	4	1	Mature	Fair	Good	Altered exposure due to removal of adjacent trees Heavy lean to east Root damage, exposed roots	No action required at the time of inspection.	20+ Years	B1,2	Radius: 9.0m. Area: 254 sq m.
T09	Chestnut, Horse	Aesculus hippocastanum	12	1	650	6	6	6	4	2	Mature	Fair	Good	No significant defects visible at time of inspection	No action required at the time of inspection.	20-40 Years	B1,2	Radius: 7.8m. Area: 191 sq m.

Arboricultural Survey Oaklands, Almondsbury

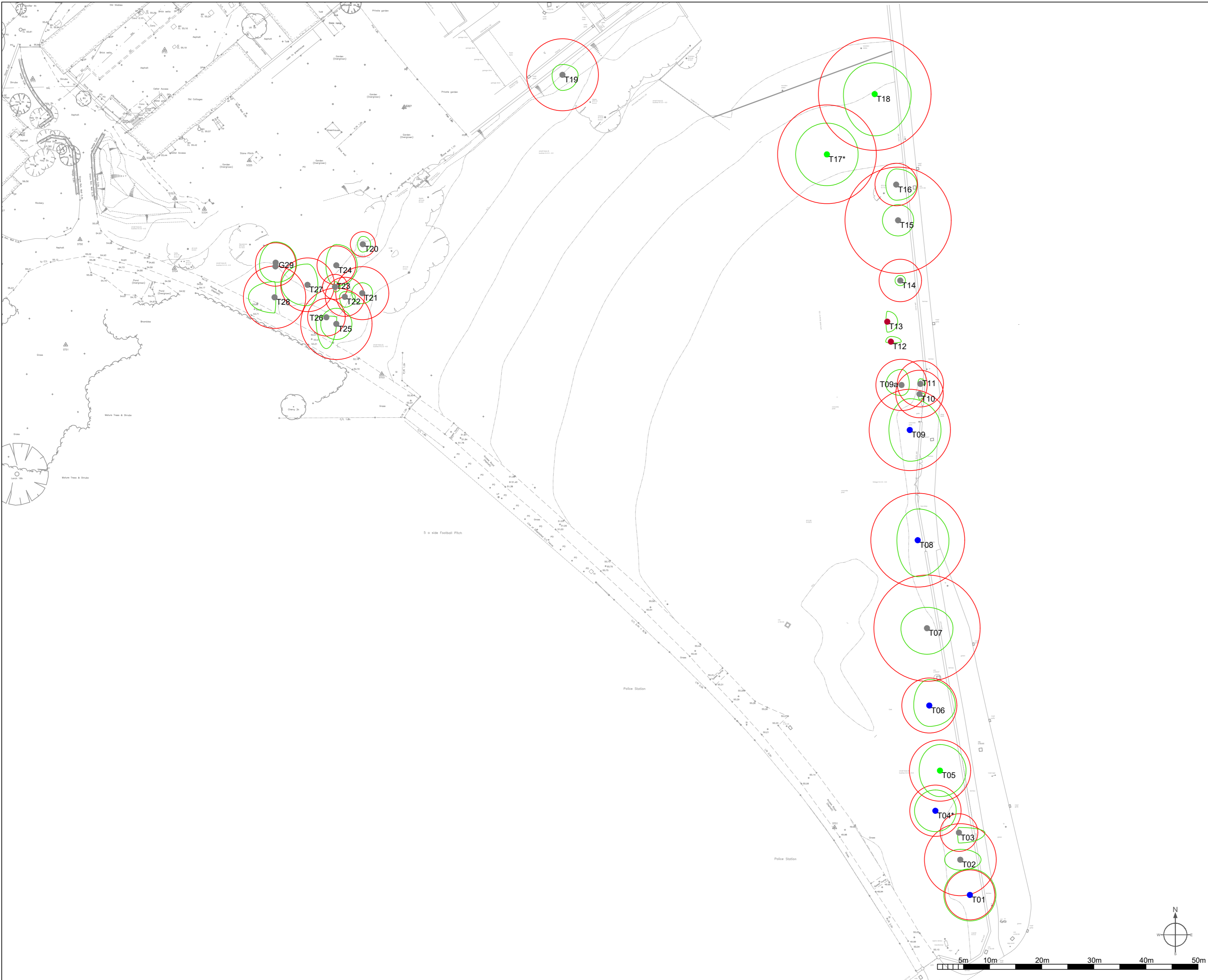
Tree Number	Common name	Botanical name	Height (m)	Number of stems	Calculated stem diameter (mm)	Crown Spread (m)				Crown Clearance (m)	Life Stage	Structural Condition	Physiological Condition	Observations	Preliminary Recommendations	Remaining contribution (yrs)	BS Category	Root Protection Area Radius (m) Area m2
						N	S	E	W									
T09a	Maple, Field	Acer campestre	9	1	410	3	2	1.5	3	1	Semi Mature	Fair	Fair	Suppressed by neighbouring trees Asymmetric crown	No action required at the time of inspection.	20-40 Years	C2	Radius: 4.9m. Area: 75 sq m.
T10	Cypress, Lawson	Chamaecyparis lawsoniana	10	1	380	0	1	1	0	2	Mature	Poor	Fair	Totally suppressed by neighbouring trees Asymmetric crown	No action required at the time of inspection.	10+ Years	C2	Radius: 4.6m. Area: 66 sq m.
T11	Cypress, Lawson	Chamaecyparis lawsoniana	10	1	370	1	0	1	0.5	2	Mature	Poor	Fair	Totally suppressed by neighbouring trees Asymmetric crown	No action required at the time of inspection.	10+ Years	C2	Radius: 4.4m. Area: 61 sq m.
T12	Rowan	Sorbus aucuparia	#	#	#	#	#	#	#	#	#	#	#	Uprooted	#	<10+ Years	U	none - due to Retention Category of U.
T13	Whitebeam	Sorbus aria	#	#	#	#	#	#	#	#	#	#	#	Standing dead tree	#	<10+ Years	U	none - due to Retention Category of U.
T14	Cypress, Lawson	Chamaecyparis lawsoniana	14	1	340	1	1	1	1	0	Mature	Fair	Good	No significant defects visible at time of inspection	No action required at the time of inspection.	20+ Years	C2	Radius: 4.1m. Area: 53 sq m.
T15	Oak, pedunculate	Quercus robur	9	1	850	3	3	3	3	2	Over Mature	Poor	Fair	Previously pollarded at 7m Stem and buttress roots showing evidence of major decay ganoderma brackets around base Extensive bark damage on main stem	No action required at the time of inspection.	10+ Years	C2	Radius: 10.20m. Area: 327 sq m.
T16	Cypress, Lawson	Chamaecyparis lawsoniana	11	1	340	3	3	4	2	3	Semi Mature	Fair	Fair	Asymmetric canopy Sparse foliage	No action required at the time of inspection.	20+ Years	C2	Radius: 4.1m. Area: 53 sq m.
T17	Oak, pedunculate	Quercus robur	14	1	790	6	6	6	6	6	Mature	Good	Good	No significant defects visible at time of inspection Major deadwood in canopy	No action required at the time of inspection.	40+ Years	A1,2	Radius: 9.5m. Area: 284 sq m.

Arboricultural Survey Oakland, Almondsbury

Tree Number	Common name	Botanical name	Height (m)	Number of stems	Calculated stem diameter (mm)	Crown Spread (m)				Crown Clearance (m)	Life Stage	Structural Condition	Physiological Condition	Observations	Preliminary Recommendations	Remaining contribution (yrs)	BS Category	Root Protection Area Radius (m) Area m2
						N	S	E	W									
T18	Chestnut, Horse	Aesculus hippocastanum	16	1	900	6	8	7	6	2	Mature	Fair	Good	Number of lower limbs removed west side No significant defects visible at time of inspection	No action required at the time of inspection.	40+ Years	A1,2	Radius: 10.80m. Area: 366 sq m.
T19	Cedar, Western Red	Thuja plicata	12	4	575	2	3	3	2	0	Mature	Poor	Fair	Four stems from base Suppressed by neighbouring trees Prolific ivy throughout canopy Ivy growing up main stem	No action required at the time of inspection.	20+ Years	C2	Radius: 6.9m. Area: 150 sq m.
T20	Yew, Irish	Taxus baccata Fastigiata	7	1	200	1.5	1.5	1.5	1	0	Mature			Multi- stemmed from base Prolific ivy throughout canopy	No action required at the time of inspection.	20+ Years	C2	Radius: 2.4m. Area: 18 sq m.
T21	Sycamore	Acer pseudoplatanus	12	4	450	2	2	2	2	3	Mature	Poor	Fair	Four stems from base Included bark at stem union Suppressed by neighbouring trees Prolific ivy throughout canopy Ivy growing up main stem	No action required at the time of inspection.	20-40 Years	C2	Radius: 5.1m. Area: 82 sq m.
T22	Yew, English	Taxus baccata	6	3	310	1	2	2	1	2	Mature	Fair	Fair	Three stems from base Suppressed by neighbouring trees	No action required at the time of inspection.	40+ Years	C2	Radius: 3.8m. Area: 45 sq m.
T23	Yew, English	Taxus baccata	6	1	200	1	1	1	0	2	Mature	Poor	Fair	Suppressed by neighbouring trees	No action required at the time of inspection.	40+ Years	C2	Radius: 2.4m. Area: 18 sq m.
T24	Sycamore	Acer pseudoplatanus	11	1	310	4	4	4	2	3	Mature	Fair	Good	Exposed roots Suppressed by neighbouring trees Asymmetric crown	No action required at the time of inspection.	20+ Years	C2	Radius: 3.7m. Area: 43 sq m.
T25	Yew, English	Taxus baccata	11	1	570	3	3	3	3	4	Mature	Fair	Poor	Dieback in the canopy chlorotic, sparse foliage Evidence of level change around base	No action required at the time of inspection.	40+ Years	C2	Radius: 6.8m. Area: 145 sq m.

Arboricultural Survey Oaklands, Almondsbury

Tree Number	Common name	Botanical name	Height (m)	Number of stems	Calculated stem diameter (mm)	Crown Spread (m)				Crown Clearance (m)	Life Stage	Structural Condition	Physiological Condition	Observations	Preliminary Recommendations	Remaining contribution (yrs)	BS Category	Root Protection Area Radius (m) Area m2
						N	S	E	W									
T26	Yew, English	Taxus baccata	4	1	300	0	6	2	2	0	Mature	Poor	Fair	Multi- stemmed from base Totally suppressed by neighbouring trees Asymetric crown	No action required at the time of inspection.	40+ Years	C2	Radius: 3.6m. Area: 41 sq m.
T27	Sycamore	Acer pseudoplatanus	12	1	430	4	4	2	5	4	Mature	Fair	Fair	Suppressed by neighbouring trees Prolific ivy throughout canopy	No action required at the time of inspection.	20-40 Years	C2	Radius: 5.2m. Area: 85 sq m.
T28	Oak, Holm	Quercus ilex	9	3	500	3	3	0	5	2	Mature	Poor	Fair	Totally suppressed by neighbouring trees Asymetric crown	No action required at the time of inspection.	40+ Years	C2	Radius: 6.0m. Area: 113 sq m.
G29	Sycamore	Acer pseudoplatanus	8	1	320	4	3	4	3	2	Mature	Poor	Fair	Growing to form single canopy both have twin stem structure from .5m Included bark at stem union Major deadwood in canopy	No action required at the time of inspection.	10+ Years	C2	Radius: 3.8m. Area: 45 sq m.



01454 227458 / 07775 576738 / chris@silverbackarb.co.uk

Site: Oaklands

Drawing Title: Tree Constraints Plan	1-500@A2
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Drawing Number: 230912-OL-TCP-Rev C-LI&AM&NB	September 2023
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Key:

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

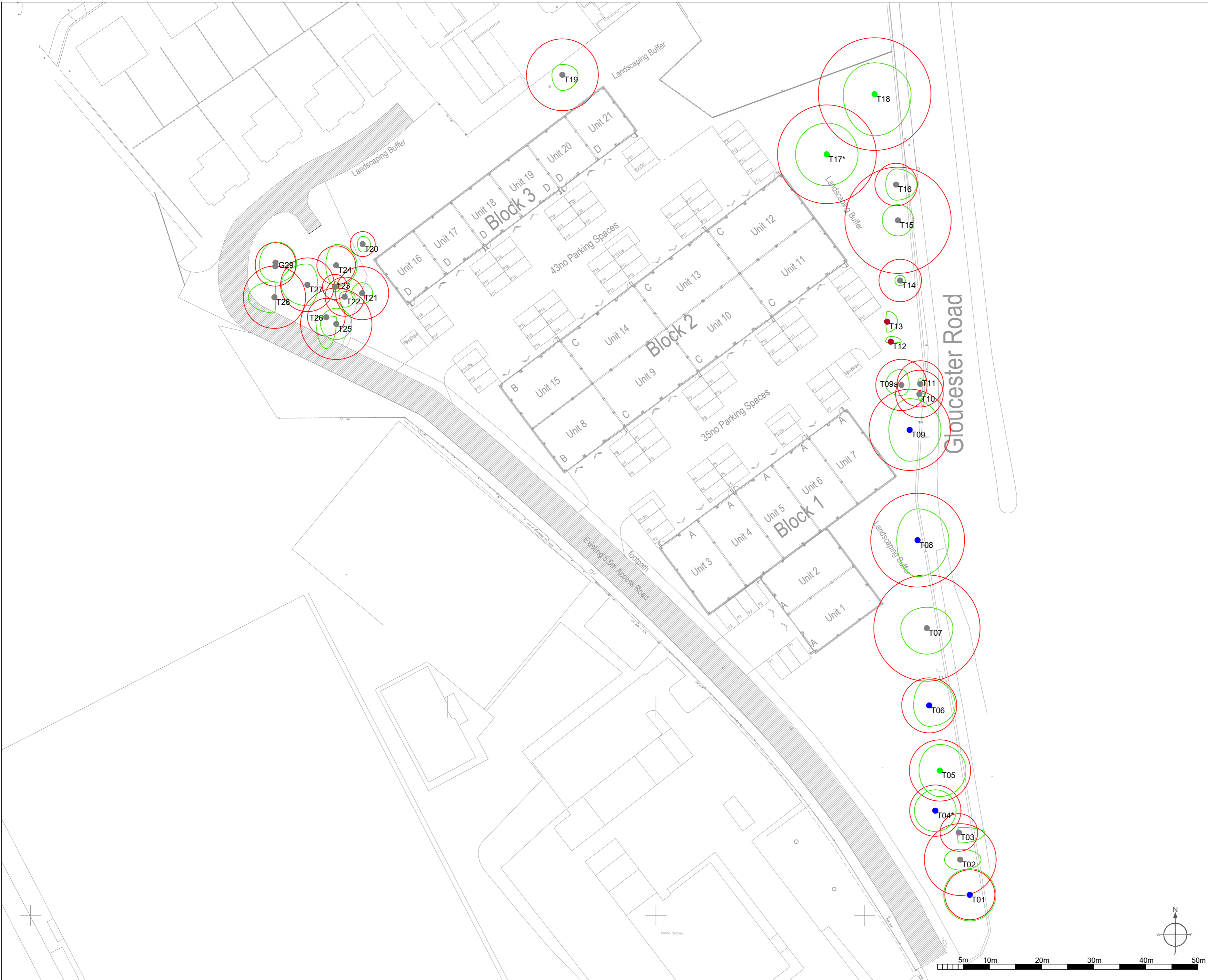
Category

Root Protection Area

Crown Spread

Tree Number

NOTE: Tree/group numbers marked with an * have approximate locations.



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Site: Oaklands, Oaklands Drive, Almondsbury

Drawing Title: Arboricultural Impact Assessment	1-500@A2
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Drawing Number: 231201-OL-AIA-Rev D-LI&AM&NB	December 2023
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Key:

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

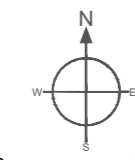
Category

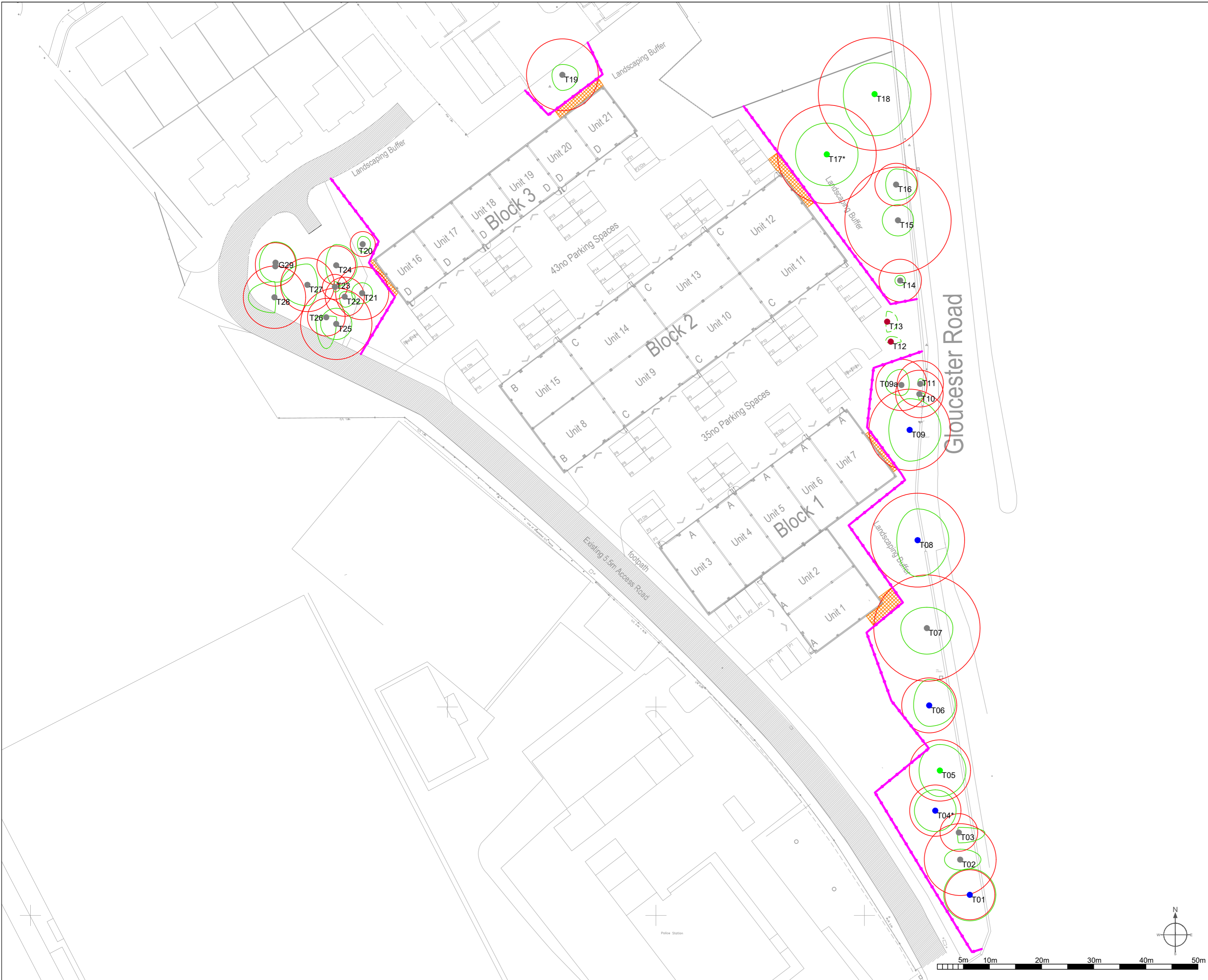
Root Protection Area

Crown Spread

Tree Number

NOTE: Tree/group numbers marked with an * have approximate locations.





Silverback
arboricultural consultancy ltd

01454 227458 / 07775 576738 / chris@silverbackarb.co.uk

Site: Oaklands, Oaklands Drive, Almondsbury

Drawing Title: Tree Protection Plan	1-500@A2
Drawing Number: 231201-OL-TPP-Rev F-LI&AM&NB	December 2023

Key:

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

Category Root Protection Area

● Crown Spread

● Tree Number

— Tree Protection Fencing

Temporary Ground Protection

○ Proposed Tree for Removal

NOTE: Tree/group numbers marked with an * have approximate locations.

BS 5837:2012 – TREES IN RELATION TO DESIGN, DEMOLITION AND CONSTRUCTION – RECOMMENDATIONS

EXAMPLES OF ABOVE-GROUND STABILIZING SYSTEMS

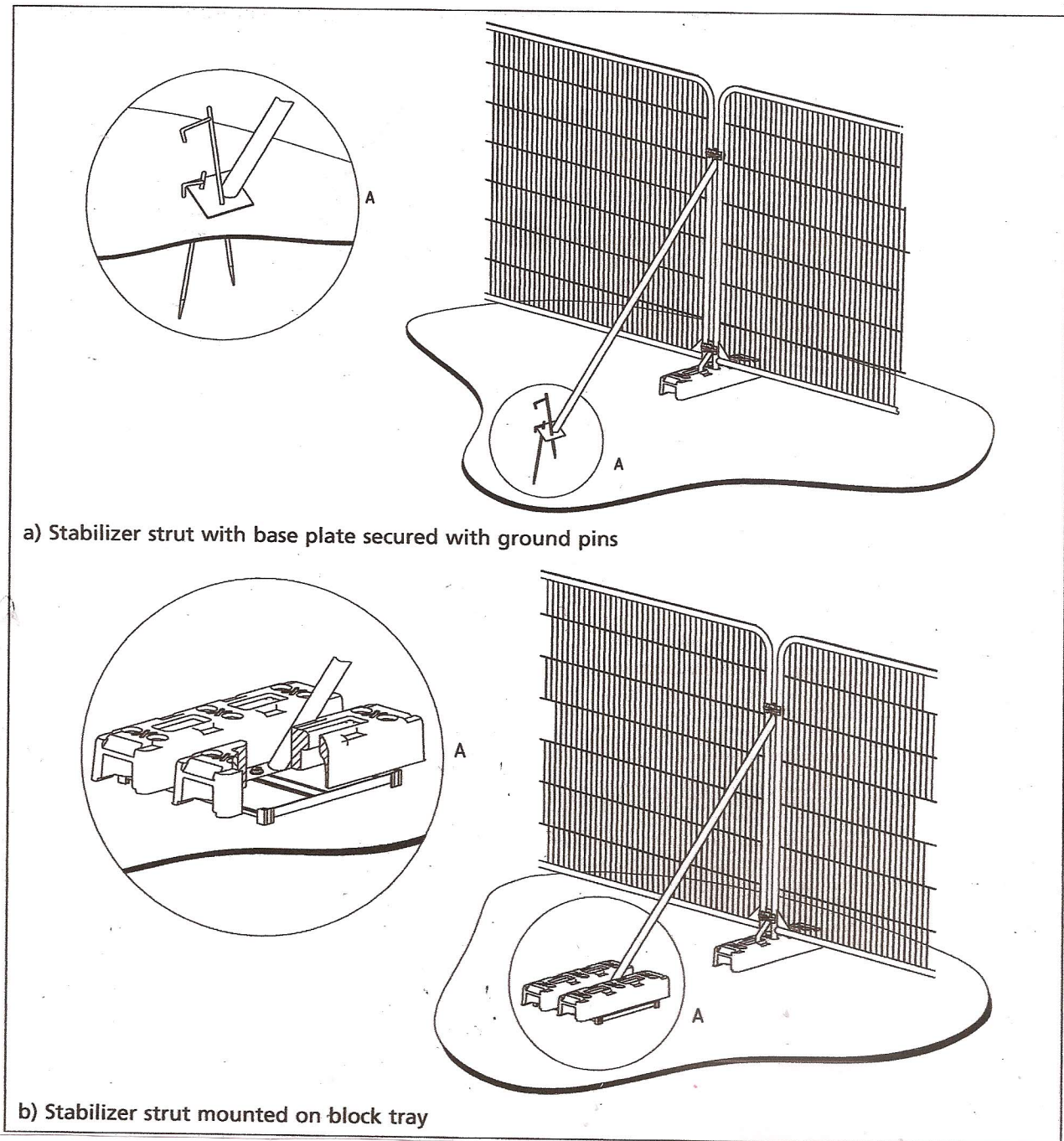


Figure 3 Examples of above-ground stabilizing systems



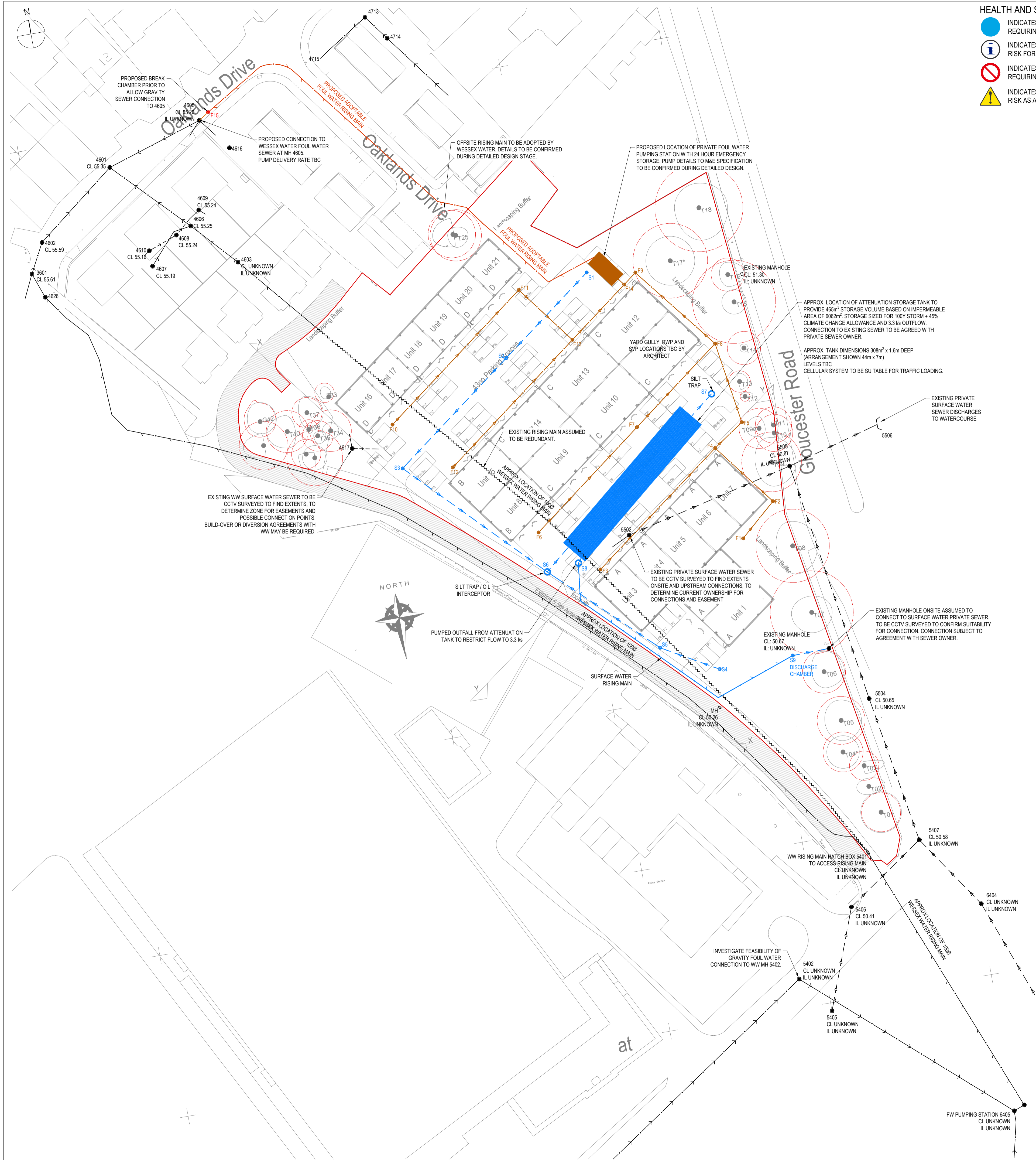
**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY**



HEALTH AND SAFETY SYMBOLS LEGEND

- INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION
- INDICATES A RESIDUAL RISK FOR INFORMATION
- INDICATES A RESIDUAL RISK REQUIRING A PROHIBITIVE ACTION
- INDICATES A RESIDUAL RISK AS A WARNING

KEY

- APPROXIMATE SITE BOUNDARY
- EXISTING WESSEX WATER FOUL WATER SEWER
- EXISTING WESSEX SURFACE FOUL WATER SEWER
- EXISTING RISING MAIN
- ABANDONED PROPOSED PRIVATE FOUL WATER DRAINAGE
- PROPOSED ADOPTABLE FOUL WATER RISING MAIN
- PROPOSED PRIVATE SURFACE WATER DRAINAGE
- PROPOSED PRIVATE SURFACE WATER RISING MAIN
- ROOT PROTECTION AREA

GENERAL NOTES

1. DO NOT SCALE FROM THIS DRAWING, IF IN DOUBT ASK.
2. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES. ALL LEVELS ARE SHOWN IN METRES.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND PROJECT SPECIFICATIONS.

REFERENCE DRAWINGS

1. ARCHITECT'S PROPOSED SITE LAYOUT.
2. SITE TOPOGRAPHICAL SURVEY.

REFER TO CONTRIBUTING AREAS PLAN DRAWING REFERENCE 10165FDL5_P501

P2	07/11/23	MINOR AMENDMENTS TO SUIT LANDSCAPE	RV
P1	06/10/23	ISSUED WITH FRA REPORT	DT
REV	DATE	AMENDMENT	
DRAWING STATUS			
PLANNING			

STRUCTURAL SOLUTIONS
CHARTERED ENGINEERS
DAIRY STUDIOS | 102 LINCOLN STREET | BRISTOL | BS5 0BJ | T. 0117 924 5014

PROJECT
OAKLANDS RECREATIONAL GROUND
OAKLANDS DRIVE, ALMONDSBURY BS32 4AB

PROPOSED FOUL AND SURFACE WATER DRAINAGE STRATEGY			
SCALE	SHEET SIZE	DATE	DT
1:500	A1	29/08/23	DT
PROJECT NO.	DRAWING NO.	REV	
10165FDL5	P500	P2	

SUBJECT TO APPROVAL FROM LOCAL AUTHORITY AND WESSEX WATER

NOT FOR CONSTRUCTION