



The Sirius Group

Miners Road, Wrexham

Arboricultural Method Statement

September 2018

FPCR Environment and Design Ltd

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1.0 INTRODUCTION

- 1.1 This statement has been prepared by FPCR Environment and Design Limited on behalf of The Sirius Group to provide the methods of protection and pruning requirements of retained trees located on Miners Road, Llay (hereafter referred to as 'the site').
- 1.2 This document sets out the methodology for all proposed works that affect trees on the site. Compliance with this method statement, once approved by the Wrexham County Borough Council Arboricultural Officer, will be a requirement of all relevant contractors associated with the development proposals.
- 1.3 This arboricultural method statement is required to satisfy Condition 11 as part of a condition of the planning consent granted 4th June 2018 (Wrexham County Borough Council, LLAP/2017/0937) – Construction and Operation of a Reserve Power Plant and Associated Infrastructure. Permission was subsequently granted for an extension, which also included the requirement of an arboricultural method statement to satisfy condition 8. This method statement addresses the requirements of both developments.

Condition 11 (LLAP/2017/0937) and Condition 8 (LLAP/2018/0517)

No part of the development shall commence until a detailed Arboricultural Method Statement has been submitted to and approved in writing by the Local Planning Authority. No development or other operations shall take place except in strict accordance with the Method Statement as is approved. The Method Statement shall include the following:

- a) A specification for tree protection fencing and ground protection measures that comply with British Standard 5837:2012;*
 - b) A Tree Protection Plan showing the location of the trees to be removed and retained with their crown spreads, Root Protection Areas, Construction Exclusion Zones, and location of protective fencing and ground protection measures accurately plotted;*
 - c) A full specification for any access, driveway, path, underground services or wall foundations within retained Root Protection Areas or Construction Exclusion Zone, including any related sections and method for avoiding damage to retained trees;*
 - d) Details of general arboricultural matters including proposed practices with regards to cement mixing, material storage and fires;*
 - e) Details of the frequency of supervisory visits and procedures for notifying the findings of such visits to the Local Planning Authority;*
 - f) Method for protecting retained trees during demolition works;*
 - g) Details of all proposed tree works, including felling and pruning.*
- 1.4 It is understood following consultation with the Local Planning Authority, Wrexham County Borough Council, that there are no Tree Preservation Orders or Conservation Area designations that would apply to any trees present on, or in close proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees
- 1.5 The AMS outlines the various components in respect of the development of the site.

- 1.6 The following details have been illustrated in the Tree Protection Plan (8628-T-02). The plan shows:
- Trees to be retained (green)
 - The position of tree protection fencing (orange line)
 - Area of supervised excavation (orange cross-hatch)
 - Extent of calculated Root Protection Areas (blue circle)

2.0 TREE PROTECTION METHODOLOGY

- 2.1 Protection barriers should be installed prior to the commencement of any site activity including the installation of site offices, topsoil stripping or material storage.
- 2.2 Fencing will be installed, as detailed in Tree Protection Plan (8628-T-02), at the extent of the root protection of retained trees. The fencing will be strong and suitable for the location, type and proximity of construction activity and prevent access of machinery, plant or operative beyond the area required to construct the reserve power plant.
- 2.3 Barriers will remain rigid and in place until the compound post and rail fence has been erected. Once this permanent fence is in place, the temporary barriers can be removed. In most situations, temporary protection barriers will comprise a Heras panel framework..
- 2.4 Tree protection barriers and work exclusion zones will be clearly marked using appropriate signage an example of which has been included as Appendix C.
- 2.5 Once the barriers have been completely installed the contractor responsible for the tree protection should seek written confirmation from the project arboriculturalist that the barriers have been installed in the correct position, as shown in Tree Protection Plan (8628-T-02), and are to the required standard.
- 2.6 Following the erection of the compound post and rail fencing and in agreement with the project arboriculturalist, the tree protection barriers will be removed carefully as to avoid causing root disturbance or leaving in situ any lengths of scaffold framework. This operation can be carried out prior to soft landscaping works such as new planting, mulching grass sowing etc.

General tree protection measures

- 2.7 This section details non-specific precautionary measures to be applied at all times.
- 2.8 All the retained trees will need to be adequately protected during works. Measures to protect these trees should follow the best practice principles set out in *BS5837: Trees in Relation to Construction Recommendations (2012)*. These have been broadly summarised below.
- 2.9 No materials or soils are to be stored within the Root Protection Area of the retained trees.
- 2.10 Oil, bitumen, cement or other material that is potentially injurious to trees will not be stacked or discharged within 10m of a tree stem. No concrete mixing will be done within 10m of a tree. Allowance will be made for the slope of ground to prevent materials running towards the tree.

- 2.11 Wide or tall loads etc. should not come into contact with retained trees. Banks man should supervise transit of vehicles where they are in close proximity to retained trees.
- 2.12 No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.
- 2.13 Notice boards, telephone cables or other services will not be attached to any part of a retained tree.
- 2.14 No roots will be left uncovered if exposed during the removal of existing surface materials. They will be covered over as soon as possible to minimise the risk of drying out and dying.

3.0 MONITORING OF TREES DURING AND POST CONSTRUCTION

- 3.1 This is to take place as outlined below and as formerly approved and agreed with the Local Planning Authority, Wrexham County Borough Council. The Project Arboriculturist will be responsible for monitoring of all arboricultural works and issuing a Certificate of Practical Completion. In addition, the Project Arboriculturist will inspect the fencing and any area of excavation adjacent to T9 for the installation of the gas governor connection pipe.
- 3.2 The site manager will be responsible for monthly inspections of the tree protection fencing to ensure it remains intact. A record of site visits and monthly inspections will be maintained for inspection on site and copies can be forwarded to the developer / agent and to the local planning authority upon request.

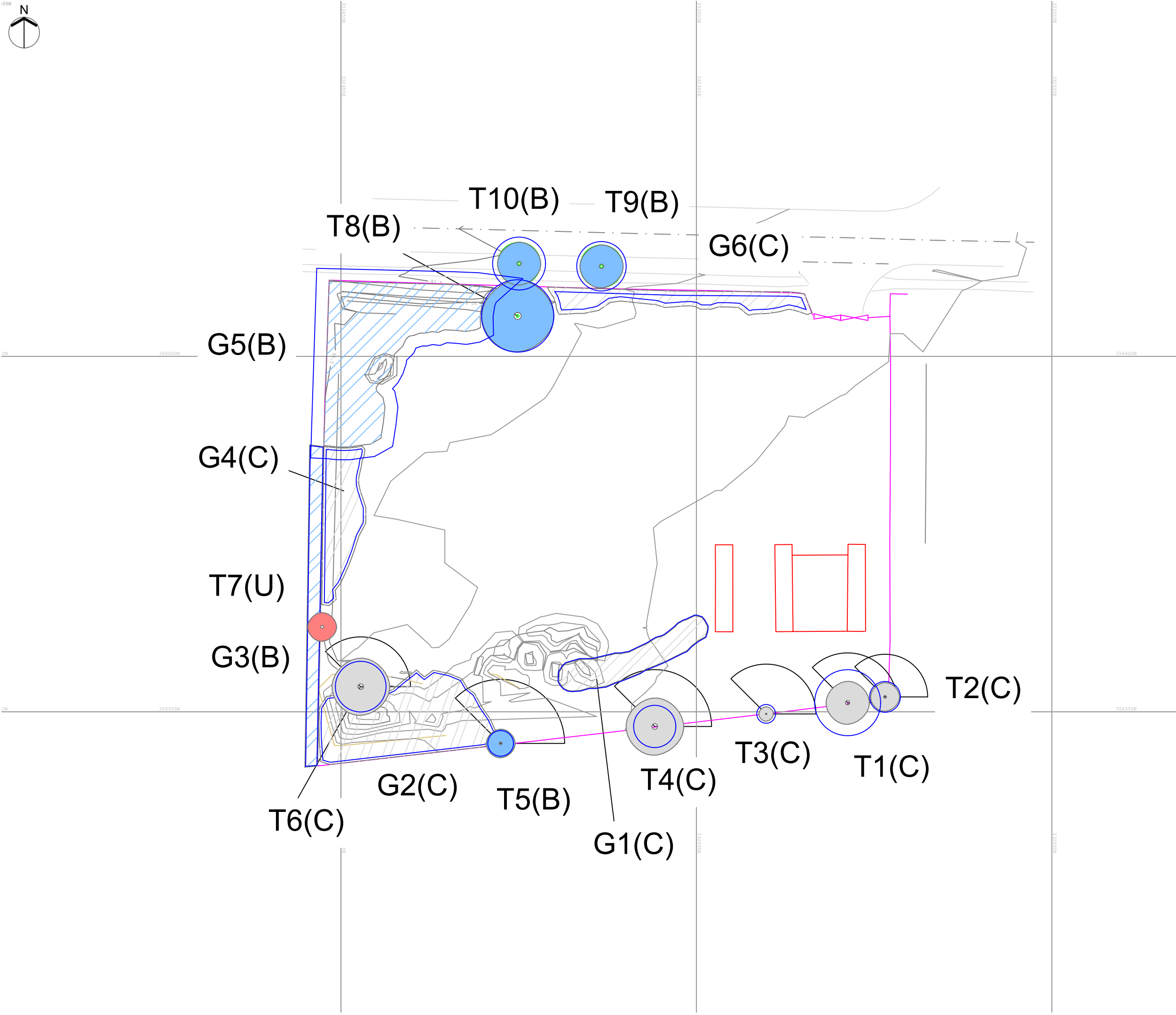
Table 2: Timeline of Tree Protection

Works required	Action	Approximate Timetable
Tree protective barriers	Erect fencing as detailed in section 2 and shown in drawing 8628-T-02 Tree Protection Plan to the specification shown in Appendix B	Prior to storage of materials, commencement site activity (including the installation of site office)
Sign off of fencing by Project Arboriculturist	Written confirmation from Project Arboriculturist that fencing has been positioned and erected satisfactorily	Immediately following completion of fencing installation and prior to commencement of works
Commence Work		
Excavation within RPA's	Excavation with the Root Protection Area of T9 as detailed in the Tree Protection Plan	When appropriate
Sign off excavation works by Project Arboriculturist	Written confirmation from Project Arboriculturist that excavation has been carried out suitably	Immediately following completion of excavated area
Removal of protective barriers	Remove barriers to allow landscaping works to be completed	Following the erection of the compound post and rail fence and in agreement with the Project Arboriculturist

- 3.3 Key monitoring stages are summarised below:

- Following completion of all recommended works stated within Table 1.

-
- Signing off of the protective fencing.
 - Excavation within RPA of T9
 - Removal of tree protection barriers following the erection of the compound post and rail fence and in agreement with the site arboriculturalist.
 - Issue a certificate of practical completion



KEY

Category U - Trees / Groups Unsuitable for Retention
(BS 5837:2012)

Category A - Trees / Groups of High Quality
(BS 5837:2012)

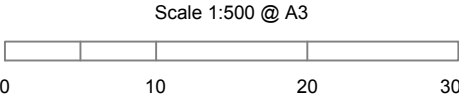
Category B - Trees / Groups of Moderate Quality
(BS 5837:2012)

Category C - Trees / Groups of Low Quality
(BS 5837:2012)

Root Protection Area (The RPA has been altered
where appropriate to reflect underground constraints)

Individual / Group Number and BS5837:2012 Category

Indicative Shade Pattern (in accordance with
BS5837:2012 where appropriate)



NOTES

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing has been produced in colour and is based on digital information in .dwg format, aerial images and/or GPS location where appropriate. A monochrome copy should not be relied upon. The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the project Arboriculturalist should works commence 12 months after the date of this survey.

SOME TREES MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

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TREE SURVEY PLAN

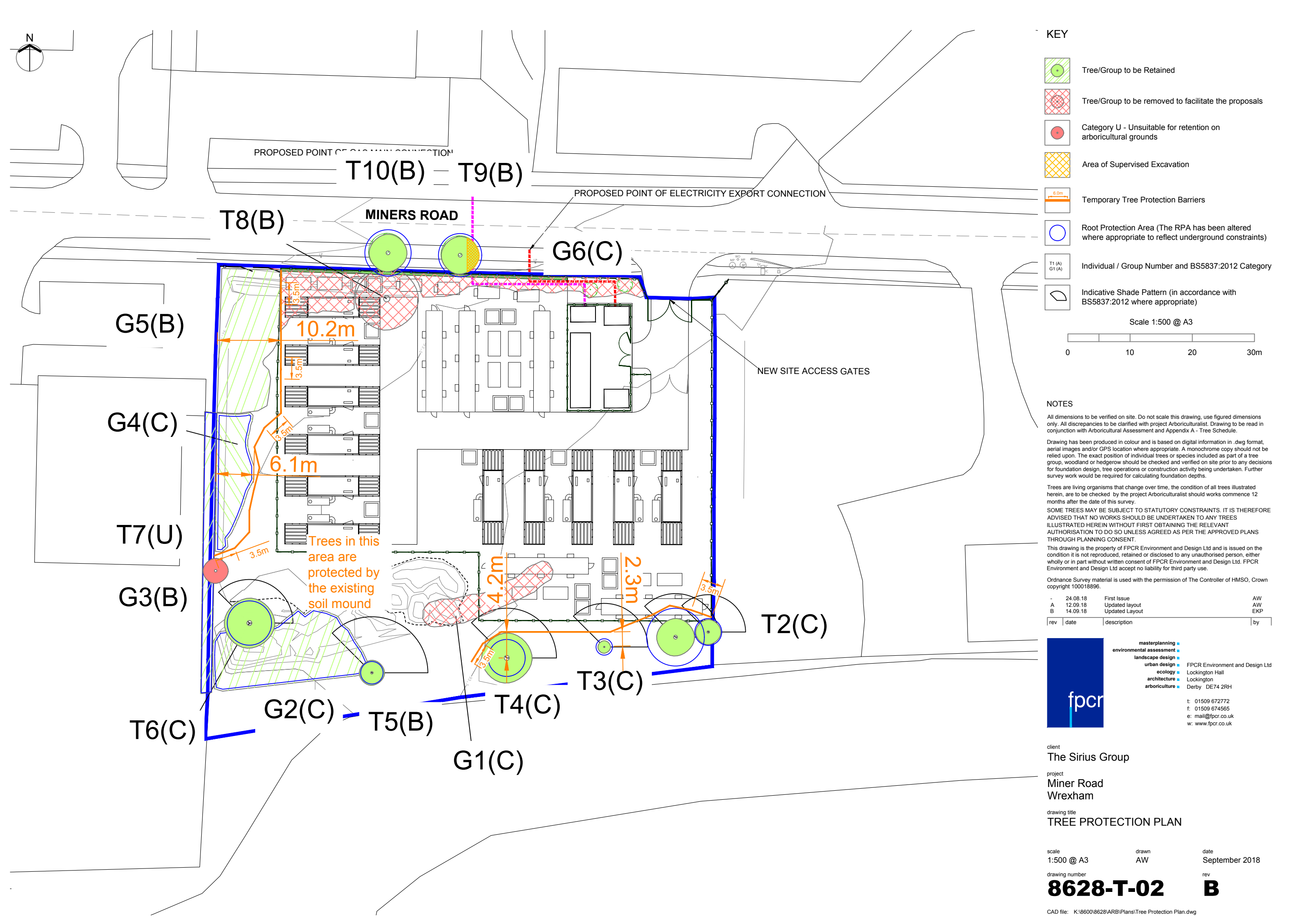
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KEY



Tree/Group to be Retained



Tree/Group to be removed to facilitate the proposals



Category U - Unsuitable for retention on arboricultural grounds



Area of Supervised Excavation



Temporary Tree Protection Barriers



Root Protection Area (The RPA has been altered where appropriate to reflect underground constraints)



Individual / Group Number and BS5837:2012 Category



Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)

Scale 1:500 @ A3



NOTES

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project
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drawing title
TREE PROTECTION PLAN

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date
September 2018

drawing number
8628-T-02
rev
B

Appendix A - Tree Schedule

Measurements	Age Class	Overall Condition	Root Protection Area (RPA)
Height - Measured using a digital laser clinometer (m)	YNG: Young trees up to ten years of age	G - Good: Trees with only a few minor defects and in good overall health needing little, if any attention	• The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). • The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected. • Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	SM: Semi-mature trees less than 1/3 life expectancy	F - Fair: Trees with minor rectifiable defects or in the early stages of stress from which it may recover	
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	EM: Early mature trees 1/3 – 2/3 life expectancy	P - Poor: Trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term	
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	M: Mature trees over 2/3 life expectancy	D - Dead: This could also apply to trees in an advanced state of decline and unlikely to recover	
	OM: Over mature declining or moribund trees of low vigour	The BS category particular consideration has been given to the following • The health, vigour and condition of each tree • The presence of any structural defects in each tree/group and its future life expectancy • The size and form of each tree/group and its suitability within the context of a proposed development • The location of each tree relative to existing site features e.g. its screening value or landscape features • Age class and life expectancy	
	V: Veteran tree possessing certain attributes relating to veteran trees		

Structural Condition
The following is an example of considerations when inspecting structural condition: - The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay - Soil cracks and any heaving of the soil around the base - Any abrupt bends in branches and limbs resulting from past pruning - Tight or weak 'V' shaped forks and co-dominant stems - Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994) - Cavities as a result of limb losses or past pruning - Broken branches or storm damage - Damage to roots - Basal, stem or branch / limb cavities - Crown die-back or abnormal foliage size and colour

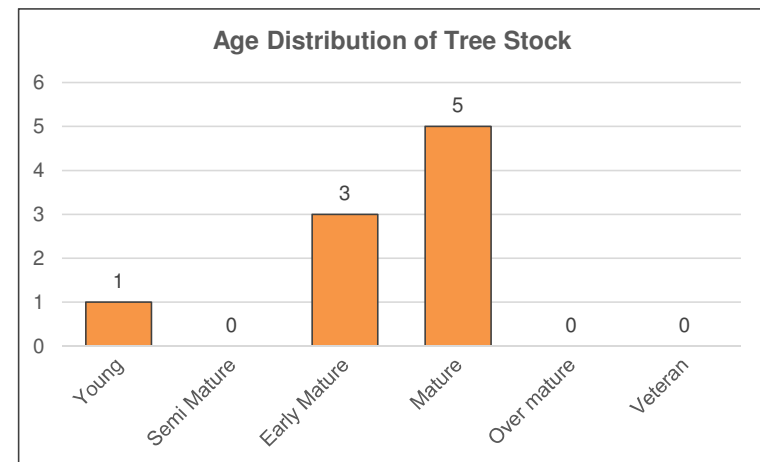
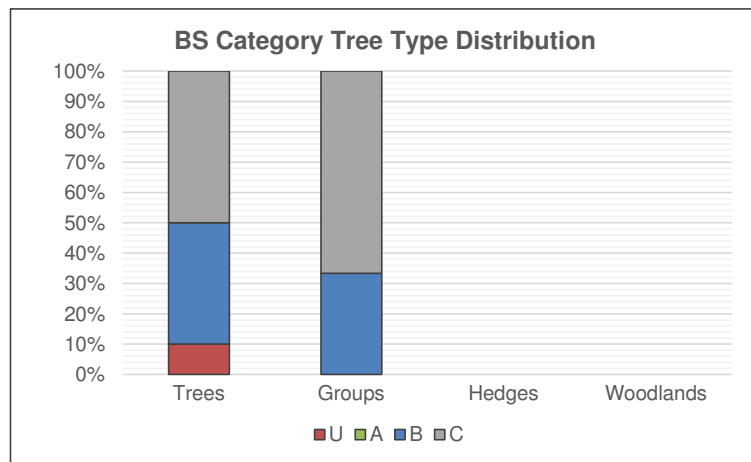
Quality Assessment of BS Category
Category U - Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
Category 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.
Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value

Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U	T7	1		0
Category A		0		0
Category B	T5, T8, T9, T10	4	G3, G5	2
Category C	T1, T2, T3, T4, T6	5	G1, G2, G4, G6	4
Total		10	Total	6

BS Category Tree Type Distribution displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.

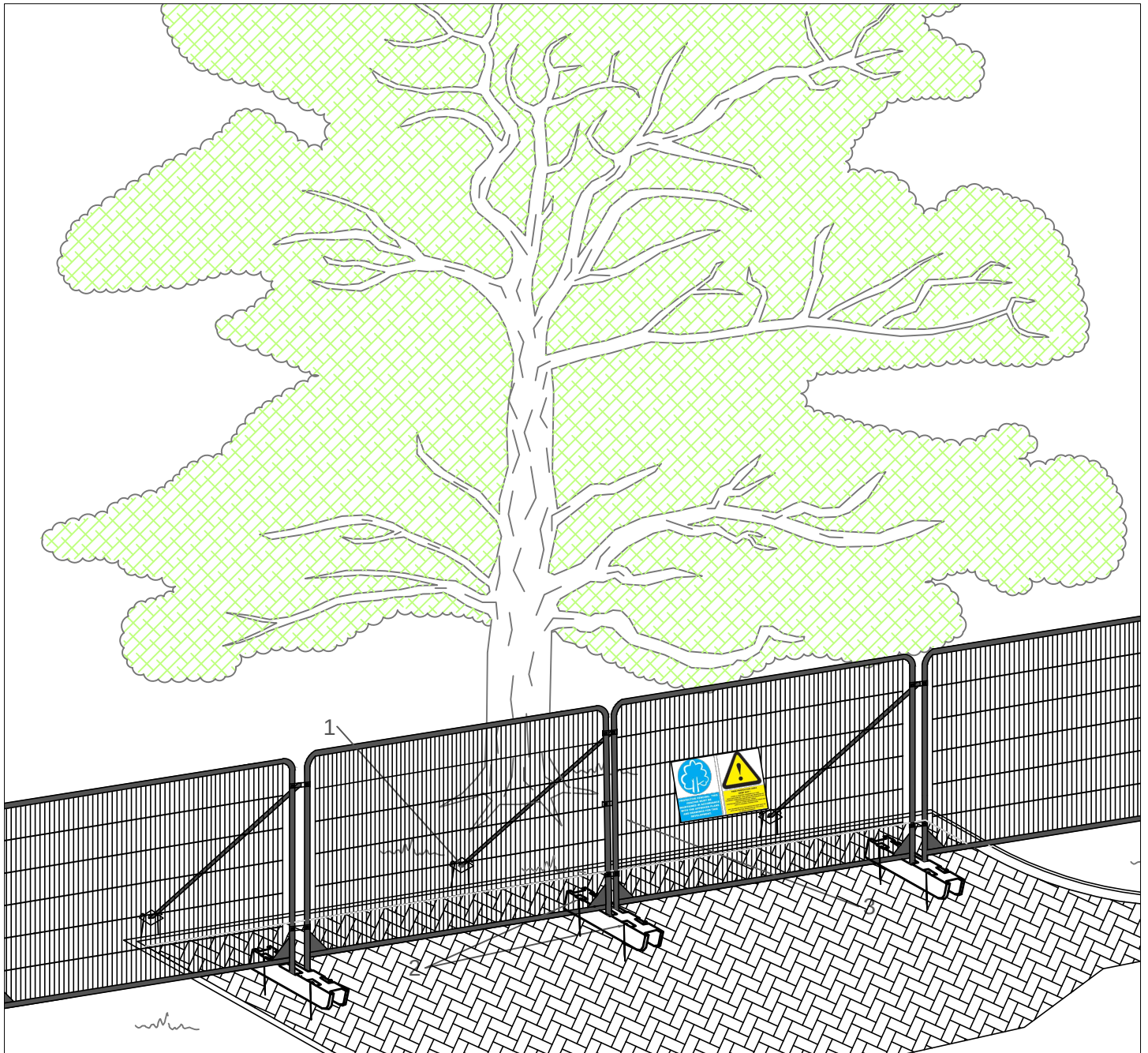
Age Distribution of Tree Stock shows the number of trees in each age category across the tree stock allowing assessment of their longevity to be made.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	Goat Willow Salix caprea	7	280 140 160 160	3	M	F	Crossing and rubbing branches Major dead wood evident in the crown (>75mm) Multi leadered form Base surrounded by pallets and rubble	67	4.6	C (i)
T2	Goat Willow Salix caprea	6	180	2	M	P / F	Bark wounds noted Multi leadered from 1.5m Main stem included around wire fence	15	2.2	C (i)
T3	Silver Birch Betula pendula	7	est 110	1	Yng	F	No major defects were noted Situated offsite	5	1.3	C (i)
T4	Goat Willow Salix caprea	8	170 110 110 90	4	M	P / F	Bark wounds noted Branch stubs evident Broken branches evident Compacted ground at the base Crossing and rubbing branches Multi stemmed from base	28	3.0	C (i)
T5	Silver Birch Betula pendula	9	est 150	2	EM	G	Characteristic for species Dense undergrowth at the base Unable to gain access	10	1.8	B (i)
T6	Goat Willow Salix caprea	7	est 150 140 170 130	4	M	P / F	Base obscured Compacted ground at the base Crossing and rubbing branches Even crown form Minor dead wood evident in the crown (<75mm) Multi stemmed from base Unable to gain access Rubble surrounds base Self set growing out of mound of waste	40	3.6	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T7	Crab Apple Malus sylvestris	5	90	2	M / OM	P	Compacted ground at the base Dieback of the crown observed Minor dead wood evident in the crown (<75mm) Specimen in extensive decline	N/A	N/A	U
T8	Goat Willow Salix caprea	7	avg 260 130 180 250	5	M	F	Broken branches evident Characteristic for species Crossing and rubbing branches Minor dead wood evident in the crown (<75mm) Multi leadered form No major defects were noted	81	5.1	B (ii)
T9	Common Lime Tilia x europaea	9	290	3	EM	F / G	Basal suckers present Characteristic for species Situated offsite Roadside specimen	38	3.5	B (i)
T10	Common Lime Tilia x europaea	9	310	3	EM	F / G	Basal suckers present Broken branches evident Characteristic for species Situated offsite Roadside specimen	43	3.7	B (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Goat Willow Salix caprea Silver Birch Betula pendula	9	avg 130 150 110 120	3	EM / M	F	Bark wounds noted Characteristic for species Compacted ground at the base Major dead wood evident in the crown (>75mm)	30	3.1	C (ii)
G2	Ash Fraxinus excelsior Silver Birch Betula pendula	10	est 140	2	SM / EM	F	No major defects were noted Unable to gain access	9	1.7	C (ii)
G3	Lawson Cypress Chamaecyparis lawsoniana	13	est 170	3	M	F	Broken branches evident Compacted ground at the base Dense undergrowth at the base Situating offsite Unable to gain access Screening to the west of the site Situating along the boundary of the premises adjacent to the site	13	2.0	B (ii)
G4	Goat Willow Salix caprea Silver Birch Betula pendula	7	est 130	2	EM / M	F	Base obscured Characteristic for species Sparse crown Suppressed crown form Suppressed form caused by the presence of G3	8	1.6	C (ii)
G5	Goat Willow Salix caprea Silver Birch Betula pendula Sycamore Acer pseudoplatanus	9	8x 140	3	M	F	Characteristic for species Compacted ground at the base Crossing and rubbing branches Minor dead wood evident in the crown (<75mm) No major defects were noted Situating along the boundary of site	71	4.8	B (ii)
G6	Ash Fraxinus excelsior Hawthorn Crataegus monogyna	6	est 120	2	Yng / M	P / F	Characteristic for species Self set specimens located along northern boundary of site	7	1.4	C (ii)



Standard Specification for Above Ground Stabilizing Systems

1. Stabiliser strut with base plate secured with ground pins
2. Feet blocks secured with ground pins
3. Construction Exclusion Zone signs

Protective Fencing to be positioned to the specified dimensions in accordance with Figure 3 Tree Retention Plan

NOTES

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drawing title

APPENDIX B PROTECTIVE FENCING SPECIFICATIONS

CAD file: S:\Arb resources\Basic Templates\Tree Protection\Appendix B - Protective Fencing A4.dwg



**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**