Arboricultural Impact Assessment (AIA)
Version 1

Llandegala Forest
Prepared for: Planit IE

Prepared by Simon Brain *Chartered arboriculturist*

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1.0 Introduction

1.1 Instruction, Scope, Methodology, Mitigation & Limitations

1.2 My name is Simon Brain, I am a chartered arboriculturist, with 25 years' experience holding the LANTRA Professional Tree Inspection certificate. I have been instructed by the client to prepare the following Arboricultural Impact Assessment for land at Llandegla Forest.

1.3 This Arboricultural Implications Assessment (AIA) is based on the proposed developments as shown on the Parameters Plan GA landscape plans (incorporated into the Tree Protection Plans (TPP) in Appendix 1 of this report.

1.4 The assessment will be carried out in line with the recommendations in BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* and will evaluate the direct and indirect impacts of the proposed design and where necessary recommend mitigation.

1.5 The AIA considers constraints posed above and below ground and where appropriate makes recommendations to mitigate impacts associated with development sites and retained trees.

1.6 Where specialist design, construction techniques or in areas where supervision of the works is required in Root Protection Areas (RPA) this has been shown on the survey sheets for the study areas and detailed in section 2.3.1 of this AIA.

1.7 Below ground constraints are influenced by the root protection area and are determined in line with the recommendations set out in BS 5837:2012. These recommendations quantify the root protection area based on a measured stem diameter in accordance with Annex C, and the root protection area determined from Annex D.

1.8 It is important to understand that when considering the Root Protection Area (RPA) with regards to the circular plot as delineated on the TPP

that a number of site factors can influence root morphology and disposition of tree roots.

1.9 Above ground constraints are considered above and below ground and in line with the recommendations in BS 5837:2012 to include; shade, dominance, current and future crown spread as well as the ultimate height of those retained trees.

1.10 Impacts associated with development sites and retained trees can be associated with single or multiple site operations that can subject trees to multiple impacts *(root severance, compaction, loss of photosynthetic material),* where this is applicable it will be highlighted in the AIA.

1.11 The mitigation measures proposed in this report are essential to ensure that trees marked for retention are adequately protected during the period of post/preconstruction and on site supervision of works and compliance reporting is needed for all works in RPA.

2.0 Arboricultural Impact Assessment

2.1 Area for proposed development

2.2 The proposed development has been embedded within the Tree Constraints Plan which indicates the following developments associated with this site to have an arboricultural impact:

- Installation of proposed development infrastructure requiring tree removal

2.3 The arboricultural impacts of these items have been identified below.

2.3.1 Installation of proposed development requires the removal of the following tree references:

- W1, T1-T3.

3.0 Tree Preservation Orders

3.1 I have not checked over Tree Preservation Order and if they apply to this site.

4.0 Trees to be removed and retained

4.1 The following trees have been identified for removal due to their condition (Category U): None

4.2 Woodland 1 is a stand of conifer which have been grown with the intention of them becoming a harvestable crop. In the main these trees are growing as a sheltered group and attempts to retain elements of the cover have been strongly recommended discouraged by ourselves due to the high probability of subsequent windblow into the site in the future from altered exposure.

4.3 The remaining trees that are due to be retained and protected as outlined on the TPP and by methodology needed in an AMS.

5.0 Root Protection Areas (RPA)-modifications

5.1 Root Protection Areas have been plotted in line with the guidance given in BS 5837: 2012 where ground constraints have had or are likely to affect the root morphology of trees e.g. where underground utilities or building foundations have obstructed root growth this shall require formal confirmation by excavation to establish presence or absence of significant rooting material. No RPA modifications have been shown for this scheme.

6.0 Post construction considerations

6.1 Not applicable due to the removal of W1.

7.0 Tree pruning to facilitate development and future pruning

7.1 There are no requirements for minor levels of tree pruning to facilitate the proposed development.

8.0 New surfacing and ground level modifications

8.1 No new surfacing is required in RPA of retained trees.

9.0 Construction Exclusion Zones and Special Measure Areas

9.1 The Construction Exclusion Zone has been shown as a black fenced polyline on the TPP in Appendix 1 and shall be constructed using heras panels and rubber feet securely staked to the ground.

9.2 The CEZ is purposefully located within proposed new surfacing near TPO trees to prompt site supervision and wider protective measures when new surfacing is installed.

9.3 The CEZ must be installed as signed off as fit for purpose before any other works commence on site.

10.0 Site supervision and monitoring

10.1 Where a tree has been delineated on the TPP as requiring retention there will be a requirement to oversee construction operations in these areas to ensure that no damage occurs to the retained tree.

10.2 To ensure that there is an auditable system of site monitoring, reports will be compiled by an appointed arborist and following site visits they issued to the site manager and design team, copies of which will be always available on site for inspection by a Council planning/Tree officer.

11.0 Installation of below ground infrastructure

11.1 No detailed plans have been provided specifying the location of site utilities. We have been informed drainage routes to comprise 300mm buried pipes (although this may reduce to 225mm or even 150mm subject to further consideration at the detailed design stage) or, where tree roots/topography presents obstacle to burying, a shallow dig or mound over would be used.

11.2 Specialist advice with regards to the position of utilities will need to be sought from engineers and must be reviewed by the consulting arboriculturist prior to commencement on site.

11.3 The usual construction techniques for installing site utilities within an RPA will be unacceptable due to the level of root severance that would occur. The impact of root severance will have a detrimental effect on tree health as trees require a healthy root system in order to maintain water and mineral uptake from the soil. Trees need to maintain a balance between shoot and root growth to ensure that the resources supplied by each can meet the demand of the other. Severance of tree roots caused by trenching can lead to reduced water uptake which in turn impacts on the trees ability to supply water to the canopy, resulting

in desiccation. A further complication associated with root severance can be problems associated with tree stability. The tree relies on an intact root system in order to maintain stability; this stability will be compromised by root severance.

11.4 The use of trenchless techniques can be acceptable provided the depth of service run that is excavated is below the anticipated root depth.

12.0 Design change requirements

12.1 Design change requirements have not been recommended.

13.0 Amenity Value

The retention of all some arboricultural assets has been achieved by the design which are protected by CEZ.

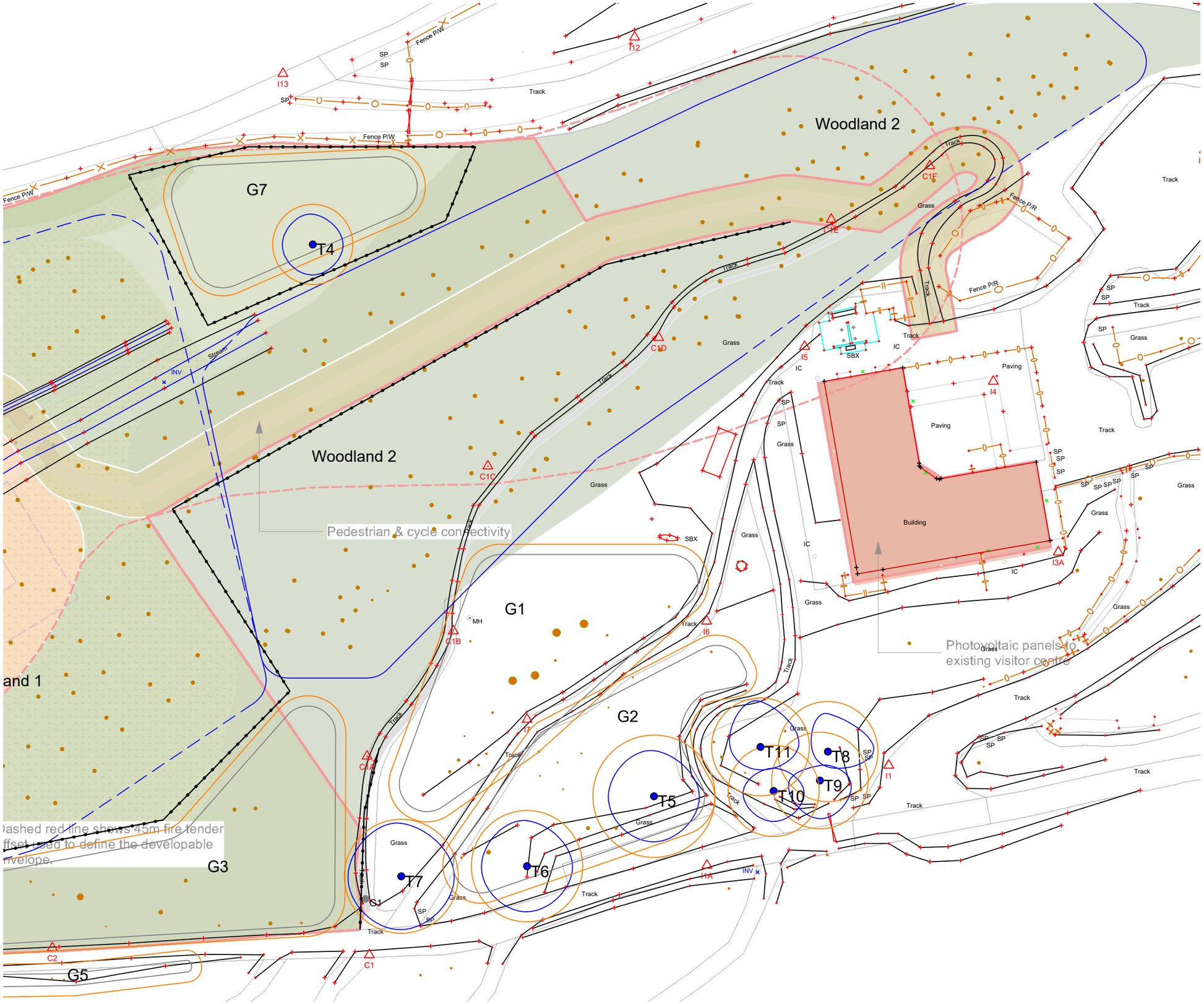
14.0 Concluding statement

14.1 The proposed scheme was assessed in line with guidance provided in BS 5837:2012 *Trees in relation to design demolition and construction – Recommendations* with the aim to achieve a harmonious relationship between trees and structures that can be sustained in the long term.

14.2 It is my professional opinion as an arboriculturist that this design has achieved a harmonious and sustainable balance of retained and removed trees.

Appendix 1 Tree Protection Plan

Tree No.	Common Name	Life Stage	Diameter(mm)	No. of Stems	Height(m)	Crown Height(m)	North(m)	South(m)	East(m)	West(m)	Category	Estimated Remaining life Expectancy (yrs)	Observations	Recommendations following AIA	RPR(m)	RPA(m)
T1	Sitka Spruce	M	725	1	16	0.5	4	6	4	6	B1	40+		Removed for development	8.7	238
T2	Sitka Spruce	M	680	1	16	0.5	4	6	4	4	B1	40+		Removed for development	8.2	209
T3	Sitka Spruce	M	550	1	16	0.5	5	4	3	6	B1	40+		Removed for development	6.6	137
T4	Rowan	M	440	1	8	1.5	4	4	4	4	B1	20+		Unaffected, install CEZ as shown on TPP	5.3	88
T5	Goat Willow	M	300	5	7	2	6	6	6	6	B2	20+		Unaffected, install CEZ as shown on TPP	8.1	204
T6	Goat Willow	M	250	6	8	2	6	6	6	6	B2	20+		Unaffected and off site	7.3	169
T7	Goat Willow	M	255	6	8	2	7	7	7	7	B2	20+		Unaffected and off site	7.5	177
T8	Goat Willow	M	550	1	9	3	5	2	6	2	B2	20+		Unaffected and off site	6.6	137
T9	Goat Willow	M	530	1	9	3	2	5	4	4	B2	20+		Unaffected and off site	6.4	127
T10	Goat Willow	M	500	1	7	3	3	4	4	4	B2	20+		Unaffected and off site	6	113
T11	Goat Willow	M	325, 245, 230, 265	4	8	2	6	3	5	4	B2	20+		Unaffected and off site	6.4	130
W1	Sitka Spruce, Larch	EM	510	1	17	10	3	3	3	3	B2	40+	Plantation woodland with areas of windblow. The average life stage is similar throughout the woodland although smaller trees are present towards the access road.	Requires removal for development	6.1	118
W2	Sitka Spruce	EM	510	1	17	10	3	3	3	3	B2	40+	Plantation woodland with areas of windblow. The average life stage is similar throughout the woodland although smaller trees are present towards the access road.	Unaffected and off red line plan	6.1	118
G1	Goat Willow Rowan Sitka Spruce	SM	150	1	7	0.5	2	2	2	2	C2	40+	Young natural regeneration of goat willow, Sitka spruce and mountain ash.	Unaffected and off site	1.8	10
G2	Goat Willow Rowan Silver Birch	Y	150	1	7	0.5	3	3	3	3	C2	40+	Young natural regeneration of goat willow, Sitka spruce and mountain ash.	Unaffected and off site	1.8	10
G3	Goat Willow Rowan Silver Birch	Y	150	1	7	0.5	3	3	3	3	C2	40+	Young natural regeneration of goat willow, Sitka spruce and mountain ash.	Unaffected, install CEZ as shown on TPP	1.8	10
G4	Goat Willow Rowan Sitka Spruce Elder	Y	100	1	7	0.5	2	2	2	2	C2	40+	Young trees (<100mm) growing on a linear strip of land on the southern edge of the woodland.	Unaffected, install CEZ as shown on TPP	1.2	5
G5	Goat Willow Rowan Sitka Spruce	Y	100	1	7	0.5	2	2	2	2	C2	40+	Very young trees growing along the edge of the dirt track. The surrounding woodland has recently been harvested.	Unaffected and off site	1.2	5
G6	Goat Willow Rowan Silver Birch	Y	100	1	6	0.5	2	2	2	2	C2	40+	Very young willow trees growing on a triangular area of land to the east of the water treatment works.	Unaffected, install CEZ as shown on TPP	1.2	5
G7	Goat Willow	Y	100	1	3	0.5	2	2	2	2	C2	40+	Scattered trees of young mountain ash.	Unaffected, install CEZ as shown on TPP	1.2	5



(Category A)
(Category C)
Category B)
(Category U)

Root Protection Areas have been identified and are based on BS5837:2012 and shown as an orange polyline.

Root Protection Area
Tree Stem
Tree Crown

Note: The original of this drawing was produced in colour-a monochrome copy should not be relied upon.

AMENITY TREE Ltd

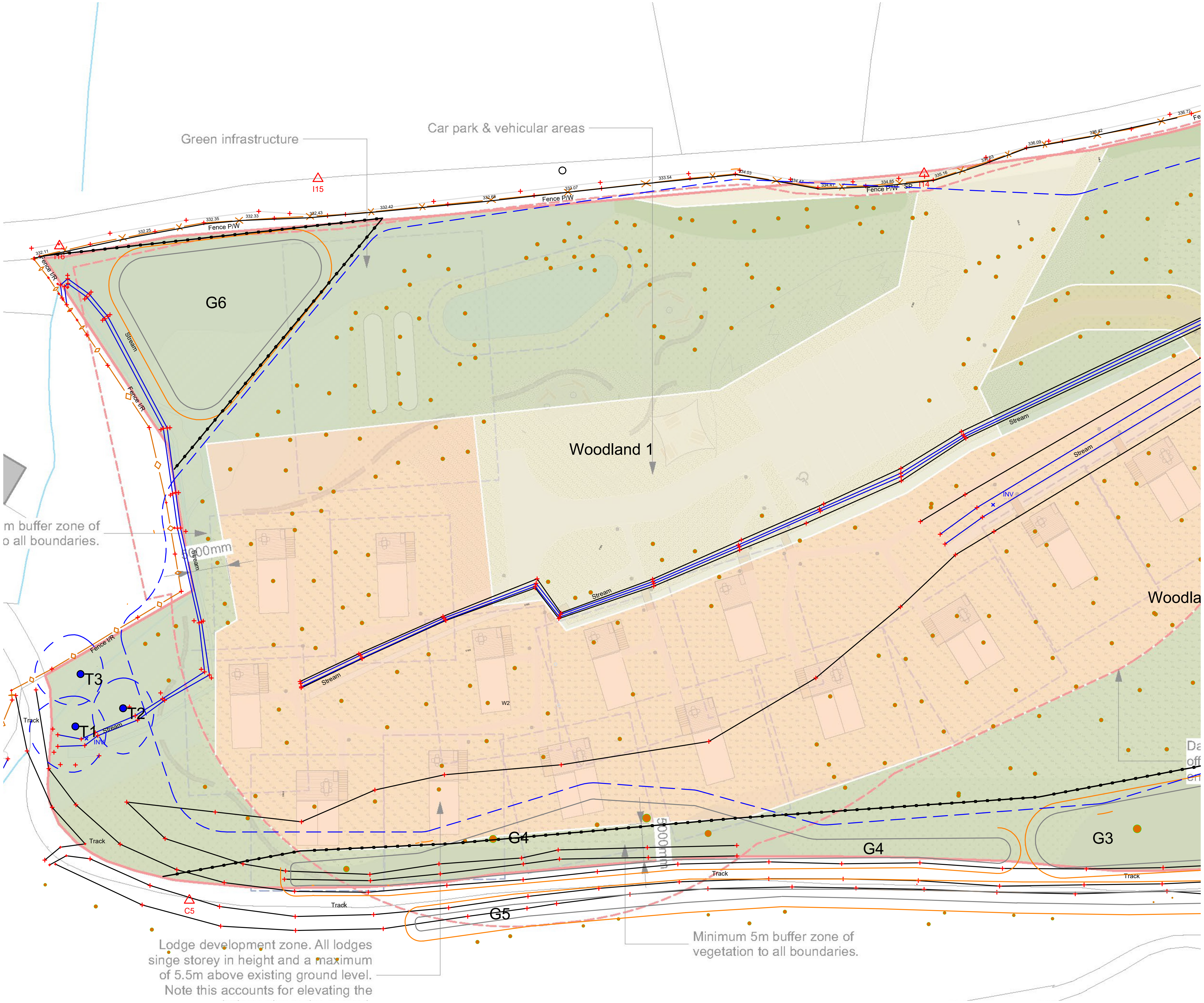
Client:
One Planet Adventure

Project:
Llandegla Forest

Detail:
Tree Constraints Plan

Drawn By:	Date:	Scale:
SS	04.05.2022	1/500@A3

Drg No:	Revision:
01	V1



(Category A) (Category C)

Category B) (Category U)

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