
From: Kieran Robinson
Sent: 04 December 2019 18:53
To: Ailsa Teasdale
Subject: Ladycross - tree and impact assessments

Good evening Mrs Teasdale

Please find attached the tree survey and impact assessment for the car park and house areas carried out by Barnes Associates that did the original survey of the park.

Attached

1. Impact assessment Entrance_B
2. Tree survey entrance
3. Impact assessment House IB1
4. Tree survey house
5. Tree Data

As discussed the carpark entrance impact assessment_B, under Barnes Associate advice, shows the alteration to the parking area from the original drawing (Studio Stead 101/06) to give the car park entrance a reduced width to avoid the root protection area of the retained mature trees at either side and making the central carpark area tarmac to stop the cell web system rutting and moving due to the turning of vehicles into the car park spaces. The parking spaces will all have the cell system to allow drainage to the surrounding trees and proposed hedging/shrubs and the fall of the land, which the car park will follow, will ensure the surface water will run into the car park cell web spaces.

If you require any further information please do not hesitate to contact me

Kind regards

Kieran

NOTES

PROTECTION OF EXISTING VEGETATION Where tree works are proposed to be on site or to overhanging vegetation to enable construction, this shall be undertaken by qualified tree surgeon in accordance with the requirements of BS3998:2010, prior to the installation of Protective Fencing.

Existing tree's & vegetation on the site boundaries or overhanging the boundaries from the adjacent land which are to be retained shall be protected where necessary during works by 2300mm high mesh panel (Heras type) fencing secured to a scaffold tubing framework or supported on a suitable base pinned into the ground and connected by none tamper fixings.

Protective fencing shall be erected outside the canopy drip-line or beyond the minimum Root Protection Area (RPA) distance, detailed in the Tree Survey wherever possible. The tree works & fencing works shall be carried out prior to any demolition, groundworks, construction works.

Laminated, waterproof A4 signs shall be fixed to the fence posts at 10m intervals bearing the words 'CONSTRUCTION EXCLUSION ZONE - NO STORAGE OR OPERATIONS WITHIN FENCED AREA as per the example on the plan.

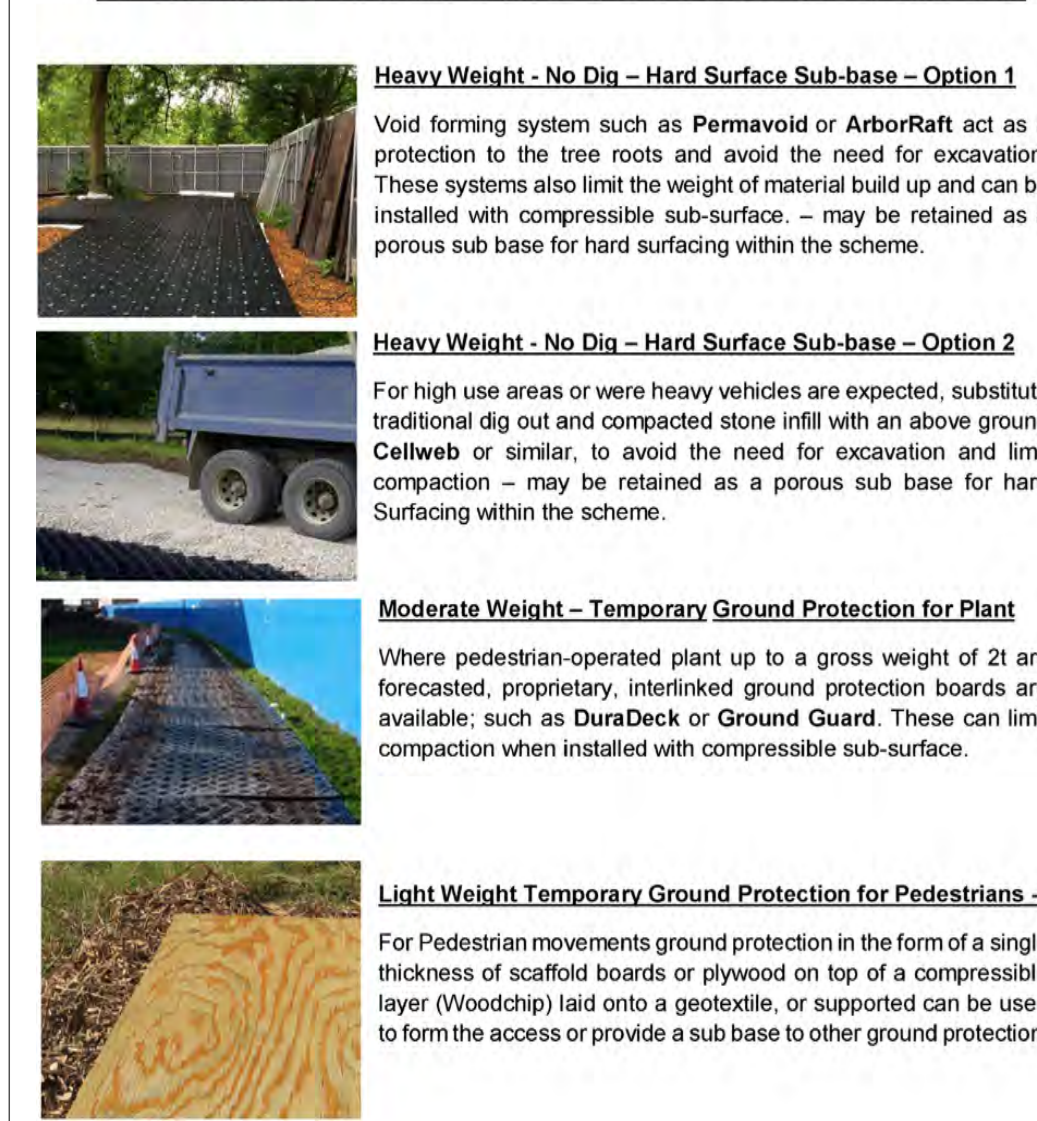
PROTECTION OF CONSTRUCTION EXCLUSION ZONE

Inside the exclusion area of the fencing, the following prohibitions shall apply: -

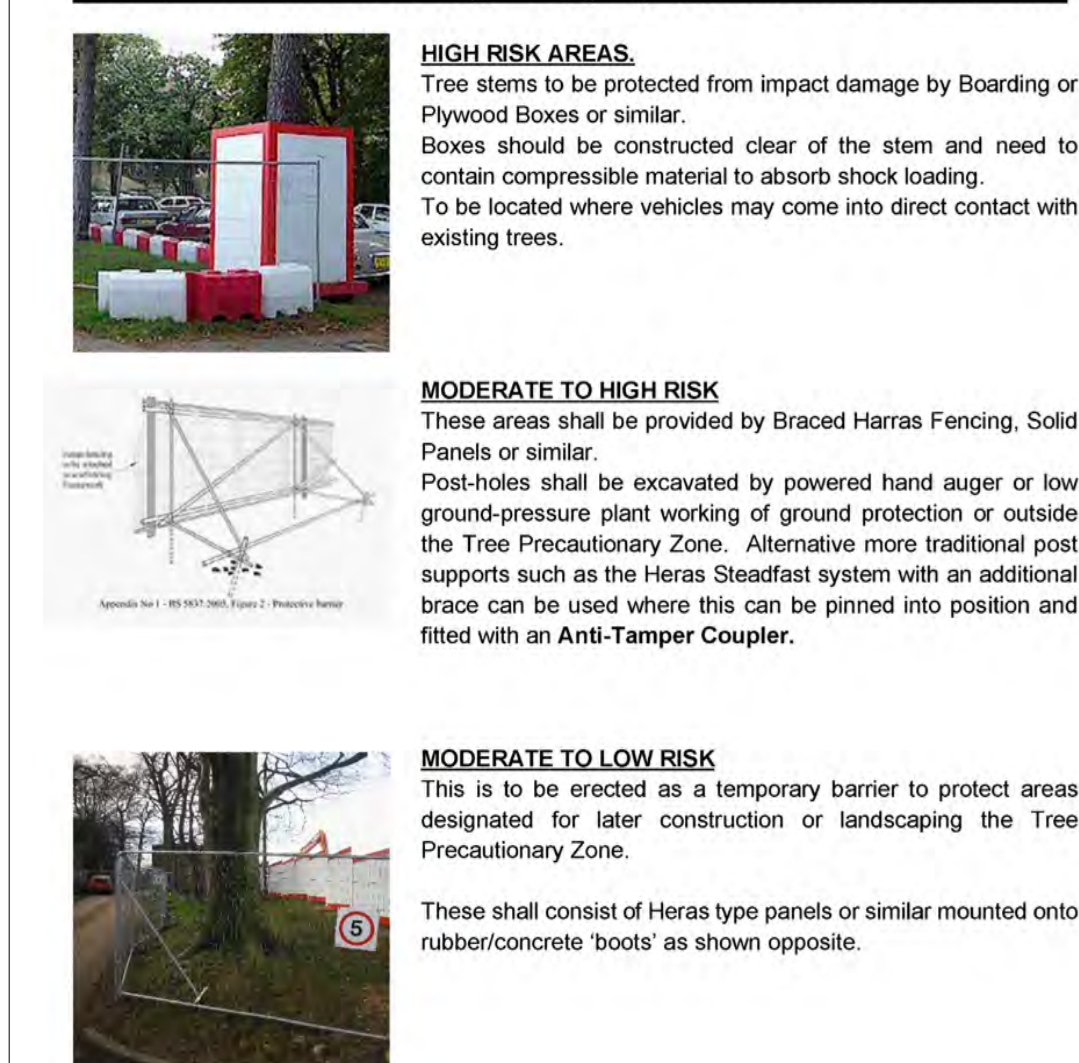
- No mechanical excavation whatsoever.
 - No excavation by any other means without arboricultural site monitoring.
 - No hand digging without a written Method Statement approved in writing by the Project Arborist.
 - No lowering of levels for any purpose (except removal of grass sward using hand tools).
 - No construction of a sealed hard surface - except where agreed with the Project Arborist.
 - No storage of plant or materials.
 - No storage or handling of any chemical, including cement washings.
 - No vehicular access.
- No fire lighting. In addition to the above, further precautions are necessary adjacent to trees: -
- A 10m separation distance shall be observed between any tree and substances injurious to tree health, including fuel, oil, bitumen, cement (including cement washings), builders' sand, concrete mixing and other chemicals.
 - No fire shall be lit such that flames come within 5m of tree foliage; this shall be taken to mean a fire separation distance of 20m from any tree's canopy.

ALL WORKS AFFECTING TREES SHALL BE SUBJECT TO THE REQUIREMENTS OF BS5837:2012.

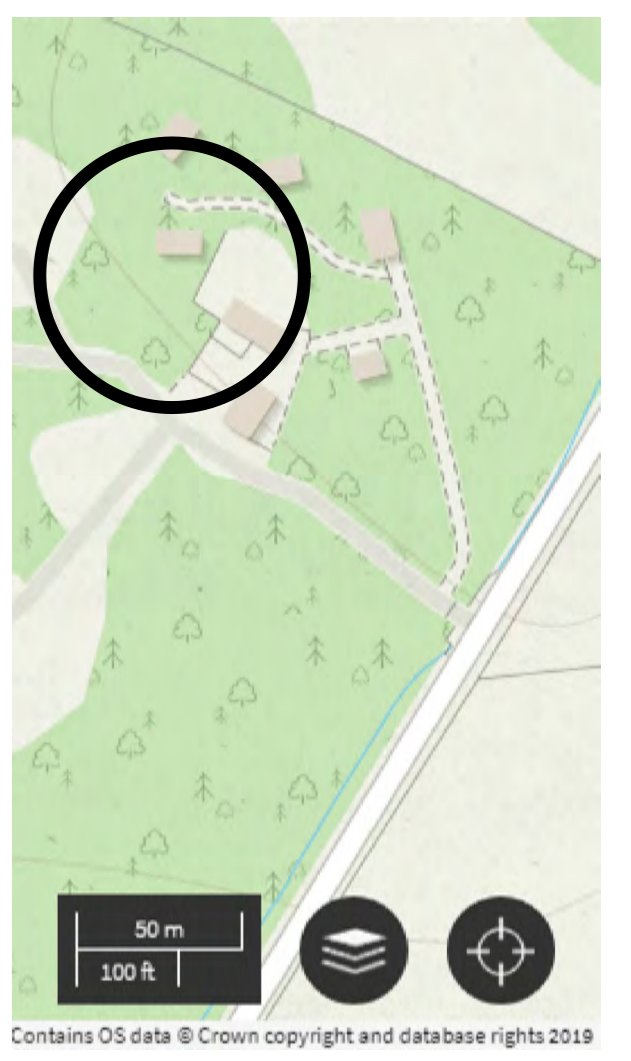
Ground Protection - Appropriate to expected load.



Tree Protective Fencing - Appropriate for Expected Risk



Pos	No.	Name	Age	Height	Crown	North	South	East	West	Condition	Life Exp	Category	Diameter	Stems	Proposed Management	RPR	RPA
Est Pos	T1	Pinus sylvestris (Scots Pine)	M	14	2.5	6	5	5	6	Good	20+	1	747	5	Protect from the scheme	8.96	252.24
Est Pos	T2	Pinus sylvestris (Scots Pine)	M	16	2	3	3	3	3	Good	20+	1	381	2	Protect from the scheme	4.57	65.62
Est Pos	T3	Pinus sylvestris (Scots Pine)	M	16	2	3	3	3	3	Good	20+	1	400	1	Protect from the scheme	4.8	72.39
Est Pos	T4	Pinus sylvestris (Scots Pine)	M	16	2	3	3	3	3	Good	20+	1	534	3	Protect from the scheme	6.41	129.1
Est Pos	G5	Pinus sylvestris (Scots Pine) - Salix	M	16	3	3	3	3	3	Good	20+	1	300	1	Protect from the scheme	3.6	40.72
Est Pos	T6	Pinus sylvestris (Scots Pine)	M	16	2	3	3	3	3	Good	20+	1	400	1	Protect from the scheme	4.8	72.39



Tree Protection Zone.
The volume of soil adjacent to the proposal is to be protected by Ground Protection during the construction phase to limit compaction or contamination.

TREE PROTECTION Do's & Don'ts

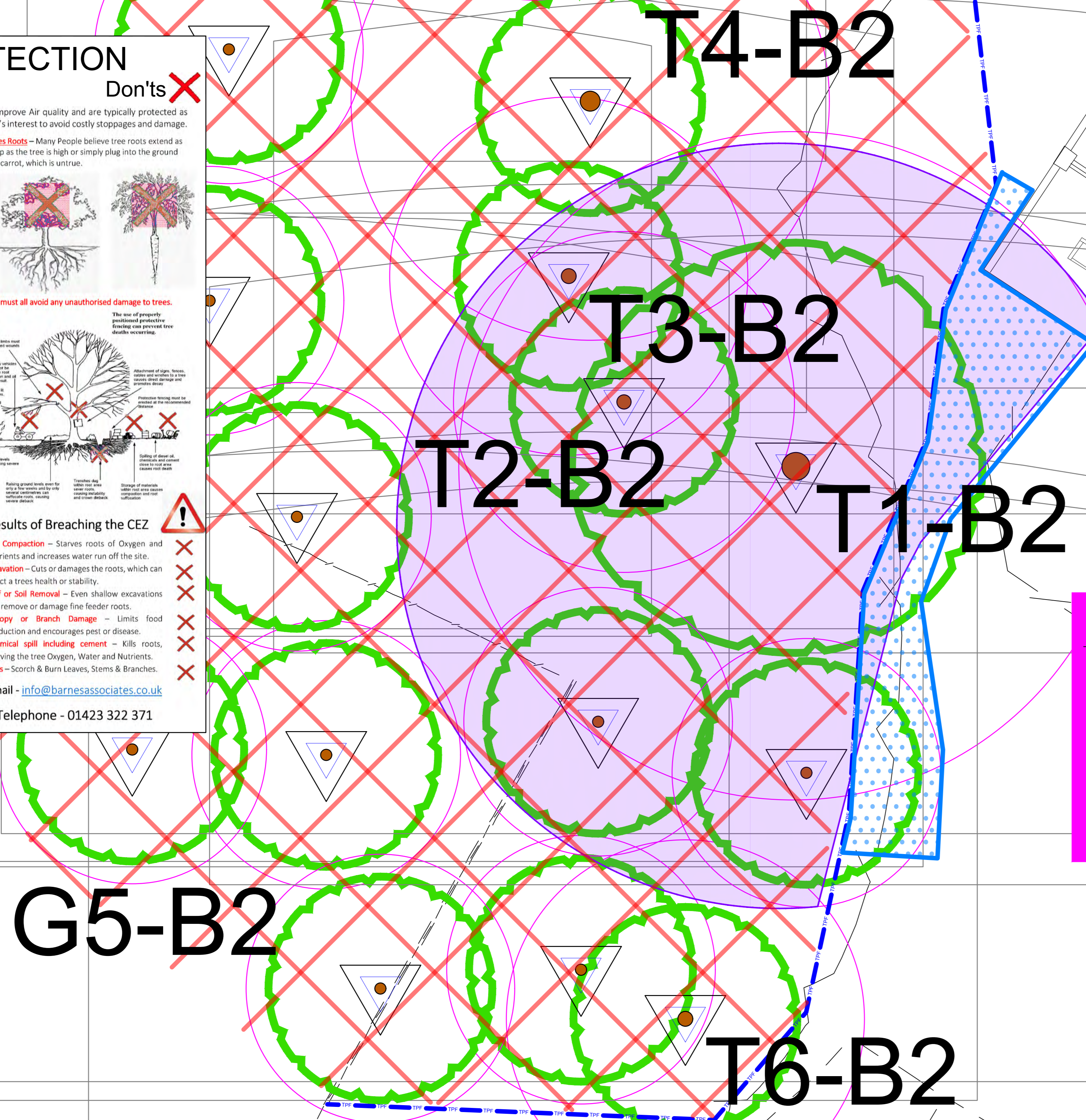
Do's ✓ Trees add value to the site, provide shade, improve habitat, improve Air quality and are typically protected as part of any planning approval, so their protection is in everyone's interest to avoid costly stoppages and damage.

Don'ts ✗ **Tree Flats** - Many people believe tree roots extend as deep as the tree is high or simply plug into the ground like carrot, which is untrue.

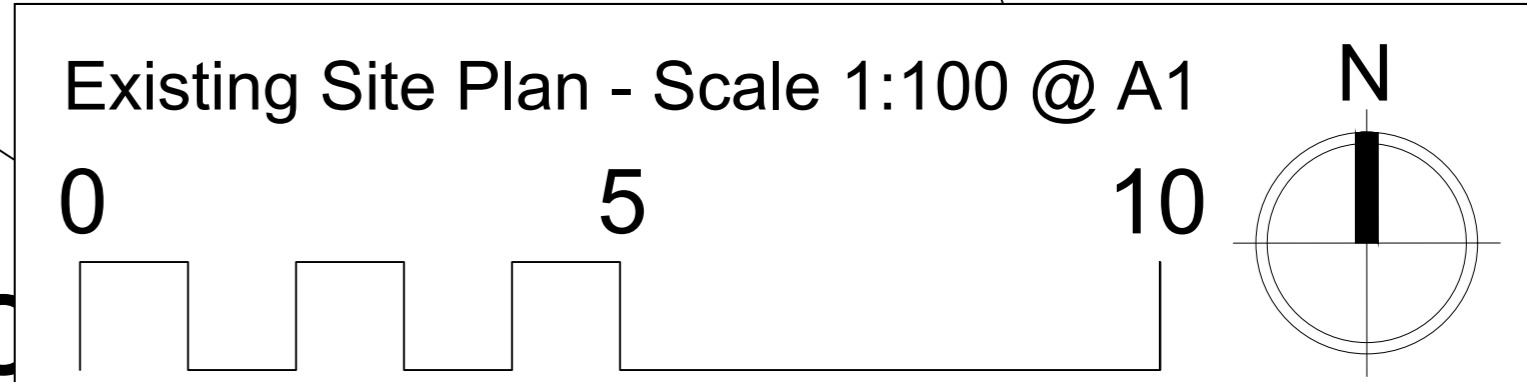
Results of Breaching the CEZ

- Soil Compaction - Starves roots of Oxygen and Nutrients and increases water run off the site.
- Excavation - Cuts or damages the roots, which can affect a tree's health or stability.
- Turf or Soil Removal - Even shallow excavations can remove or damage fine feeder roots.
- Canopy or Branch Damage - Limits food production and encourages pest or disease.
- Chemical spill including cement - Kills roots, Starving the tree Oxygen, Water and Nutrients.
- Fires - Scorch & Burn Leaves, Stems & Branches.

Email - info@barnesassociates.co.uk
Telephone - 01423 322 371



RPA infringement of T1
Infringement has been estimated at 4% where traditional foundation type is thought to effect the health of the tree.

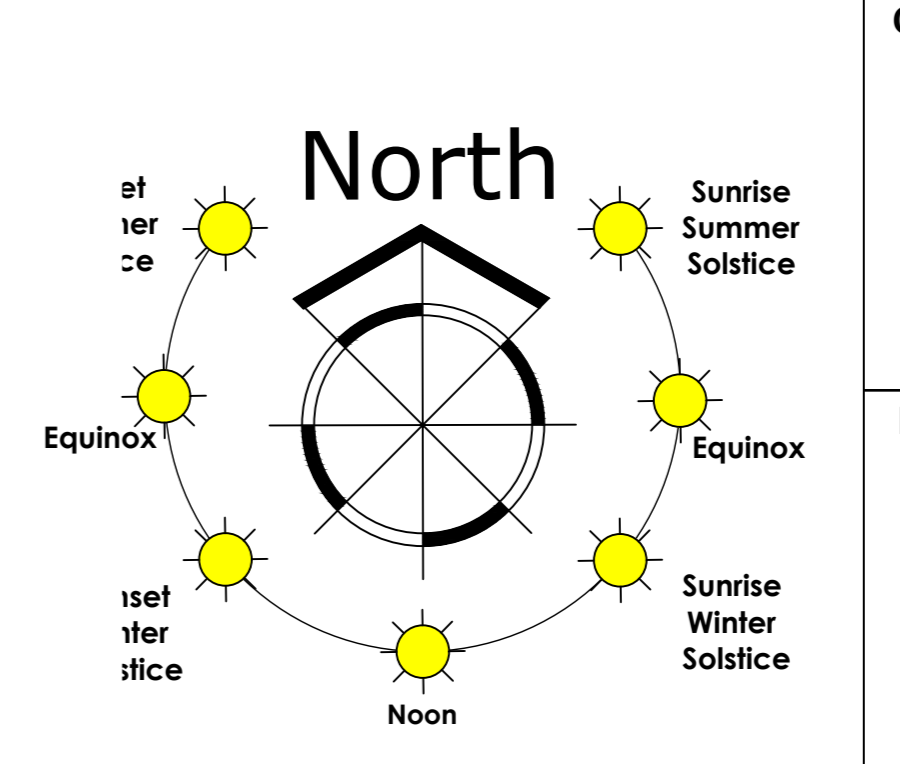
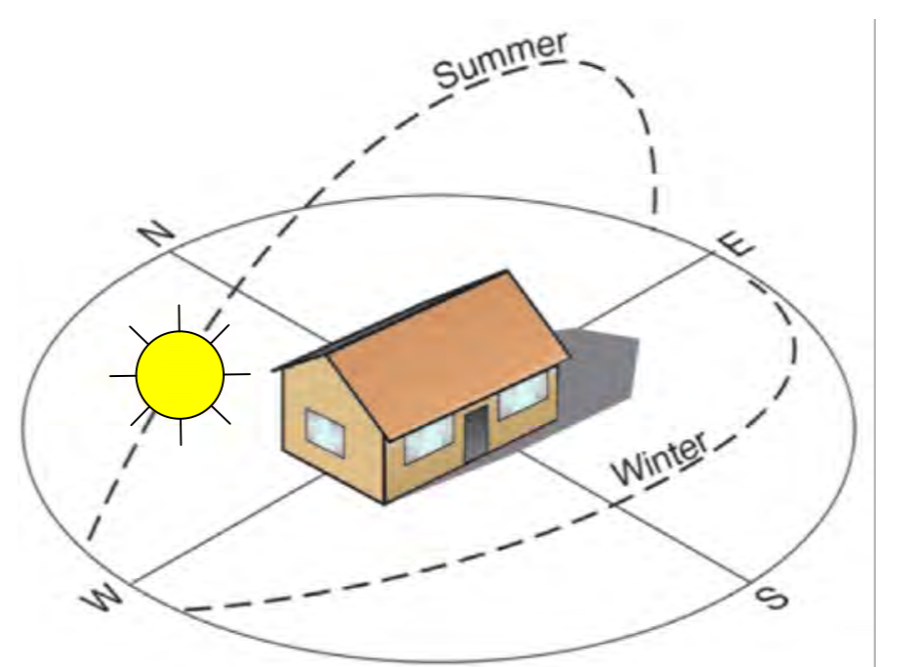


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Symbol Guide:

- Retained Tree, shown with minimum Root Protection Area (RPA) as the magenta circle or Adjusted RPA as the dashed purple line.
- Adjusted RPA dashed purple line and shaded.
- Tree Precautionary Zone - (TPZ) All PRECAUTIONARY ZONES shall be appropriately protected before the start of the works and these will be protected to limit excavation, root loss or damage & limit compaction of the underlying soils.
- Construction Exclusion Zone (CEZ) These are 'NO-GO ZONES' for site works and these will be protected by appropriate Fencing and / or Ground protection. These areas shall be identified with signage.
- Tree Protection Fencing (TPF) Fencing types will need to reflect the level of forecasted intensity.

Indicative Sun Path



Client: **Kieran Robinson**

Drawing Title: **House - Impact Assessment**

Lady Cross Caravan Park

AMENDED

NYMMPA 04/12/2019

Site Description:
The site is currently a Caravan Park nestled within a mixed woodland.

Legislative Protection:
This area forms part of the Yorkshire moors national Park.

Freely draining very acid sandy and loamy soils

Revision Notes:
A
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Drawing No:	BA9836
Revision:	A
Scale:	1:100 @ A1
Date:	13/11/2019
Drawn By:	MM
Checked:	SB
Approved:	SB

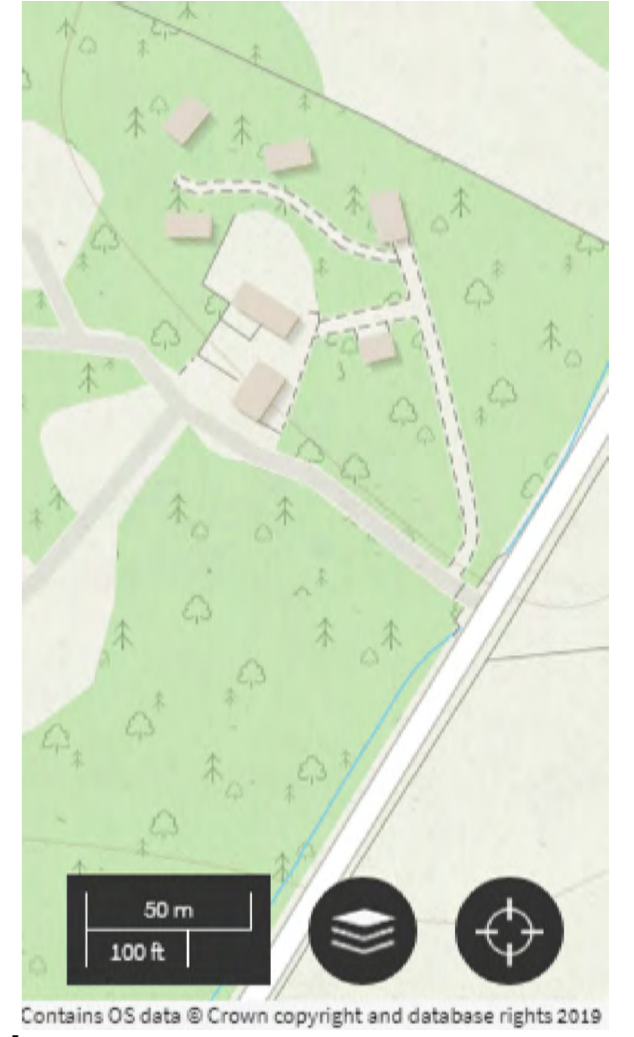
BARNES associates
SURVEY MANAGE IMPROVE

Rivermead, Skelton Road
Langthorpe YO51 9BZ

Company Number 10438116
Registered in England and Wales

Est Pos	No.	Name	Age	Height	Crown Hgt	FSB	FSB Dir	North	South	East	West	Condition	Life Exp	Category	Diameter	Stems	Comments	Recommendations	Risk	RPI	RPA
Est Pos	T1	Pinus sylvestris (Scots Pine)	M	14	2.5			6	5	5	6	Good	20+	U	747	5	Growing as part of woodland. Multiple stemmed close to ground level. Small diameter deadwood within the canopy.	Crown lift to 3m. Over the footpath to allow access.	Low	8.96	252.24
Est Pos	T2	Pinus sylvestris (Scots Pine)	M	16	2			3	3	3	3	Good	20+	U	381	2	Growing as part of woodland.		Low	4.57	65.62
Est Pos	T3	Pinus sylvestris (Scots Pine)	M	16	2			3	3	3	3	Good	20+	U	400	1	Growing as part of woodland.		Low	4.8	72.39
Est Pos	T4	Pinus sylvestris (Scots Pine)	M	16	2			3	3	3	3	Good	20+	U	534	3	Growing as part of woodland. Multiple stemmed close to ground level. Large diameter deadwood within the canopy.		Low	6.41	129.1
Est Pos	G5	Pinus sylvestris (Scots Pine), Salix caprea (Goat Willow)	M	16	3			3	3	3	3	Good	20+	U	300	1	Growing as part of woodland. An attractive group with good understory.		Low	3.6	40.72
Est Pos	T6	Pinus sylvestris (Scots Pine)	M	16	2			3	3	3	3	Good	20+	U	400	1	Growing as part of woodland next to drive. Multiple stemmed close to ground level. Large diameter deadwood within the canopy.	Crown lift to 5m over road.	Low	4.8	72.39
Est Pos	T7	Quercus robur (Common Oak)	EM	12	4			8	3	3	4	Poor	<10	U	350	1	Growing as part of woodland above main driveway. Single stem which is likely to fall. If forks below the canopy, significant included union visible with signs of falling. Crown is distorted due to group pressure.	Remove the tree.	Moderate	4.2	55.42
Est Pos	T8	Betula pubescens (Downy Birch)	M	15	4			5	3	3	5	Good	20+	U	380	1	Growing as part of woodland.		Low	4.56	65.33
Est Pos	T9	Betula pubescens (Downy Birch)	M	15	4			3	3	3	3	Good	20+	U	380	1	Growing as part of woodland.		Low	4.56	65.33
Est Pos	T10	Betula pubescens (Downy Birch)	M	6	4			1	1	1	1	Dead	<1	U	100	1	The tree is dead.	Remove the tree.	Low	1.2	4.52
Est Pos	T11	Betula pubescens (Downy Birch)	M	15	3			5	5	5	2	Fair	10+	C2	345	3	Growing as part of woodland.		Low	4.14	53.85
Est Pos	T12	Salix caprea (Goat Willow)	M	12	2			6	6	3	6	Fair	10+	C3	502	3	Growing as part of woodland. Typical example of the species.		Low	6.02	113.87
Est Pos	G13	Salix caprea (Goat Willow), Betula pubescens (Downy Birch), Pinus sylvestris (Scots Pine)	EM	14	3			3	3	3	3	Fair	10+	C2	250	1	Growing as part of woodland.		Low	3	28.28
Est Pos	T14	Pinus sylvestris (Scots Pine)	M	16	4			2.5	2.5	2.5	2.5	Good	20+	U	400	1	Broken branches visible within the canopy.	Remove broken/damaged branches.	Low	4.8	72.39
Est Pos	T15	Pinus sylvestris (Scots Pine)	M	16	4			2.5	2.5	2.5	2.5	Good	20+	U	400	1	Broken branches visible within the canopy.	Remove broken/damaged branches.	Low	4.8	72.39
Est Pos	T16	Pinus sylvestris (Scots Pine)	M	16	4			2.5	2.5	2.5	2.5	Good	20+	U	400	1	Broken branches visible within the canopy.	Remove broken/damaged branches.	Low	4.8	72.39
Est Pos	T17	Pinus sylvestris (Scots Pine)	M	12	2			3	3	3	3	Dead	<1	U	450	1	The tree is dead.	Remove the canopy & retain the stem.	Low	5.4	91.62
Est Pos	T18	Pinus sylvestris (Scots Pine)	M	16	4			2.5	2.5	2.5	2.5	Good	20+	U	300	1	Growing as part of woodland.	Remove broken/damaged branches.	Low	3.6	40.72
Est Pos	T19	Pinus sylvestris (Scots Pine)	M	16	4			2.5	2.5	2.5	2.5	Good	20+	U	300	1	Growing as part of woodland.	Remove broken/damaged branches.	Low	3.6	40.72
Est Pos	T20	Pinus sylvestris (Scots Pine)	M	12	3			3	3	3	3	Dead	<1	U	450	1	Growing as part of woodland. The tree is dead.	Remove the canopy & retain the stem.	Low	5.4	91.62
Est Pos	T21	Salix caprea (Goat Willow)	EM	10	4			9	2	2	2	Poor	<10	U	200	1	Growing above drive with a significant lean, which is expected to fall.	Remove the tree.	Low	2.4	18.1
Est Pos	G22	Pinus sylvestris (Scots Pine), Betula pubescens (Downy Birch), Salix caprea (Goat Willow)	EM	14	2			3	3	3	3	Fair	10+	C2	250	1	Growing as part of woodland.		Low	3	28.28
Est Pos	G23	Pinus sylvestris (Scots Pine), Betula pubescens (Downy Birch), Quercus robur (Common Oak), Salix caprea (Goat Willow)	EM	15	4			3	3	3	3	Good	20+	U	250	1	Growing as part of woodland.		Low	3	28.28
Est Pos	T24	Salix caprea (Goat Willow)	M	14	2			5	5	5	5	Fair	10+	C3	550	3	Growing within shrub border. Multiple stemmed close to ground level. The stem has a moderate structural issue. Crossing and rubbing main leaders visible throughout the canopy. Cracking visible in the main branches.	Remove broken/damaged branches. Crown lift to 3m.	Low	6.6	136.87
Est Pos	T25	Betula pubescens (Downy Birch)	M	14	4			3	3	3	3	Fair	10+	C3	320	2	Growing as part of woodland. Biforked close to ground level. Significant included union visible.		Low	3.84	46.33
Est Pos	G26	Pinus sylvestris (Scots Pine), Betula pubescens (Downy Birch), Salix caprea (Goat Willow)	EM	15	3			3	3	3	3	Good	20+	U	300	1	Mixed woodland typical for the area. Some standing deadwood.		Low	3.6	40.2

Location Plan :



Site Address:

Lady Cross Caravan Park

AMENDED

NYMNPFA
04/12/2019

OS Grid Reference:

Altitude: 222m

Prevailing Wind Direction: Winds in this area are typically from the West.

Exposure: The site is sheltered by neighboring woodlands.

Expected Wind Speed: Typically up to 24m/s

Date of Survey: 06/11/2019

Weather Conditions: Warm and sunny - Good Visibility

Site Description:

The site is currently a Caravan Park nestled within a mixed woodland.

Legislative Protection:

This area forms part of the Yorkshire moors national Park.

Soil Type:

Information of the National Soils Resources Institute, which refers to the site being a Soilscape 14: Freely draining very acid sandy and loamy soils

Revision Notes:

A

Drawing No:	BA9836 TD
Revision:	A
Scale:	1:100 @ A1
Date:	13/11/2019
Drawn By:	MM
Checked:	SB
Approved:	IB

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SURVEY MANAGE IMPROVE

Rivermead, Skelton Road
Langthorpe YO51 9BZ

Company Number 10438116
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BS5837 Tree Survey

The following survey has been prepared from a visual assessment taken from ground level without any detailed investigation. Observations are based upon the body language of the trees and any visual indicators present at the time of inspection. This survey should be regarded as a preliminary overview; ongoing inspections will be required. Trees can be managed, but they cannot be controlled, and to live near a tree is to accept some degree of risk in most situations the health, condition and safety of trees should be checked on a cyclic basis, alternating between early and late seasons to ensure a full picture of tree health is established. Inspections should only be carried out by a suitably qualified arborist.

Mathematical abbreviations: > = Greater than, < = Less than.

Measurements / estimates: All dimensions are estimates unless otherwise indicated. Measurements taken with a tape or clinometer are indicated with a "#". Less reliable estimated dimensions are indicated with a "?".

Tree number: Numbered Tag attached to each stem usually on the inside face of the stem at roughly 2.5 metres. Where the number is followed by a C this denotes that the tag refers to a compartment or group.

Est Pos: Estimated Position of tree - a tree included on the survey which has been added to the Topographical Information / Plan.

Name: Tree species are detailed by their common name.

Age: I record the age as an estimate of the tree likely span for guidance only i.e.:

Y Young - Recently established/planted tree.
 EM Early Mature - An established tree in the first third of its likely expected life span
 SM Semi Mature - Fully established and growing with high vigour
 M Mature - The middle one third of its likely expected life span
 OM Over Mature - The later one third of expected life span
 V Veteran - An aged example of the species, typically conservation value
 S Senescent - Beyond its expected life span historical interest.

Height: I estimate height to the nearest metre to the mean height.

Height to underside: I estimate height to the nearest half metre to the mean underside of the canopy.

First significant Branch: I estimate height & orientation of large branches below the underside of the canopy.

Diameter: These figures relate to a measurement of the stem at 1.5m above ground level recorded in millimetres, measured with a rounded down diameter tape. Figures prefixed with MS denote trees or shrubs with multiple stems.

No. Stems: I record the number of significant stems that compose the tree.

Canopy (N S E W): I estimate the distance of the canopy radius to the nearest metre to provide a mean distance of separation between the stem and the outer canopy.

Vitality: Is a personal assessment of the tree's growth rate in the current season, in comparison to other trees within the locality, region and an indicator of the tree likely response to site change.

Good A tree of high vitality
 Fair A tree of lower vitality
 Poor A tree in noticeable poor state
 Dead A dead or very low vitality tree

Safe Life: Is a personal assessment of the trees likely expected remaining safe life span in years, assuming the site management continues as it is at present or the tree is protected from significant environmental change. Trees can reverse even serious decline and the expected safe life can be significantly improved following changes / improvements to site management and following remedial works.

40 + Good vitality a tree with high potential.
 20 + Normal vitality a tree in good health.
 10 + Early reduction in vitality leaf cover.
 10 < Marked decline, poor foliage cover.
 5 < Serious decline very low vitality.
 1 < Almost dead tree / serious defect

Management Options: Comments detailing remedial works required improving immediate safety or improve the management of the tree.

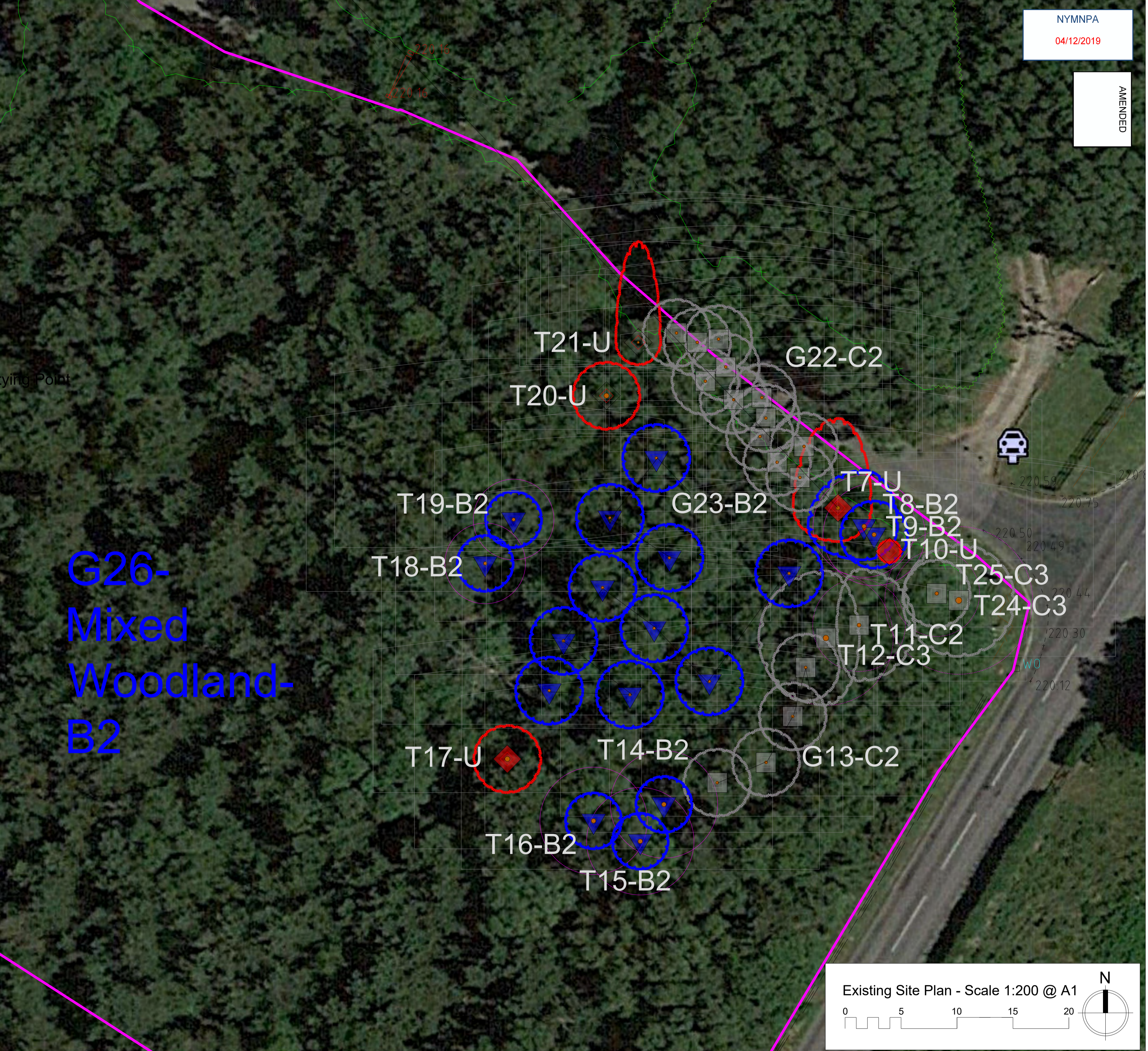
Tree Risk Assessment: The International Society of Arboriculture (ISA) Tree Risk Assessment Qualification (TRAQ) takes a qualitative rather than quantitative approach to risk assessment. It uses matrices to compare the likelihood of failure of a tree or tree part, the likelihood that it will impact the target and the potential consequences of failure. Unless stated otherwise the risk assessment assumes the risk offered over the next year.

Minimum RPA - Root Protection Area: Minimum distance in metres of position of protective fencing in line with section 4.6 BS5837:2012. In order to avoid damage to the roots or rooting environment of retained trees, an area equivalent to a circle with a radius 12 times the stem diameter.

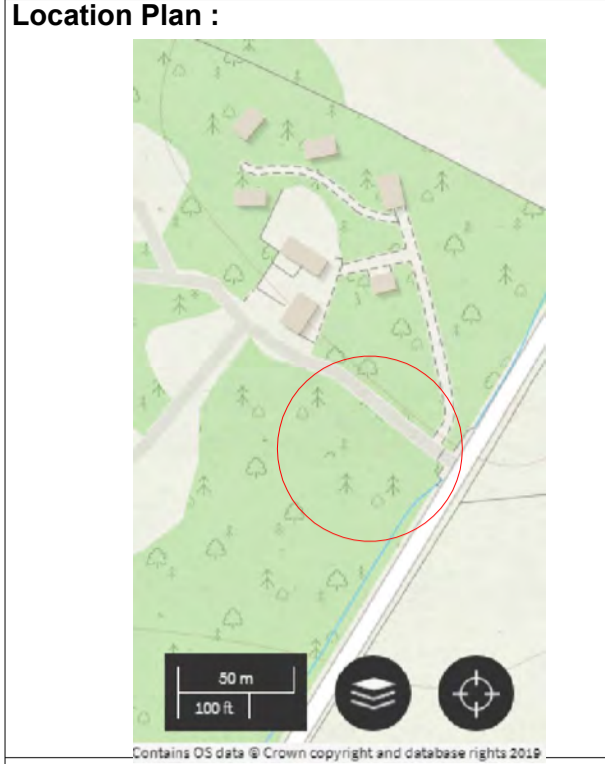
Root Protection Area (Radius) (M) - RPA given in metres from the centre of the stem.

Root Protection Area (Area) (M²) - The ideal total area for the RPA given in metres squared.

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)	Trees that have a severe, irreparable structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees long when, for whatever reason, the loss of component timber cannot be mitigated by pruning. Trees that are dead or are showing signs of significant, irreparable and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees supporting saprotrophic (decomposer) fungi. Category U trees can have nesting or conservation value, which might be detailed in previous notes, see 4.8.7.	Red on Plan
Trees to be considered for retention	Category A Trees of high quality with an estimated remaining expectancy of at least 60 years Trees that are particularly good examples of the species, especially those of unusual or particular visual importance or those that are essential components of groups or formal or semi-formal architectural features (e.g. the trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though irreparable defects, including stem or trunk damage, management and stem damage, such that they are unlikely to be suitable for retention for beyond 40 years, or trees having the potential quality necessary to meet this).	Green on Plan
Category B Trees of moderate quality with an estimated remaining expectancy of at least 20 years Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though irreparable defects, including stem or trunk damage, management and stem damage, such that they are unlikely to be suitable for retention for beyond 40 years, or trees having the potential quality necessary to meet this).	Trees present in numbers, usually growing in groups or woodlands, such that they attract a higher collective value than the individual trees or trees occurring as collective but related because to make the usual contribution to the wider locality.	Blue on Plan
Category C Trees of low quality with an estimated remaining expectancy of at least 10 years, or young trees with a stem diameter below 100 mm Trees that are particularly good examples of the species, especially those of unusual or particular visual importance or those that are essential components of groups or formal or semi-formal architectural features (e.g. the trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though irreparable defects, including stem or trunk damage, management and stem damage, such that they are unlikely to be suitable for retention for beyond 40 years, or trees having the potential quality necessary to meet this).	Trees present in groups or woodlands, but without the potential to attract a higher collective value than the individual trees or trees occurring as collective but related because to make the usual contribution to the wider locality.	Grey on Plan



NYMNPA
04/12/2019
AMENDED



Site Address:
Lady Cross Caravan Park

OS Grid Reference: NZ 81980 08059

Altitude: 222m

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Revision Notes:
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Basemap downloaded and used courtesy of ©Google and ©third-party suppliers annotated on the image.

Drawing No: BA9836TS

Revision: A

Scale: 1:200 @ A1

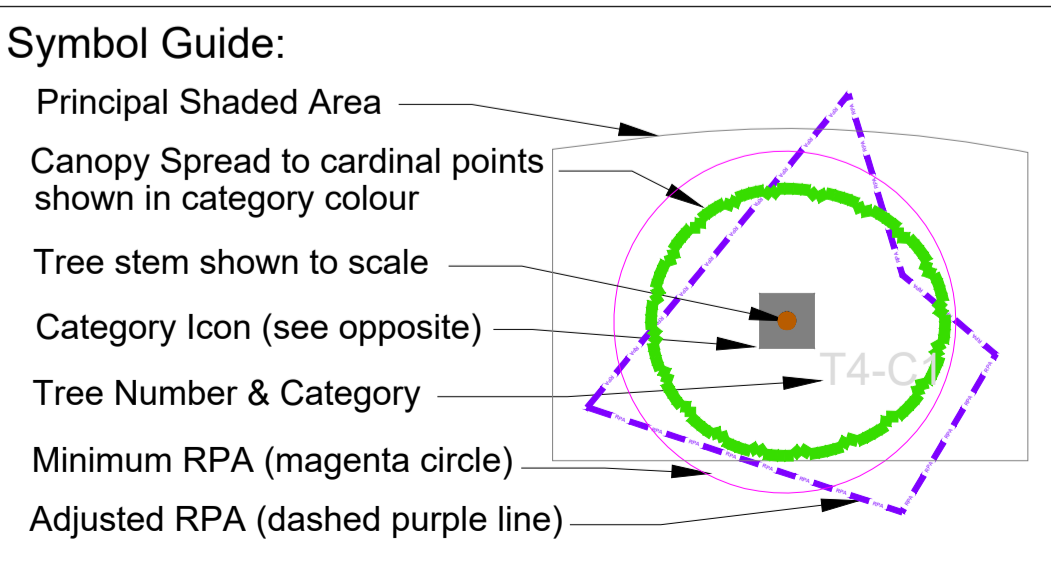
Date: 13/11/2019

Drawn By: MM

Checked: SB

Approved: SB

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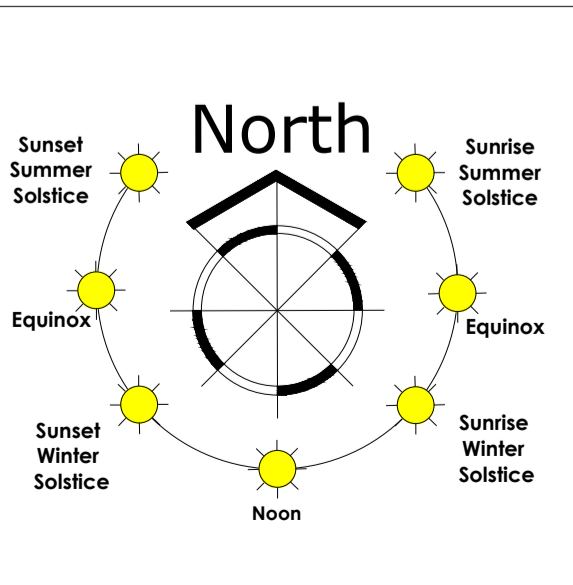
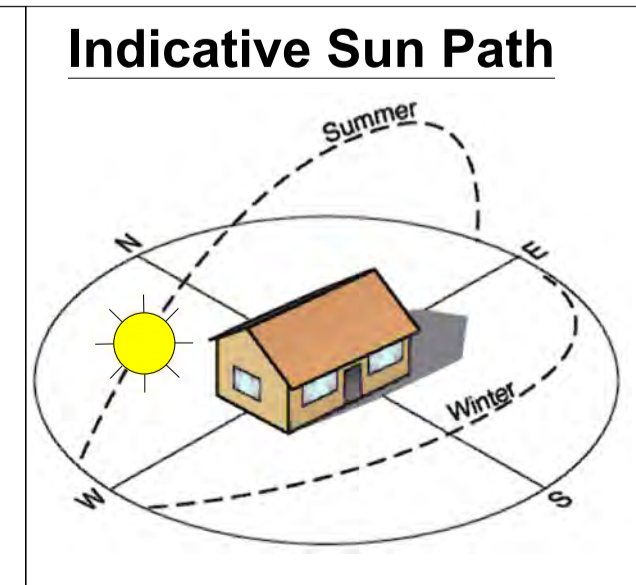


BS5837 - Conditional Colour Code

A - High Quality Tree or Group
 B - Moderate Quality Tree or Group
 C - Low Quality Tree or group
 U - Unsuitable for Retention

Qualitative Tree Risk Assessment

Moderate Risk Tree
 High Risk Tree
 Extreme Risk Tree



Client:
Kieran Robinson

Drawing Title:
Entrance - Tree Survey & Constraints Plan

BARNES associates
 Rivermead, Skelton Road
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www.barnesassociates.co.uk
 Company Number 10438116
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Chartered Institute of Horticulture
 BALI
 Arboriculture

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Mathematical abbreviations: > = Greater than, < = Less than.

Measurements / estimates: All dimensions are estimates unless otherwise indicated. Measurements taken with a tape or clinometer are indicated with a "f". Less reliable estimated dimensions are indicated with a "?".

Tree number: Numbered Tag attached to each stem usually on the inside face of the stem at roughly 2.5 metres. Where the number is followed by a C this denotes that the tag refers to a compartment or group.

Est Pos: Estimated Position of tree - a tree included on the survey which has been added to the Topographical Information / Plan.

Name: Tree species are detailed by their common name.

Age: I record the age as an estimate of the tree likely span for guidance only i.e.:

Y Young - Recently established/planted tree.
 EM Early Mature - An established tree in the first third of its likely expected life span
 SM Semi Mature - Fully established and growing with high vigour
 M Mature - The middle one third of its likely expected life span
 OM Over Mature - The later one third of expected life span
 V Veteran - An aged example of the species, typically conservation value
 S Senescent - Beyond its expected life span historical interest.

Height: I estimate height to the nearest metre to the mean height.

Height to underside: I estimate height to the nearest half metre to the mean underside of the canopy.

First significant Branch: I estimate height & orientation of large branches below the underside of the canopy.

Diameter: These figures relate to a measurement of the stem at 1.5m above ground level recorded in millimetres, measured with a rounded down diameter tape. Figures prefixed with MS denote trees or shrubs with multiple stems.

No. Stems: I record the number of significant stems that compose the tree.

Canopy (N S E W): I estimate the distance of the canopy radius to the nearest metre to provide a mean distance of separation between the stem and the outer canopy.

Vitality: Is a personal assessment of the tree's growth rate in the current season, in comparison to other trees within the locality, region and an indicator of the tree likely response to site change.

Good A tree of high vitality
 Fair A tree of lower vitality
 Poor A tree in noticeable poor state
 Dead A dead or very low vitality tree

Safe Life: Is a personal assessment of the trees likely expected remaining safe life span in years, assuming the site management continues as it is at present or the tree is protected from significant environmental change. Trees can reverse even serious decline and the expected safe life can be significantly improved following changes / improvements to site management and following remedial works.

40 + Good vitality a tree with high potential.
 20 + Normal vitality a tree in good health.
 10 + Early reduction in vitality leaf cover.
 10 < Marked decline, poor foliage cover.
 5 < Serious decline very low vitality.
 1 < Almost dead tree / serious defect

Management Options: Comments detailing remedial works required improving immediate safety or improve the management of the tree.

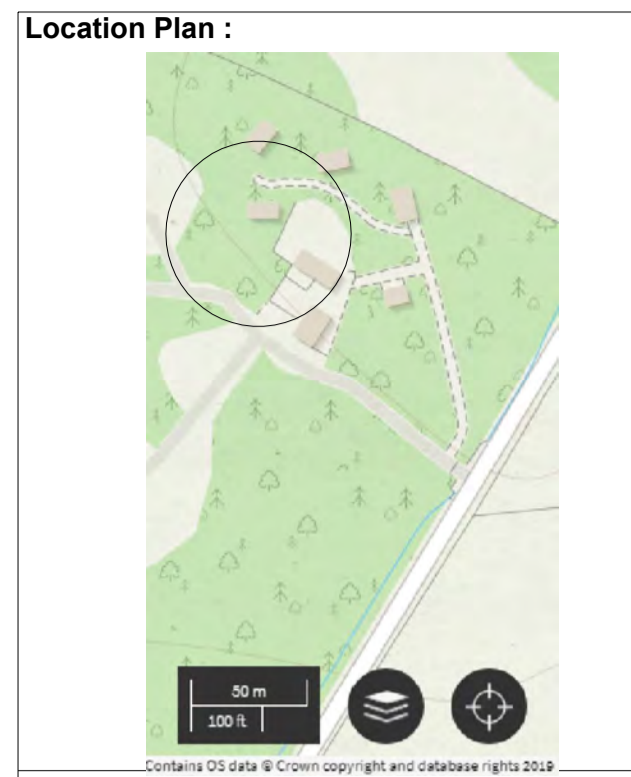
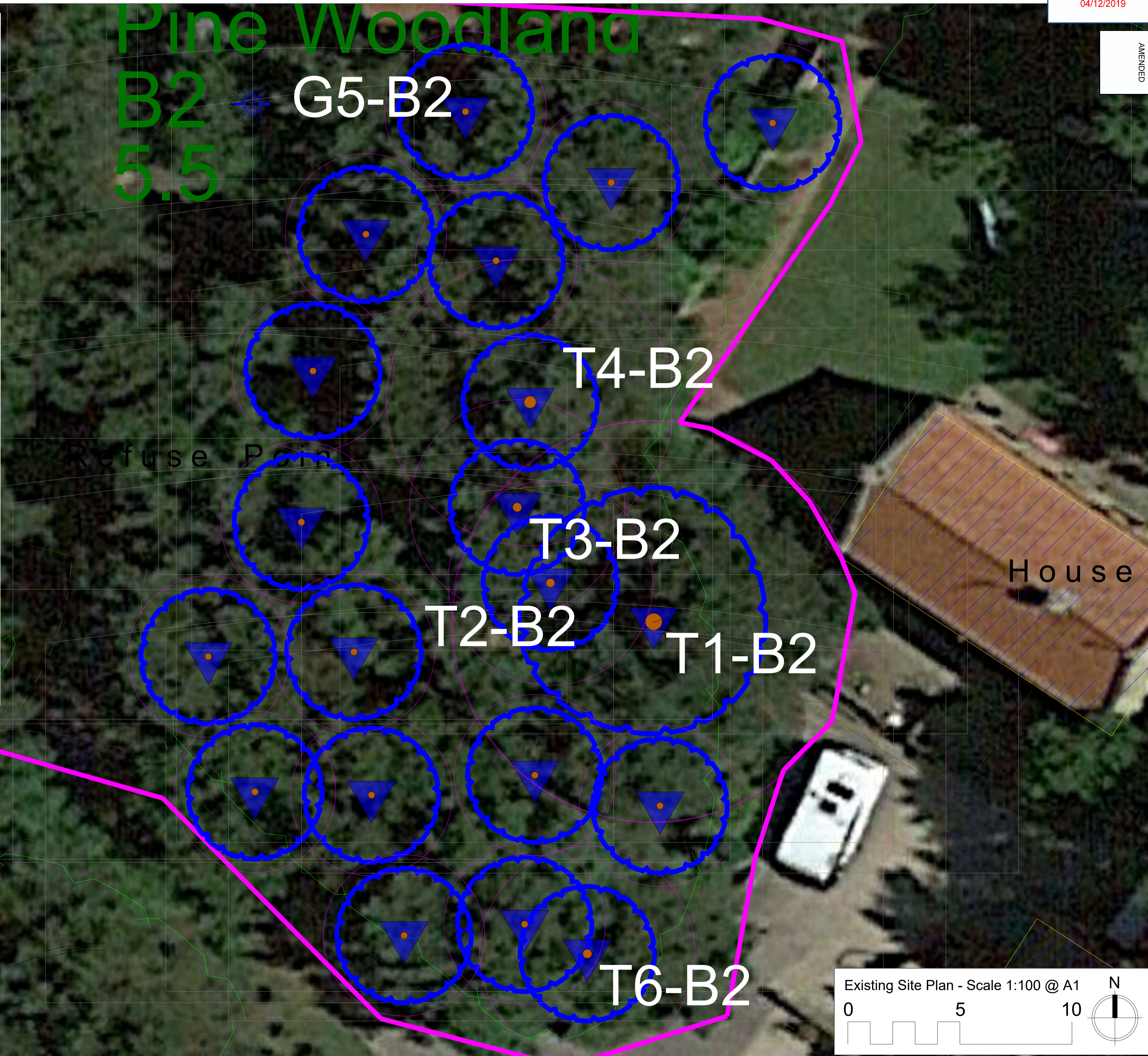
Tree Risk Assessment: The International Society of Arboriculture (ISA) Tree Risk Assessment Qualification (TRAQ) takes a qualitative rather than quantitative approach to risk assessment. It uses matrices to compare the likelihood of failure of a tree or tree part, the likelihood that it will impact the target and the potential consequences of failure. Unless stated otherwise the risk assessment assumes the risk offered over the next year.

Minimum RPA - Root Protection Area: Minimum distance in metres of position of protective fencing in line with section 4.6 BS5837:2012. In order to avoid damage to the roots or rooting environment of retained trees, an area equivalent to a circle with a radius 12 times the stem diameter.

Root Protection Area (Radius) (M) - RPA given in metres from the centre of the stem.

Root Protection Area (Area) (M²) - RPA given in metres squared.

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note 1)		
Category U: Trees that are in a condition that they cannot be retained (defined as being dead or showing signs of imminent, irreversible overall decline)	Trees that have a serious, irreparable, structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees long when, for whatever reason, the base of the trunk is either completely or partially girdled by pruning.	Red on Plan
Category R: Trees that are in a condition that they cannot be retained (defined as being dead or showing signs of imminent, irreversible overall decline)	Trees that are dead or are showing signs of significant, irreversible, and irreversible overall decline.	Red on Plan
Category A: Trees of high quality with an expected remaining life expectancy of at least 40 years	Trees that are particularly good (examples of tree species, especially those of particular visual importance or those that are essential components of groups or formal or semi-formal architectural features (e.g. the tree in a garden))	Green on Plan
Category B: Trees of moderate quality with an expected remaining life expectancy of at least 20 years	Trees that are in good condition (e.g. presence of significant though irreparable defects, including structural defects, pest management and stem damage, such that they are unlikely to be suitable for retention for beyond 40 years, or trees lacking the visual quality necessary to merit tree)	Blue on Plan
Category C: Trees of low quality with an expected remaining life expectancy of at least 10 years or young trees with a stem diameter below 100 mm	Trees present in groups or woodlands, but without the conditions for which they are particularly valuable (e.g. those with no material conservation or other cultural value)	Grey on Plan



Site Address:
 Lady Cross Caravan Park

OS Grid Reference:	NZ 81980 08059
Altitude:	222m
Prevailing Wind Direction:	Winds in this area are typically from the West.
Exposure:	The site is sheltered by neighboring woodlands.
Expected Wind Speed:	Typically up to 24m/s
Date of Survey:	06/11/2019
Weather Conditions:	Warm and sunny - Good Visibility

Site Description:
 The site is currently a Caravan Park nestled within a mixed woodland.

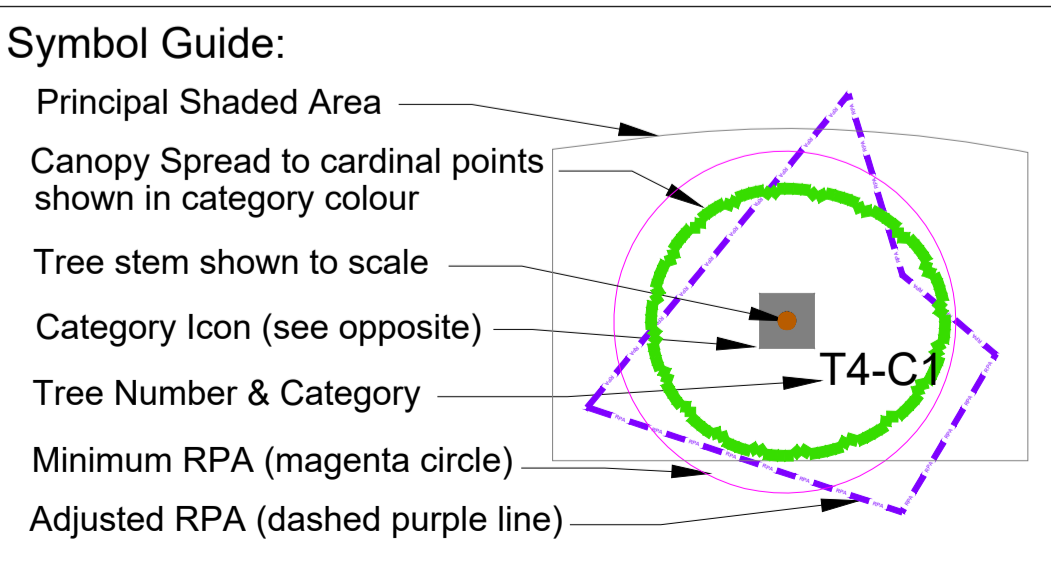
Legislative Protection:
 This area forms part of the Yorkshire moors national Park.

Soil Type:
 Information of the National Soils Resources Institute, which refers to the site being a Soilscape 14: Freely draining very acid sandy and loamy soils

Revision Notes:
 A
 Basemap downloaded and used courtesy of ©Google and ©third-party suppliers annotated on the image.

Drawing No:	BA9836TS
Revision:	A
Scale:	1:100 @ A1
Date:	13/11/2019
Drawn By:	MM
Checked:	SB
Approved:	SB

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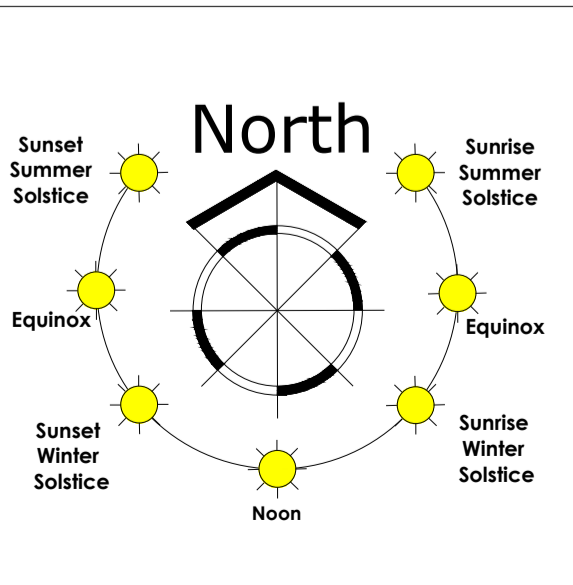
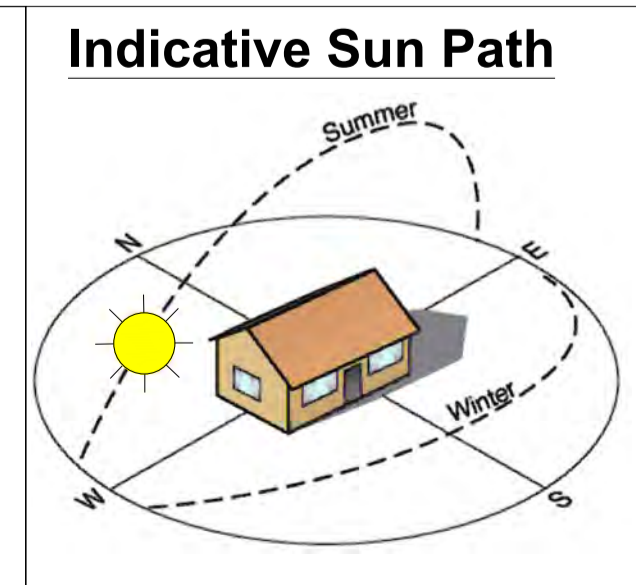


BS5837 - Conditional Colour Code

	A - High Quality Tree or Group
	B - Moderate Quality Tree or Group
	C - Low Quality Tree or group
	U - Unsuitable for Retention

Qualitative Tree Risk Assessment

	Moderate Risk Tree
	High Risk Tree
	Extreme Risk Tree



Client:
 Kieran Robinson

Drawing Title:
 House - Tree Survey & Constraints Plan

BARNES associates
 SURVEY MANAGE IMPROVE

Rivermead, Skelton Road
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NOTES

PROTECTION OF EXISTING VEGETATION Where tree works are proposed to be undertaken on site or to overhanging vegetation to enable construction, this shall be undertaken by qualified tree surgeon in accordance with the requirements of BS3998:2010, prior to the installation of Protective Fencing.

Existing trees & vegetation on the site boundaries or overhanging the boundaries of the adjacent land which are to be retained shall be protected where necessary during works by 2300mm high mesh panel (Heras type) fencing secured to a scaffold tubing framework or supported on a suitable base pinned into the ground and connected by none tamper fixings.

Protective fencing shall be erected outside the canopy drip-line or beyond the minimum Root Protection Area (RPA) distance, detailed in the Tree Survey wherever possible. The tree works & fencing works shall be carried out prior to any demolition, groundworks, construction works.

Laminated, waterproof A4 signs shall be fixed to the fence posts at 10m intervals bearing the words 'CONSTRUCTION EXCLUSION ZONE - NO STORAGE OR OPERATIONS WITHIN FENCED AREA as per the example on the plan.

PROTECTION OF CONSTRUCTION EXCLUSION ZONE

Inside the exclusion area of the fencing, the following prohibitions shall apply: -

- No mechanical excavation whatsoever.
- No excavation by any other means without arboricultural site monitoring.
- No hand digging without a written Method Statement approved in writing by the Project Arborist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools).
- No construction of a sealed hard surface - except where agreed with the Project Arborist.
- No storage of plant or materials.
- No storage or handling of any chemical, including cement washings.
- No vehicular access.

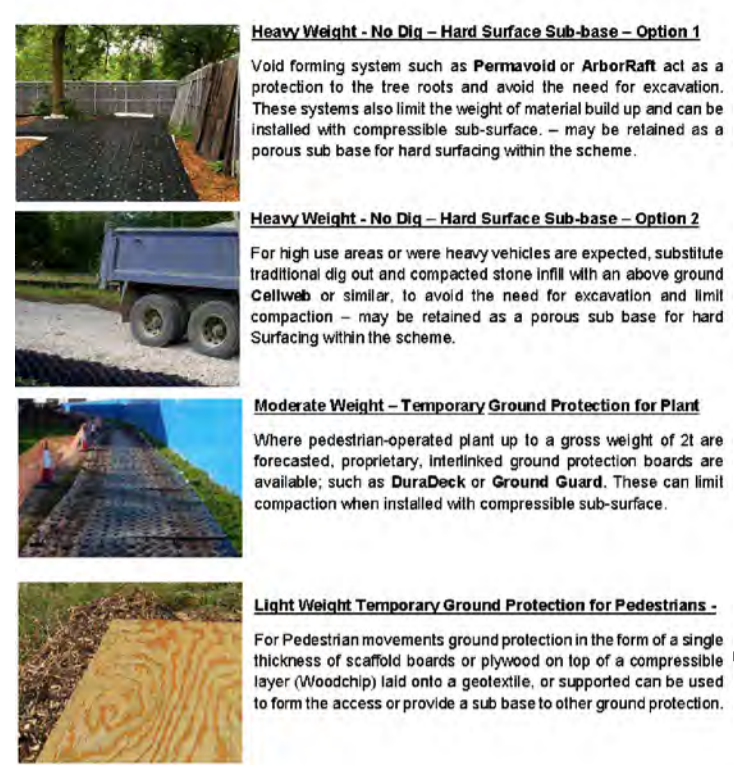
No fire lighting. In addition to the above, further precautions are necessary adjacent to trees: -

- A 10m separation distance shall be observed between any tree and substances injurious to tree health, including fuel, oil, bitumen, cement (including cement washings), builders' sand, concrete mixing and other chemicals.
- No fire shall be lit such that flames come within 5m of tree foliage; this shall be taken to mean a fire separation distance of 20m from any tree's canopy.

ALL WORKS AFFECTING TREES SHALL BE SUBJECT TO THE REQUIREMENTS OF BS5837:2012.

Pos	No.	Name	Age	Height	Crown Hgt	North	South	East	West	Condition	Life Exp	Category	Diameter	Stems	Proposed Management	RPR	RPd
Est Pos	T7	Quercus robur (Common Oak)	EM	12	4	8	3	3	4	Poor	<10	U	350	1	Remove due to safety	4.2	55.42
Est Pos	T8	Betula pubescens (Downy Birch)	M	15	4	5	3	3	5	Good	20+	B	380	1	Protect from the scheme	4.56	60.33
Est Pos	T9	Betula pubescens (Downy Birch)	M	15	4	3	3	3	3	Good	20+	B	380	1	Protect from the scheme	4.56	60.33
Est Pos	T10	Betula pubescens (Downy Birch)	M	6	4	1	1	1	1	Dead	<1	U	100	1	Remove due to safety	1.2	4.52
Est Pos	T11	Betula pubescens (Downy Birch)	M	15	3	5	5	5	2	Fair	10+	C2	345	3	Protect from the scheme	4.14	53.85
Est Pos	T12	Salix caprea (Goat Willow)	M	12	2	6	6	3	6	Fair	10+	C3	502	3	Protect from the scheme	6.02	113.87
Est Pos	G13	Salix caprea (Goat Willow), Betula pubescens (Downy Birch)	EM	14	3	3	3	3	3	Fair	10+	C2	230	1	Protect from the scheme	3	28.28
Est Pos	T14	Pinus sylvestris (Scots Pine)	M	16	4	2.5	2.5	2.5	2.5	Good	20+	B	400	1	Protect from the scheme	4.8	72.39
Est Pos	T15	Pinus sylvestris (Scots Pine)	M	16	4	2.5	2.5	2.5	2.5	Good	20+	B	400	1	Protect from the scheme	4.8	72.39
Est Pos	T16	Pinus sylvestris (Scots Pine)	M	16	4	2.5	2.5	2.5	2.5	Good	20+	B	400	1	Protect from the scheme	4.8	72.39
Est Pos	T17	Pinus sylvestris (Scots Pine)	M	12	2	3	3	3	3	Dead	<1	U	450	1	Remove due to safety	5.4	91.62
Est Pos	T18	Pinus sylvestris (Scots Pine)	M	16	4	2.5	2.5	2.5	2.5	Good	20+	B	300	1	Protect from the scheme	3.6	40.72
Est Pos	T19	Pinus sylvestris (Scots Pine)	M	16	4	2.5	2.5	2.5	2.5	Good	20+	B	300	1	Protect from the scheme	3.6	40.72
Est Pos	T20	Pinus sylvestris (Scots Pine)	M	12	3	3	3	3	3	Dead	<1	U	450	1	Remove due to safety	5.4	91.62
Est Pos	T21	Salix caprea (Goat Willow)	EM	10	4	9	2	2	2	Poor	<10	U	200	1	Remove due to safety	2.4	18.1
Est Pos	G22	Pinus sylvestris (Scots Pine), Betula pubescens (Downy Birch), Salix caprea (Goat Willow)	EM	14	2	3	3	3	3	Fair	10+	C2	250	1	Partial removal to enable the scheme	3	28.28
Est Pos	G23	Pinus sylvestris (Scots Pine), Betula pubescens (Downy Birch), Quercus robur (Common Oak), Salix caprea (Goat Willow)	EM	15	4	3	3	3	3	Good	20+	B	250	1	Removal to enable scheme Aprons	3	28.28
Est Pos	T24	Salix caprea (Goat Willow)	M	14	2	5	5	5	5	Fair	10+	C3	530	3	Remove to enable scheme	6.6	136.87
Est Pos	T25	Betula pubescens (Downy Birch)	M	14	4	3	3	3	3	Fair	10+	C3	320	2	Protect from the scheme	3.84	46.33
Est Pos	G26	Pinus sylvestris (Scots Pine), Betula pubescens (Downy Birch)	EM	15	3	3	3	3	3	Good	20+	B	300	1	Protect from the scheme	3.6	40.2

Ground Protection - Appropriate to expected load.



Tree Protective Fencing - Appropriate for Expected Risk



HIGH RISK AREAS.
Tree stems to be protected from impact damage by Boarding or Plywood Boxes or similar.
Boxes should be constructed clear of the stem and need to contain compressible material to absorb shock loading.
To be located where vehicles may come into direct contact with existing trees.

MODERATE TO HIGH RISK
These areas shall be provided by Braced Harras Fencing, Solid Panels or similar.
Post-holes shall be excavated by powered hand auger or low ground-pressure plant working of ground protection or outside the Tree Precautionary Zone. Alternative more traditional post supports such as the Heras Steadfast system with an additional brace can be used where this can be pinned into position and fitted with an Anti-Tamper Coupler.



MODERATE TO LOW RISK
This is to be erected as a temporary barrier to protect areas designated for later construction or landscaping the Tree Precautionary Zone.
These shall consist of Heras type panels or similar mounted onto rubber/concrete 'boots' as shown opposite.

TREE PROTECTION

Do's
Trees add value to the site, provide shade, improve habitat, improve air quality and are typically protected as part of any planning approval, so their protection is in everyone's interest to avoid costly stoppages and damage.
Tree Roots: Spread out a lot further than the branches have a large area and are usually found close to the surface of the soil, making them susceptible to damage.
To help trees survive any proposed changes a minimum amount of undisturbed rooting area needs to be protected or provided to help the tree feed and function this can be done by creating a Construction Exclusion Zone. These are normally detailed on a Tree Protection Plan or detailed within an Arboricultural Method Statement. Please look at these before you start work to understand what fencing & Ground Protection are to be used before.
Before Work: Mark Key & Monitor the correct fencing and ground protection.
Tree Protection is usually a Planning condition and breaching can result in a Stop Notice, Prosecution or Fines.
Tree Damage Can Be Avoided. **With Care! Ask for help!**
Help Avoid: Clarify Site Owners & Local Council Penalties. Telephone: 01423 322 371

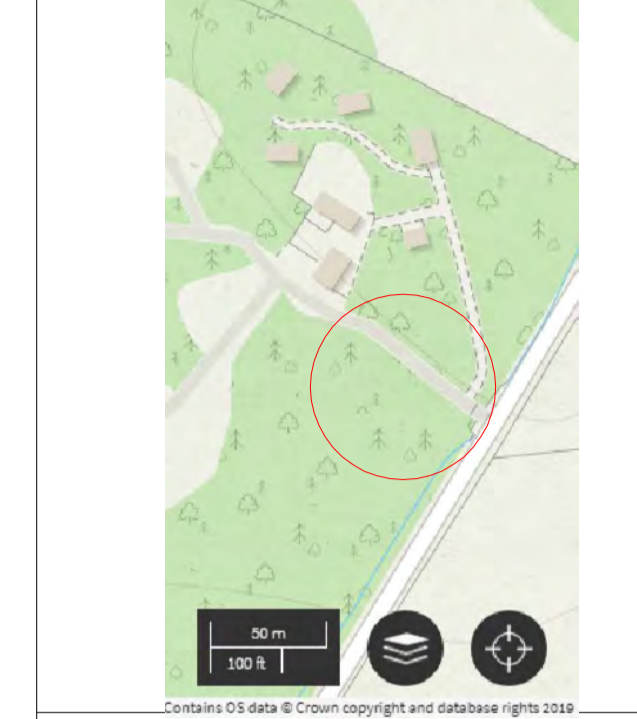
Don'ts
Tree Roots: Many people believe tree roots extend as deep as the tree is high or even plug into the ground like carrots, which is wrong.
Do not: Use any underbarred damage to roots.
Results of Breaching the CEZ:
Soil Compaction - Severs roots of Oxygen and nutrients and increases water run off the site.
Removal - Cut or damage the roots, which can affect a tree's health or sapling.
Use of Soil Remediation - Soil remediation excavators can remove or damage fine feeder roots.
Damage to Branch Damage - Limits food production and encourages pest/disease.
Chemical Soil including cement - Kills roots, staining and breaks soil structure and nutrients.
Fertilisers & Soil Salts - Salts & Chemicals, Salts & Chemicals.
Email: info@treeprotection.co.uk
Telephone: 01423 322 371

Example Tree Protection Fencing Sign



NYMCPA
04/12/2019
AMENDED

Location Plan:



Site Address:
Lady Cross Caravan Park

OS Grid Reference: NZ 81980 08059

Altitude: 222m

Prevailing Wind Direction: Winds in this area are typically from the West.

Exposure: The site is sheltered by neighboring woodlands.

Expected Wind Speed: Typically up to 24m/s

Date of Survey: 06/11/2019

Weather Conditions: Warm and sunny - Good Visibility

Site Description:
The site is currently a Caravan Park nestled within a mixed woodland.

Legislative Protection:
This area forms part of the Yorkshire moors national Park.

Soil Type:
Information of the National Soils Resources Institute, which refers to the site being a Soilscape 14: Freely draining very acid sandy and loamy soils

Revision Notes:
B-Entrance altered

Drawing No: BA9836AIA

Revision: B

Scale: 1:200 @ A1

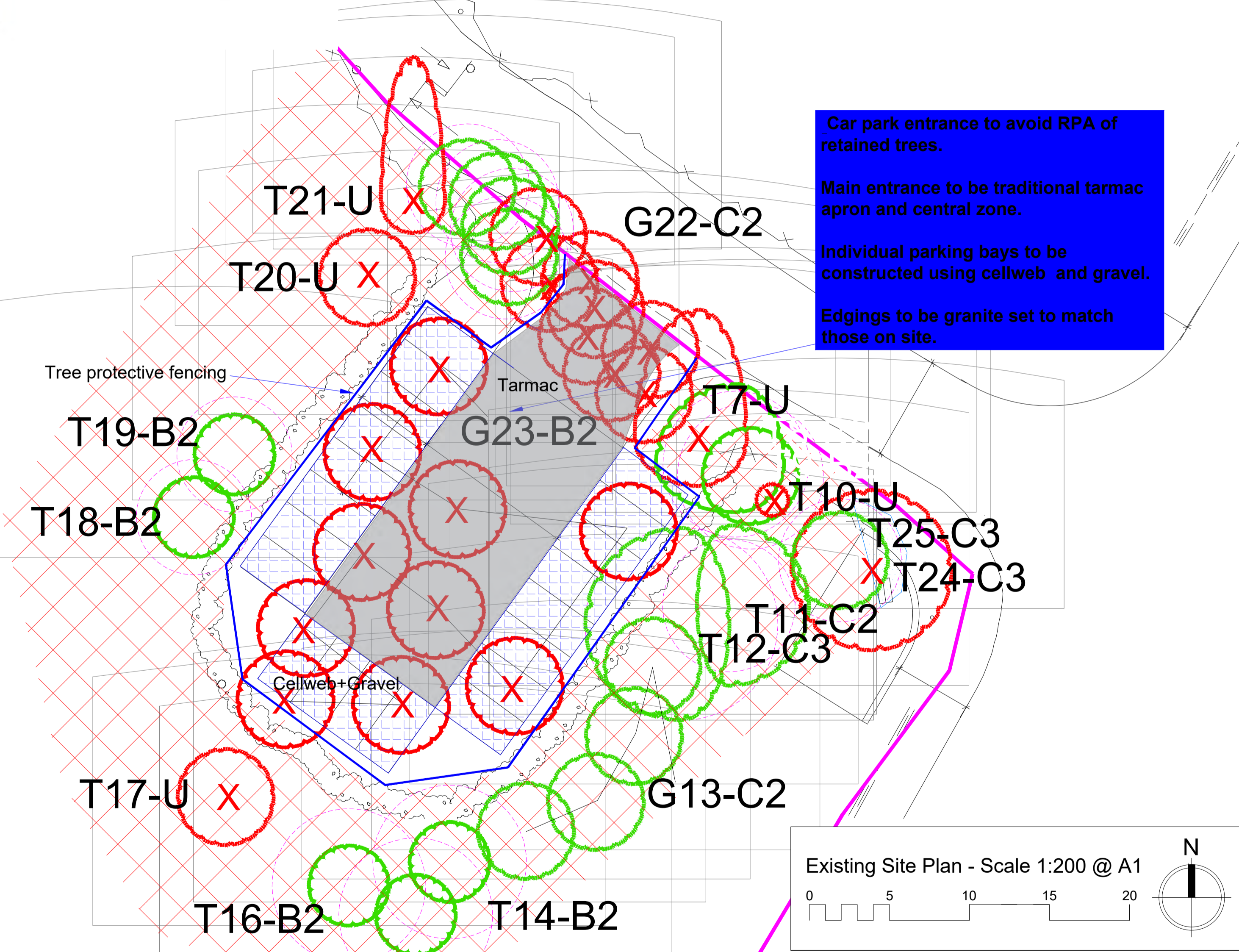
Date: 13/11/2019

Drawn By: MM

Checked: SB

Approved: SB

G26- Mixed Woodland- B2



Car park entrance to avoid RPA of retained trees.
Main entrance to be traditional tarmac apron and central zone.
Individual parking bays to be constructed using cellweb and gravel.
Edgings to be granite set to match those on site.

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Symbol Guide:

Retained Tree, shown with minimum Root Protection Area (RPA) as the dashed purple line.

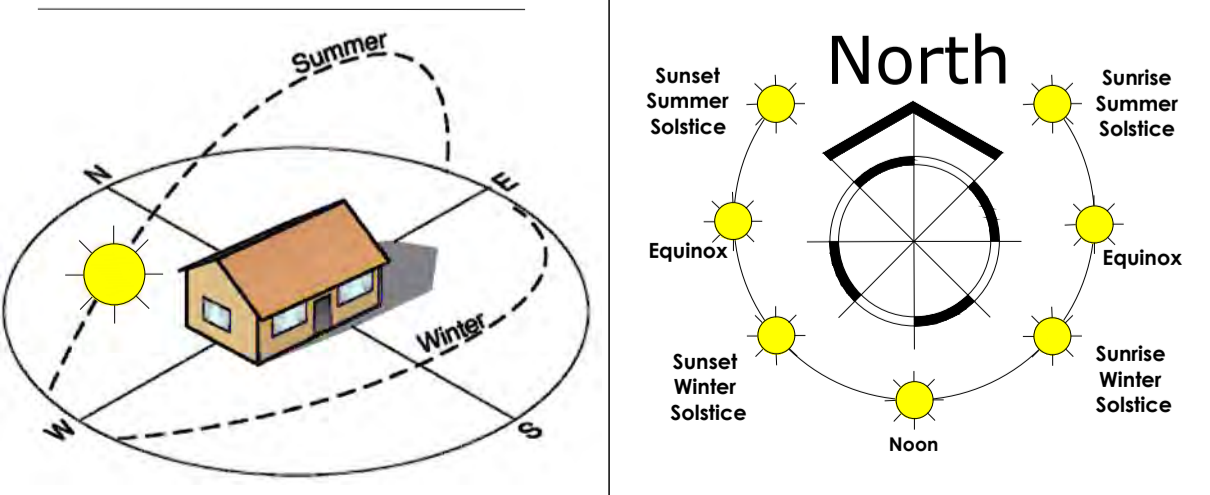
Tree Precautionary Zone - (TPZ)
All PRECAUTIONARY ZONES shall be appropriately protected before the start of the works and these will be protected to limit excavation, root loss or damage & limit compaction of the underlying soils.

Construction Exclusion Zone (CEZ)
These are 'NO-GO ZONES' for site works and these will be protected by appropriate Fencing and / or Ground protection. These areas shall be identified with signage.

Tree Removed - Prior to construction.
Care required when located within the RPA of Retained trees. Stumps to be removed by grinding rather than excavation.

Tree Protection Fencing (TPF).
Fencing types will need to reflect the level of forecasted intensity.

Indicative Sun Path



Client:
Kieran Robinson

Drawing Title:
Entrance - Impact Assessment

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