Harthill
Liverpool

Redrow Homes Lancashire

ARBORICULTURAL IMPACT ASSESSMENT
AND
METHOD STATEMENT
(Revision B)

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Contents

1.0 Introduction

1.1 This document has been prepared by Trevor Bridge Associates on the behalf of Redrow Homes Lancashire. It provides an Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS) in regards to the following proposed development.

- Demolition of existing structures.
- Construction of 39x residential units and related infrastructure.

1.2 This document follows, and should be read in conjunction with, two pre-development tree surveys that were undertaken by TBA Ltd. These comprise:

Tree Survey and Root Protection 5086.01 TS
Tree Survey and Root Protection 5086.02 TS (Trees have been marked with a *)

1.2.1 This document is revision B. The following amendment has been carried out:

- Tree ref no. 102T* has been retained.

1.3 For the purposes of preparing this document the following material was referenced:

- Client Drawing: ***Detailed Site Layout. Drawing No. DSL-01. Revision E. Date: June 2016.***

1.4 This report seeks to provide an accurate determination of potential impacts to trees as a consequence of the development proposals, as well as specify necessary methodologies required during construction to ensure that trees being retained are afforded adequate protection.

1.5 Accompanying this report is the following drawing which must be read in conjunction with this report:

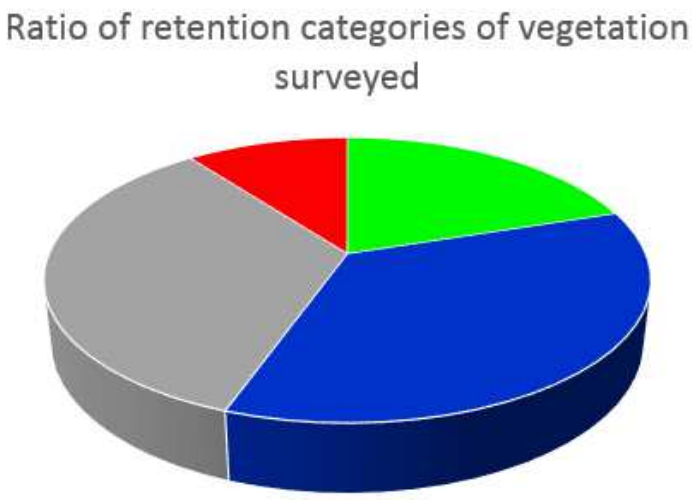
- ***TBA Drawing: Tree Protection Plan. Drawing No. 5096.09 Revision B. Date: August 2016.***

2.0 Arboricultural Impact Assessment

2.1 The consequences on existing trees situated within and adjacent the proposed development site are considered.

2.2 The value of the trees and vegetation surveyed

In the initial tree survey reports a total of 313 items were surveyed within and adjacent the development area. These items comprised 245 individual trees, 65 groups, 2 hedges and a single woodland area. The chart and table below shows the ratio of tree retention categories on the site and number of items (be it groups or individuals etc that were surveyed).



Retention Category	No.
A (High Value)	62
B (Moderate value)	110
C (Low value)	106
U (Remove)	32

3.0 Arboricultural Impact Table - Key

3.1 The Arboricultural Impact Table (section 3.3) lists all items surveyed within the site. The tree data is taken from the initial tree survey report. The table is colour coded for ease of reference, particularly in relation to the value of trees and the potential impact that may occur to them:

Tree Values

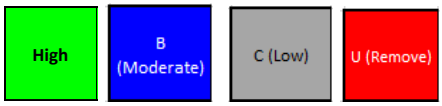
High	High value tree / group / hedge as included within the initial tree survey
B (Moderate)	Moderate value tree / group / hedge as included within the initial tree survey
C (Low)	Low value tree / group / hedge as included within the initial tree survey
U (Remove)	Tree / group / hedge in poor condition. Retention unsustainable within context of development

Impacts on Tree's / Groups

Removal	Tree / Group / Hedge will require removal in order to facilitate the development proposals
Partial Removal	Group or hedge will require partial removal to facilitate the development proposals
High	The development proposals will have a high impact the on the tree /group / hedge
Moderate	The development proposals will have a moderate impact on the tree / group /hedge
Low	The development proposals will have a low impact on the tree / group / hedge
None	The development proposals will have no impacts on the tree / group / hedge

3.2 Arboricultural Impact Table - Cascade Chart:

3.2.1 Tree **Values** are taken from BS: 5837 and comprise of the following:



3.2.2 The **Impacts** comprise of 6 elements:

3.2.3 Causes of impacts comprise 6 factors: '***None***', '***To facilitate development'***, '***Due to poor condition'***, '***Direct disturbance to roots'***, ***'Pruning required'*** **and** '***Possible future pruning pressure due to shade and other factors***'.

3.2.4 Comments are also included providing more information where necessary.

	REMOVAL	PARTIAL REMOVAL	HIGH	MODERATE	LOW
TO FACILTATE DEVELOPMENT	Tree / group requires removal.	Partial removal of group is required. I.e., 'a section of hedge may require removal to allow a new access road'.	N/A	N/A	N/A
DUE TO POOR CONDITION	Tree or group require removal due to poor structural and / or physiological condition.	Part of group require removal due to poor structural and / or physiological condition.	N/A	N/A	N/A
DIRECT DISTURBANCE TO ROOTS	N/A	N/A	In many case this will result in the loss of tree/s - refer to '**TO FACILIATE DEVELOPMENT**'. In rare cases a Tree/s may be retained but damage will occur to the roots.	Disturbance will be caused to roots of a tree/s that are likely to result in some physiological and structural dysfunction. The extent of damage does not require trees to be felled. Remedial actions may be taken in some cases that would help mitigate against damage but site topography, tree age, condition and species condition may result in disturbance being considered **MODERATE** as opposed to **LOW.**	Activity will occur within the root protection area of trees which will have a low impact, or can be mitigated by special measures.
PRUINING REQUIRED	N/A	N/A	Pruning that may retain a tree but will have a potential impact on the tree condition and visual appearance	Pruning is required that is acceptable within recommendations within BS3008:2010, but would require a material alteration to the tree/group affected.	Pruning is required that will have little impact to the structural, physiological and visual amenity of a tree or group.
POSSIBLE FUTURE PRUNING PRESSURE DUE TO SHADE OR OTHER FACTORS	Removal of tree/s required as retention is unsustainable and/or undesirable within the context of development. i.e. fast growing tree in small garden.	Partial removal of tree/s required as retention is unsustainable and/or undesirable within the context of development. i.e. fast growing tree in small garden.	Tree/s likely to cause significant shading. i.e. small garden areas with dense mature trees to south.	Some level of shade or other inconvenience will occur. Not highly oppressive, but some residents may seek management of trees in long term.	Some level of shading / overhang will occur.

3.3 ARBORICULTURAL IMPACT TABLE - RESULTS

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
1T	Oak	B (Moderate)	Removal	**To facilitate development**	Edge of new access road contacts the tree.	Tree stump to be removed using a self powered stump grinder.
2T	Beech	**A (High)**	Low	**Direct disturbance to roots**	New access extends closer to tree though falls within the location of an existing pavement.	Tree protection fencing required.
3T	Beech	**A (High)**	Moderate	**Direct disturbance to roots**	The new access road will require widening into the existing verge some 1.9m. Some element of root loss will occur. Moderate impact if roots are present beneath existing access road.	Tree protection fencing required. An area of the root system to be ameliorated.
4T	Beech	**A (High)**	Moderate	**Direct disturbance to roots**	The new access road will require widening into the existing verge some 1.9m. Some element of root loss will occur. Moderate impact if roots are present beneath existing access road.	Tree protection fencing required. An area of the root system to be ameliorated.
5T	Oak	**A (High)**	Moderate	**Direct disturbance to roots**	The new access road will require widening into the existing verge some 1.9m. Some element of root loss will occur. Moderate impact if roots are present beneath existing access road.	Tree protection fencing required An area of the root system to be ameliorated.
6T	Cherry	C (Low)	Removal	**To facilitate development**	Possibly retainable, though a small low value specimen that is replaceable	Tree stump to be removed using a self powered stump grinder.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
7T	Swedish Whitebeam	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
8T	Silver Birch	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
9T	Dawn Redwood	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
10T	Oak	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
11G	3x Himalayan Cherry	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
12T	Bay Tree	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
13T	Silver Birch	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
14T	Oak	**A (High)**	Low	**Direct disturbance to roots**	Removal of existing hard surfaces.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
15T	Ash	U (Poor)	Removal	**Due to poor condition**	N/a	Stump to remain in situ.
16T	Beech	**A (High)**	Low	**Direct disturbance to roots**	Minor ingress required within outer nominal root protection area for construction requirements (scaffolding).	Existing hard surfaces/and or other structures within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
17T	Sycamore	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
18T	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
19T	Sycamore	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
20T	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
21T	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
22T	Lime	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
23T	Lime	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
24T	Lime	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
25G	7x Lime	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
26G	2x Ash	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
27T	Beech	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
28T	Ash	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
29T	Lime	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
30T	Ash	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
31T	Ash	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
32T	Norway Maple	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
33T	Ash	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
34G	Group of Cherry Laurel	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
35T	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
36T	Purple Leaf Plum	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
37T	Sycamore	U (Poor)	Removal	**Due to poor condition**	This tree is in poor condition and best felled due to new development in close proximity to the tree.	Tree is situated off-site and arrangement for removal of the tree will need to be agreed with the tree owners/managers.
38G	5x Holm Oak	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
39G	Row of Balsam Poplar	U (Poor)	Removal	**Due to poor condition**	These trees are in poor condition and best felled due to new development in close proximity to the tree.	Trees are situated off-site and arrangement for removal of these trees will need to be agreed with the tree owners/managers.
40G	4x Beech	C (Low)	Low	**Pruning required**	The easterly lateral canopy spread of this group requires reducing by approximately 2m to facilitate working space for construction of adjacent development	N/a
			Low	**Direct disturbance to roots**	Some ingress within the root protection areas of these trees is likely.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
41G	Group of Lilac	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
42T	Ash	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
43G	5x Ash	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
44T	Ash	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
45G	3x Ash	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
46T	Oak	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
47T	Beech	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
48T	Ash	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
49G	5x Sweet Chestnut	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
50T	Horse Chestnut	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
51T	Large Leafed Lime	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
52T	Beech	B (Moderate)	Low	**Possible future pruning pressure due to shading and/or other factors**	This tree will contribute to shading of the garden area of Plot 15 in the morning, though shading will cease before mid-day.	Tree protection fencing required.
53T	Weeping Beech	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
54G	Mixed Species Group	C (Low)	**Partial Removal**	**To facilitate development**	Trees within the site boundary of this group to be removed.	Pruning required to ensure that overhanging growth is reduced back to within some 1.5m of the site boundary

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
55T	Goat Willow	U (Poor)	Removal	**Due to poor condition**	This tree is in poor condition and best felled due to new development in close proximity to the tree.	Tree is situated off-site and arrangement for removal of the tree will need to be agreed with the tree owners/managers.
56G	Mixed Species Group	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
57G	Row of Limes	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
58G	5x Cherry	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
59G	Beech and Sycamore Group	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
60T	Cherry	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
61T	Swedish Whitebeam	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
62G	Mixed Species Group	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
63G	3x Beech	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
64G	Group of Cherry	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
65G	Mixed Species Group	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	Boundary wall likely to restrict root growth into the site.
66G	Group of Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
67T	Walnut Tree	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
68T	Turkish Hazel	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
69T	Lawson's Cypress	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
70T	Snake Bark Maple	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
71T	Dead standing Tree	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
72T	Blue Atlas Cedar	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
73T	Maple	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
74T	Buckthorn	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
75T	Himalayan Birch	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
76G	Mixed Species Group	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
77T	Indian Horse Chestnut	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
78T	Horse Chestnut	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
79T	Leyland Cypress	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
80G	2x Cherry	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
81T	Cherry	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
82G	Mixed Species Group	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
83T	Holm Oak	B (Moderate)	Moderate	**Direct disturbance to roots**	Loss of some 20% of nominal root protection area for construction of access road, though tree is retainable.	Some 10% of the lost nominal root protection area is within existing hard surface. An area of the root system to be ameliorated.
84T	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
85T	Sweet Chestnut	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
86T	Silver Birch	C (Low)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
87T	Silver Birch	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
88T	Sweet Chestnut	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
89T	2x Ash and Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a
90T	Oak	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
91T	Oak	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
92T	Oak	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
93G	Mixed Species Group	C (Low)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
94T	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
95T	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surfaces/and or other structures or debris within the nominal root protection area are to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
96G	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
97G	Leyland Cypress Row	C (Low)	**Partial Removal**	**To facilitate development**	Likely to require loss of most southerly tree within the row for turning head of driveway.	Some ingress within the root protection areas of the trees.
98G	Group of Goat Willow	C (Low)	Removal	**To facilitate development**	N/a	N/a
99G	Group of Goat Willow	C (Low)	Removal	**To facilitate development**	N/a	N/a
100G	Group of Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a
101T	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
102T	Ash	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
103T	Goat Willow	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
104G	Mixed Species Group	C (Low)	**Partial Removal**	**To facilitate development**	Removal of most northerly and southerly trees within the row to ensure clearance of new houses.	N/a
105H	Mixed Species hedge	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
106T	Purple Leaf Plum	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
107H	Privet hedge	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
108T	Cherry	U (Poor)	Removal	**Due to poor condition**	N/a	N/a
109T	Katsura Tree	C (Low)	Removal	**To facilitate development**	N/a	N/a
110T	Foxglove	C (Low)	Removal	**To facilitate development**	N/a	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
111T	Acer species	C (Low)	Removal	**To facilitate development**	N/a	N/a
1T*	Austrian Pine	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
2T*	Apple	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
3T*	Ash	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
4G*	Mixed Species Group	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
5T*	Unknown	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
6T*	Norway Maple	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
7T*	Swedish Whitebeam	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
8T*	Hornbeam	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
9G*	Mixed Species Group	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
10G*	Mixed Species Group	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
11T*	Lime	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a
12G*	Row of mature Beech	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
13T*	Sorbus	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
14T*	Sycamore	U (Poor)	Removal	**Due to poor condition**	N/a	N/a
15T*	Sycamore	U (Poor)	Removal	**Due to poor condition**	This tree is in poor condition and best felled due to new development in close proximity to the tree.	Tree is situated off-site and arrangement for removal of the tree will need to be agreed with the tree owners/managers.
16T*	Elm	U (Poor)	Removal	**Due to poor condition**	This tree is in poor condition and best felled due to new development in close proximity to the tree.	Tree is situated off-site and arrangement for removal of the tree will need to be agreed with the tree owners/managers.
17T*	Beech	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
18T*	Yew	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
19T*	Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
20T*	Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
21T*	Turners Oak	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
22T*	Holly	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	The stump of this tree is to be removed with a self powered stump grinder.
23T*	Sycamore	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	The stump of this tree is to be removed with a self powered stump grinder.
24T*	Standing Dead Tree	U (Poor)	Removal	**Due to poor condition**	N/a	N/a
25T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
26T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
27T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
28T*	Sycamore	B (Moderate)	Removal	**To facilitate development**	Technically retainable but recommended for removal to provide clearance of adjacent house.	Stump to be ground out using self powered stump grinder.
29T*	Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a
30T*	Sycamore	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
31T*	Sycamore	B (Moderate)	Low	**Direct disturbance to roots**	Ingress within outer section of nominal root protection area.	Ingress within the nominal root protection area of this tree. Temporary ground protection required within the root protection area.
			Moderate	**Possible future pruning pressure due to shading and/or other factors**	N/a	N/a
32T*	Holly	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
33T*	Beech	**A (High)**	Removal	**To facilitate development**	N/a	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
34T*	Sycamore	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
35T*	Sycamore	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
36T*	Sycamore	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
37T*	Sycamore	B (Moderate)	Low	**Direct disturbance to roots**	Ingress within outer section of nominal root protection area.	Tree protection fencing required.
38T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
39T*	Yew	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
40T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
41G*	5x Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
42T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
43T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
44T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
45T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
46T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
47T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
48G*	4x Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
49T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
50T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
51T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
52G*	8x Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
53T*	Beech	**A (High)**	Low	**Possible future pruning pressure due to shading and/or other factors**	This tree will contribute to shading the garden area of adjacent plot.	Tree protection fencing required.
54T*	Beech	U (Poor)	Removal	**Due to poor condition**	Tree may be monolithed and retained as a 5m standing trunk for habitat purposes.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
55T*	Beech	C (Low)	Low	**Possible future pruning pressure due to shading and/or other factors**	This tree will contribute to shading the garden area of adjacent plot.	Tree protection fencing required.
56T*	Beech	U (Poor)	Removal	**Due to poor condition**	Tree may be monolithed and retained as a 5m standing trunk for habitat purposes.	N/a
57T*	Dead standing Tree	U (Poor)	Removal	**Due to poor condition**	Tree may be monolithed and retained as a 5m standing trunk for habitat purposes.	N/a
58T*	Beech	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
59T*	Yew	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
60T*	Ash	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
61T*	Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
62G*	2x Holly	U (Poor)	None	**N/a**	May be retained despite poor condition.	N/a
63T*	Yew	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
64T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
65T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
66T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
67T*	Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
68G*	4x Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
69G*	2x Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
70T*	Yew	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
71T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
72G*	Mixed Species Group	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
73T*	Holly	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
74T*	Leyland Cypress	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
75T*	Yew	C (Low)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
76G*	Mixed Species Group	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
76T*	Lawson Cypress	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
77T*	Weeping Ash	U (Poor)	Removal	**Due to poor condition**	Monolith at some 4m height.	N/a
78T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
79T*	Ash	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
80T*	Scots Pine	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
81G*	Group of Holly	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
82T*	Yew	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
83T*	English Oak	**A (High)**	None	**Pruning required**	Remove/shorten major deadwood and hung up branch within mid canopy	Tree protection fencing required.
84T*	Yew	B (Moderate)	N/a	**N/a**	Tree protection fencing required.	N/a
85T*	Irish Yew	C (Low)	Removal	**To facilitate development**	To facilitate widening of the road.	N/a
86G*	Mixed Species Group	C (Low)	Removal	**To facilitate development**	N/a	N/a
87T*	Holly	C (Low)	Removal	**To facilitate development**	N/a	Stump to be ground out using self powered stump grinder.
88G*	2x Holly	C (Low)	Removal	**To facilitate development**	N/a	Stumps to be ground out using self powered stump grinder.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
89T*	Yew	**A (High)**	Low	**Direct disturbance to roots**	Sustainable retention of this tree is possible only with extensive and careful installation of a geotextile cellular confinement system (GCCS) such as Cellweb. The Tree Protection Plan indicates the likely extent of such a system. All existing hard surfaces within the vicinity of the tree to be replaced by the GCCS will require hand removal, or removal under supervision (should light plant machinery be used). Note: disturbance to the roots can only be considered 'Low' if works take place correctly.	A specification to be provided by the manufacturer and supplier following a site visit to access requirements. Specification must be checked with site engineers to ensure that adjoining site levels are compatible with the required and final GCCS levels. Installation process will require that cross sections of the GCCS are provided and the system must be installed in accordance with manufacturer's specifications based on the specific site requirements. A specification for the construction of the wall in the vicinity of the tree (adjacent parking bays 41 & 42) will be required that minimises ground disturbance. This will require use of a lintel base supported by small piles.
90G*	5x Holly	C (Low)	Removal	**To facilitate development**	N/a	Stumps to be ground out using self powered stump grinder.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
91T*	Yew	C (Low)	Removal	**To facilitate development**	N/a	N/a
92G*	3x Holly	B (Moderate)	Removal	**To facilitate development**	Identified for removal within detailed layout plan.	N/a
93T*	Yew	B (Moderate)	Removal	**To facilitate development**	Identified for removal within detailed layout plan.	N/a
94T*	Yew	**A (High)**	Removal	**To facilitate development**	Identified for removal within detailed layout plan.	The stump of this tree is to be removed with a self powered stump grinder.
95T*	Yew	B (Moderate)	Moderate	**Direct disturbance to roots**	Ingress within the root protection area of this tree due to widening of access road.	Tree protection fencing required. Root zone surrounding the tree to be ameliorated.
96T*	Yew	B (Moderate)	Removal	**To facilitate development**	Widening of access road will result in loss of this tree.	Stump to be left in situ or ground out using a self powered stump grinder.
97G*	2x Holly	C (Low)	Removal	**To facilitate development**	Relocation of adjacent wall and widening of access road requires loss of these trees.	N/a
98T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
99T*	Beech	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
100G*	4x Holly	C (Low)	Low	**Direct disturbance to roots**	Widening of the access driveway will impact roots.	Tree protection fencing required.
101T*	Yew	B (Moderate)	Removal	**To facilitate development**	Widening of the access driveway will result in loss of this tree.	N/a
102T*	Sycamore	B (Moderate)	Low	**Direct disturbance to roots**	Widening of the access driveway will impact roots. Ingress of some 1.3m into edge of the existing verge.	Tree protection fencing required. Root zone surrounding the tree to be ameliorated.
103G*	2x Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
104T*	Yew	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
105T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
106G*	5x Sycamore and 1x Ash	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
107T*	Sycamore	B (Moderate)	None	**N/a**	N/a	N/a
108T*	Lime	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
109T*	Lime	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
110T*	Holly	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
111T*	Horse Chestnut	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
112T*	Horse chestnut	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
113T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
114T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
115T*	Cherry	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
116T*	Horse chestnut	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	This tree should be removed, though this is within the jurisdiction of the tree owners/managers.
117G*	2x Sycamore	C (Low)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
118T*	Sycamore	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	This tree should be removed, though this is within the jurisdiction of the tree owners/managers.
119T*	Beech	**A (High)**	None	**N/a**	Off-site with no root protection area within the development area.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
120T*	Beech	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	This tree should be removed, though this is within the jurisdiction of the tree owners/managers.
121T*	Beech	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	N/a
122T*	Sycamore	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	This tree should be removed, though this is within the jurisdiction of the tree owners/managers.
123T*	Sycamore	U (Poor)	None	**N/a**	Off-site with no root protection area within the development area.	This tree should be removed, though this is within the jurisdiction of the tree owners/managers.
124T*	Beech	B (Moderate)	None	**N/a**	Off-site with no root protection area within the development area.	This tree should be removed, though this is within the jurisdiction of the tree owners/managers.
125T*	Ash	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
126T*	Lime	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
127T*	Lime	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
128T*	Lime	**A (High)**	Low	**Direct disturbance to roots**	Minor incursion within the nominal root protection area for scaffolding and access drive.	Tree protection fencing required.
			Moderate	**Possible future pruning pressure due to shading and/or other factors**	The tree will cause shading of the adjacent house.	N/a
129G*	Sycamore and Elderberry	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
130T*	Sycamore	B (Moderate)	Low	**Possible future pruning pressure due to shading and/or other factors**	Tree protection fencing required.	N/a
131T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
132T*	Horse Chestnut	U (Poor)	Removal	**Due to poor condition**	The stump of this tree is to be ground out using a self powered stump grinder.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
133G*	2x Sycamore	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
134T*	Beech	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
135G*	3x Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
136T*	Sycamore	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
137T*	Sycamore	U (Poor)	Removal	**Due to poor condition**	The stump of this tree is to be ground out using a self powered stump grinder.	N/a
138T*	Common Oak	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
139T*	Sycamore	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
140T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
141T*	Lime	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
142T*	Beech	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
143T*	Beech	C (Low)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
144T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
145T*	Beech	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	The stump of this tree is to be removed with a self powered stump grinder.
146T*	Sycamore	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	The stump of this tree is to be removed with a self powered stump grinder.
147T*	Sycamore	U (Poor)	Removal	**Due to poor condition**	N/a	N/a
148T*	Sycamore	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	The stump of this tree is to be removed with a self powered stump grinder.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
149T*	Horse Chestnut	B (Moderate)	Low	**Possible future pruning pressure due to shading and/or other factors**	Tree protection fencing required.	N/a
			Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
150T*	Sycamore	U (Poor)	Removal	**Due to poor condition**	The stump of this tree is to be ground out using a self powered stump grinder.	N/a
151G*	2x Holly	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
152G*	Mixed Species Group	B (Moderate)	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
			Low	**Possible future pruning pressure due to shading and/or other factors**	N/a	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
153T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Tree protection fencing required.	Existing hard surface within the nominal root protection area is to be removed using hand tools only in a controlled manner and after the tree protective fencing has been erected.
			Low	**Possible future pruning pressure due to shading and/or other factors**	N/a	N/a
154T*	Lime	U (Poor)	Removal	**Due to poor condition**	The stump of this tree to be left in situ.	N/a
155T*	Beech	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
156T*	Beech	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
157T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Minor incursion within the nominal root protection area due to garage.	Ingress within the nominal root protection area of this tree. Temporary ground protection required within the root protection area.
			Moderate	**Possible future pruning pressure due to shading and/or other factors**	Tree will contribute to shading of northerly plot.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
158G*	2x Whitebeam	C (Low)	N/a	**N/a**	Tree protection fencing required.	N/a
159T*	Beech	B (Moderate)	Removal	**To facilitate development**	The stump of this tree is to be ground out using a self powered stump grinder.	N/a
160T*	Beech	**A (High)**	Moderate	**Possible future pruning pressure due to shading and/or other factors**	The tree will cause shading of the plot and dominates the garden area.	N/a
			Low	**Pruning required**	Reduce end weight of the lowest lateral branch to the north-east by shortening length by approximately 6m.	N/a
161T*	Beech	B (Moderate)	Moderate	**Possible future pruning pressure due to shading and/or other factors**	The tree will cause shading of the plot and dominates the garden area.	N/a
162T*	Beech	U (Poor)	Removal	**Due to poor condition**	N/a	N/a
163T*	Beech	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
164T*	Beech	**A (High)**	Low	**Possible future pruning pressure due to shading and/or other factors**	Sever Ivy at base.	Tree protection fencing required.
165T*	Sycamore	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	The stump of this tree is to be removed with a self powered stump grinder.
166T*	Beech	B (Moderate)	Low	**Possible future pruning pressure due to shading and/or other factors**	Sever Ivy at base.	Tree protection fencing required.
167G*	Mixed Species Group	C (Low)	Removal	**To facilitate development**	N/a	N/a
168T*	Cherry	C (Low)	None	**N/a**	Tree protection fencing required.	N/a
169G*	Leyland Cypress Hedge	U (Poor)	Removal	**N/a**	The stumps of this group that fall within the root protection areas of 1T* and 168T* require removal via self powered stump grinder.	N/a
170T*	Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
171T*	Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a
172T*	Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a
173G*	Group of Beech and Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a
174T*	Common Oak	**A (High)**	Removal	**To facilitate development**	N/a	N/a
175T*	Sycamore	U (Poor)	Removal	**Due to poor condition**	N/a	N/a
176T*	Sycamore	U (Poor)	Removal	**Due to poor condition**	N/a	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
177T*	Beech	**A (High)**	Low	**Pruning required**	Reduce the lowest lateral section of the canopy spread to the east, by shortening the two lowest lateral easterly limbs by approximately 6m (to lessen end weight).	N/a
			Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	Tree protection fencing required.
178T*	Beech	**A (High)**	Low	**Pruning required**	Reduce the lowest Lateral limb over the road (to the north-west) by some 4m to lessen end weight.	Tree protection fencing required.
			Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	Tree protection fencing required.
179T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	Tree protection fencing required.
180T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	Minor incursion within the nominal root protection area.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
181T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	Tree protection fencing required.
182T*	Beech	B (Moderate)	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	Tree protection fencing required.
183T*	Beech	B (Moderate)	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	New access path to be constructed within the root protection area. Pathway to be constructed using Cellweb geotextile cellular confinement system.
184T*	Beech	B (Moderate)	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	New access path to be constructed within the root protection area. Pathway to be constructed using Cellweb geotextile cellular confinement system.
185T*	Beech	B (Moderate)	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	New access path to be constructed within the root protection area. Pathway to be constructed using Cellweb geotextile cellular confinement system.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
186T*	Beech	**A (High)**	Low	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	New access path to be constructed within the root protection area. Pathway to be constructed using Cellweb geotextile cellular confinement system.
187G	Mixed Species Group	C (Low)	Removal	**To facilitate development**	N/a	N/a
188T*	Wellingtonia	**A (High)**	Low	**Direct disturbance to roots**	A geotextile cellular confinement system to be employed within the adjacent access drive and new access path.	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.
189G*	Mixed Species Group	C (Low)	Removal	**To facilitate development**	N/a	N/a
190T*	Beech	B (Moderate)	Moderate	**Possible future pruning pressure due to shading and/or other factors**	Tree protection fencing required.	N/a
191T*	Beech	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
192T*	Sweet Chestnut	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	N/a
193T*	Sycamore	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
194T*	Sycamore	B (Moderate)	Removal	**To facilitate development**	N/a	N/a
195G*	Mixed Species Group	C (Low)	Removal	**To facilitate development**	N/a	N/a
196T*	Beech	**A (High)**	High	**Possible future pruning pressure due to shading and/or other factors**	24m high tree retained close to, and with a southerly aspect to adjacent house.	N/a
			Low	**Pruning required**	The lower section of canopy to the north requires reducing back by some 3m to facilitate clearance for scaffolding.	N/a
			Moderate	**Direct disturbance to roots**	Existing hard surfaces and structures within the vicinity of the tree (as defined within the Construction Exclusion Zone within the Tree Protection Plan) to be removed using hand tools in a controlled manner.	Ingress within the nominal root protection area of this tree. Temporary ground protection required within the root protection area.

Ref No.	Species	Value	Impact	Impact Cause	Management Options / Comments	Other
197T	Sycamore	C (Low)	Removal	**To facilitate development**	While technically retainable, it is recommended that this tree be removed to increase the open aspect within the rear garden of the proposed plot.	N/a
198T	Silver Birch	B (Moderate)	None	**N/a**	Tree protection fencing required.	N/a
199T	Beech	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a
200T	Sycamore	C (Low)	Removal	**To facilitate development**	N/a	N/a
201W	Woodland	**A (High)**	None	**N/a**	Tree protection fencing required.	N/a

4.0 General Issues

4.1 Installation of underground services

At the time of considering the layout design, no information was available relating to the proposed location of underground services. By default no services should be placed within the identified Root Protection Areas of trees being retained. While it is possible in some cases that underground services may be placed within Root Protection Areas, this is best done under arboricultural supervision (at least initially) and must follow industry best practice (see section 5.7.9). Where special installation methods are necessary (such as pipe jacking) supplementary method statements must be provided. The proposed location of underground infrastructure must be made available to the local planning authority prior to installation.

4.2 Storage of materials, contractor parking and site logistics

Logistically the site has adequate space for the placement of site huts and material storage. By default all compounds and storage areas are to be outside root protection areas

4.3 Level changes on site

Where level changes are necessary, **no excavation or raising of ground levels are to occur within the construction exclusion zones within the site demarked by tree protection barrier fencing** (coloured yellow areas within the Tree Protection Plan ref 5086.09 Rev B. Use of retaining structures may be required if a ground level differential is required between the developed section of the site the tree protection areas. Such retaining structures may, for example, comprise Gabions, or treated wooden posts.

4.4 Use of Geotextile Cellular Confinement System (Cellweb)

The use of 'non-dig; permanent hard surfacing has been specified. Successful use of such systems requires that installation is undertaken strictly in accordance with the manufacturer's specifications. The use of a priority system called Cellweb (by Geosynthetics Ltd) is specified within this report. Use of the system includes free consultancy, including site visits by product specifiers as well as tree condition guarantees (if the product is installed correctly).

Additionally Cellweb has been specified for temporary installation to provide ground protection for construction works access during development within the root protection area of a retained trees (196T*, 31T* & 157T*).

4.5 Removal of existing structures. Within tree protection areas, any existing structures will require controlled removal. This will entail hand removal of hard surfaces and re-instatement with top soil, and hand removal of small structures. Protective fencing is placed on the outside of buildings to be demolished, thus building demolition may proceed as standard (though were fencing is placed adjacent buildings a 'top down, pull back' method of demolition is required working within the footprint of the building itself. Protective fencing is to be erected prior to any demolition, or removal of structures to prevent inadvertent ground disturbance with plant machinery. Access to the root protection areas to undertake removal of existing structures is to be undertaken by temporary removal of a protective fencing panel. Where it is deemed necessary to employ use of plant, it is acceptable to use mini-plant (no greater than 3 tonne gross weight, but temporary ground protection panels must be used to prevent compaction of the soil structure.

5.0 Arboricultural Method Statement

5.1 The Arboricultural Method Statement (AMS) specifies all measures to be undertaken to ensure the ongoing health and viability of trees to be retained within the proposed development.

5.2 This AMS is in compliance with British Standard 5837: 2012**. Accompanying this document is a plan that shows the position of protective fencing and any additional special measures that are required. This plan is referred to as the *Tree Protection Plan*. *(ref 5086.09 Revision B).***

5.3 The AMS must be considered a 'working document'. It must be made available to the developer, site manager, and LPA. A copy of this document and the Tree Protection Plan must be kept on the development site at all times. All site operatives must be briefed on the main contents of this document.

5.4 It is the Site/Project Manager's responsibility to ensure that the detail of this AMS and the TPP and any agreed amendments are known and understood by all site personnel. A copy of this AMS and the TPP will be available for reference on site by the Project and Site Managers, and will form the basis of the management of all works relating to the trees on the site following commencement of the project. The Site Manager shall induct all personnel who could have an impact on trees on the content of this document

5.5 Tree Works –General Issues

5.5.1 All tree works (tree felling and pruning) are to take place prior to any site operations and immediately before the installation of protective fencing.

5.5.2 All works to the existing trees are to be carried out by a fully qualified tree surgeon and in accordance with BS 3998 (2010) *Recommendations for Tree Work*.

5.5.3 The necessary tree surgery works should be carried out **before** any construction work starts and immediately before erection of protective fencing. Any works will include any trees that require removal in order to facilitate construction and access. No tree works must be carried out unless permission is provided by the local planning authority. Tree works to any protected trees (trees within a Conservation Area or subject to a Tree Preservation Order) that do not require works to directly enable the development to proceed will require a notification/application to be made to the Local Planning Authority. Any tree works required in order to directly facilitate the development to proceed (such as tree felling) must not proceed unless full planning consent and written consent is given by the local planning authority.

5.5.4 Wildlife issues and timing of operations. The following must be observed:

Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat'. For further details consultation must be made with the Statutory Nature Conservancy Organisation (Natural England, 0300 060 1842 www.naturalengland.org.uk). Where relevant any current ecological surveys for the site will take precedence in this matter.

5.5.5 Birds. It is an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds should be avoided from late March to August.

5.6 Tree **Protective Barrier Fencing**

5.6.1 Protective barriers must be erected prior to any site operations. The protective barriers are essential to prevent root severance or compaction of the soil in the Root Protection Areas, and so give the best chance of continued good health of the retained trees.

5.6.2 Tree protective barriers are to comprise fixed 100x100 posts firmly fixed into the ground. 3.5m length Heras fencing panels are to be fitted with anti-tamper clips which are in tern nailed to the timber posts. The fencing is to be placed accurately as shown within the Tree Protection Plan (Ref. 5086.09). Where existing structures may prevent placement of fencing (such as fencing or low level structures that require removed) then the fenced must be placed immediately adjacent to the structures, and the sections of fence closed off once the structures have been removed.

Tree Protection Fencing
3.5m length Heras fencing panels fixed with antitamper clips, with the clips nailed to 100 x 100mm timber posts that are firmly installed into the ground. All Protective fencing is to be erected by hand

Where fencing is required adjacent the site boundaries it is acceptable to use Hoarding to double as protective fencing but only where the exact location of the protective fencing is adhered to (as per the Tree Protection Plan) and where it is hand installed only.

5.7 General Requirements

5.7.1 Developers must enforce the methods of protection identified within the statement. All contractors must also agree to them. Any failure to comply with them must be dealt with by the developer. Any damage that may occur to trees due to failure to observe the method statement must be reported to the Local Planning Authority and arboricultural advice must be sought.

5.7.2 No pruning, lopping, felling or severance of roots is to take place without prior consent of the local authority or unless in compliance with specifications included within the Method Statement.

5.7.3 **The ground levels within the protected areas, be they fenced or special working areas, must neither be raised nor excavated unless specifically in compliance with requirements within this method statement.**

5.7.4 No ropes, cables, services, or notice boards shall be fixed to existing trees.

5.7.5 Fires should not be permitted, or else not lit where flames could extend to within 10m of the foliage, branches or trunk of any trees (it should be noted that local environmental health authorities may have specific restrictions on fires),

5.7.6 Should temporary access within the Root Protection Area be required that is not included within the method statement, an agreement, in advance, with the consultant and the LPA must be made. The fence may need to be re-aligned and the ground surface protected. For vehicular access this protection will need to be specifically detailed and agreed.

5.7.7 Care must be taken in regards to tall or wide loads, or use of plant with booms, jibs and counterweights. Where machinery may be required to operate in the vicinity of trees a banksman must ensure that no direct physical damage is caused to trees. It must be checked that any materials or vehicles entering the site are able to do so without causing damage to adjacent trees.

5.7.8 Any material that will contaminate soil (e.g. concrete mixings, and vehicle washings) must not be discharged within 10m of any Root Protection Area. In addition it is essential that allowance be made for the slope of the ground so that damaging materials cannot run towards trees, or Root Protection Areas. If diesel and fuel containers are used or stored on site they must be kept within a plastic container bund to prevent any ground contamination and spill kits must be kept available to remediate any spillage.

5.7.9 Where trenching may be required for the placing of underground services all works must adhere to ***Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG4***). National Joint Utilities Group, 2007. This document is freely available online (www.njug,org.uk/publications/).

5.8 Arboricultural monitoring

(i) The arboricultural consultant (or local authority Tree Officer) shall be consulted whenever an unexpected issue occurs that involves any retained tree on site including access within the Protection Area.

Tree Officer (To be confirmed)
Mike Gregory (Arboricultural Consultant) 07515827944.

(ii) No amendments shall be made to the methods detailed in this Arboricultural Method Statement without the agreement of the consultant or local planning authority Tree Officer.

(ii) If the site agent is at all unclear about exact compliance with any of the above requirements, or if requested by any other party, then a pre-start meeting shall be arranged with the architect, site agent, local authority tree officer and arboricultural consultant in attendance as necessary.

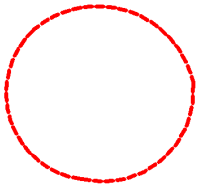
5.9 Health and Safety Issues

All operations must be carried out with full regard to Health and Safety requirements. Due to the diverse nature of recommendations included (e.g. tree surgery works, construction etc) it is necessary that supervisors of those undertaking recommended operations undertake risk assessments prior to starting the relevant works. It should be the Site Managers/developers responsibility to ensure that risk assessments are submitted prior to undertaking relevant works.

6.0 Method Statement Schedule

<table>
<tr><th>Phase</th><th>Requirements</th><th>Method</th></tr>
<tr><td>1

Prior to erection of protective fencing.</td><td>Undertake tree and vegetation felling works in a controlled manner

  </td><td>
Refer to section 5.5 of AIA/MS report.

All tree works to be carried out to BS3998: 2010: by suitably qualified and insured professional tree surgeons. It is recommended that tree surgery contractors are Arboricultural Association Approved Contractors.

The following tree felling <u>must</u> be undertaken at this Phase:
<table>
<tr><th colspan="4">Items requiring removal:</th></tr>
<tr><td>1T</td><td>Oak*</td><td>92G*</td><td>3x Holly</td></tr>
<tr><td>6T</td><td>Cherry*</td><td>93T*</td><td>Yew</td></tr>
<tr><td>15T</td><td>Ash*</td><td>94T*</td><td>Yew</td></tr>
<tr><td>37T</td><td>Sycamore</td><td>96T*</td><td>Yew</td></tr>
<tr><td>39G</td><td>Row of Balsam Poplar</td><td>97G*</td><td>2x Holly</td></tr>
<tr><td>54G</td><td>Mixed Species Group (Partial removal – refer to Plan)</td><td>101T*</td><td>Yew</td></tr>
<tr><td>55T</td><td>Goat Willow</td><td>132T*</td><td>Horse Chestnut*</td></tr>
<tr><td>88T</td><td>Sweet Chestnut</td><td>137T*</td><td>Sycamore*</td></tr>
<tr><td>89T</td><td>2x Ash and Sycamore</td><td>145T*</td><td>Beech*</td></tr>
<tr><td>97G</td><td>Leyland Cypress Row (Partial removal – refer to Plan)</td><td>146T*</td><td>Sycamore*</td></tr>
<tr><td>98G</td><td>Group of Goat Willow</td><td>147T*</td><td>Sycamore</td></tr>
<tr><td>99G</td><td>Group of Goat Willow</td><td>148T*</td><td>Sycamore*</td></tr>
<tr><td>100G</td><td>Group of Sycamore</td><td>150T*</td><td>Sycamore*</td></tr>
<tr><td>102T</td><td>Sycamore</td><td>154T*</td><td>Lime*</td></tr>
<tr><td>104G</td><td>Mixed Species Group</td><td>159T*</td><td>Beech*</td></tr>
<tr><td>108T</td><td>Cherry</td><td>162T*</td><td>Beech</td></tr>
<tr><td>109T</td><td>Katsura Tree</td><td>165T*</td><td>Sycamore*</td></tr>
<tr><td>110T</td><td>Foxglove Tree</td><td>167G*</td><td>Mixed Species Group</td></tr>
<tr><td>111T</td><td>Acer Species</td><td>169G*</td><td>Leyland Cypress Hedge* (refer to AIA schedule for stump removal requirements)</td></tr>
<tr><td>14T*</td><td>Sycamore</td><td>170T*</td><td>Sycamore</td></tr>
<tr><td>15T*</td><td>Elm</td><td>171T*</td><td>Sycamore</td></tr>
<tr><td>16T*</td><td>Elm</td><td>172T*</td><td>Sycamore</td></tr>
<tr><td>22T*</td><td>Sycamore*</td><td>173G*</td><td>Group of Beech & Sycamore</td></tr>
<tr><td>23T*</td><td>Sycamore*</td><td>174T*</td><td>Common Oak</td></tr>
<tr><td>24T*</td><td>Standing Dead Tree</td><td>175T*</td><td>Sycamore</td></tr>
<tr><td>28T*</td><td>Sycamore*</td><td>176T*</td><td>Sycamore</td></tr>
<tr><td>29T*</td><td>Sycamore</td><td>187G*</td><td>Mixed Species Group</td></tr>
<tr><td>30T*</td><td>Sycamore</td><td>189G*</td><td>Mixed Species Group</td></tr>
<tr><td>32T*</td><td>Holly</td><td>192T*</td><td>Sweet Chestnut</td></tr>
<tr><td>33T*</td><td>Beech</td><td>193T*</td><td>Sycamore</td></tr>
<tr><td>34T*</td><td>Sycamore</td><td>194T*</td><td>Sycamore</td></tr>
<tr><td>35T*</td><td>Sycamore</td><td>195G*</td><td>Mixed Species Group</td></tr>
<tr><td>36T*</td><td>Sycamore</td><td>197T*</td><td>Sycamore</td></tr>
<tr><td>54T*</td><td>Beech</td><td>200T*</td><td>Sycamore</td></tr>
<tr><td>56T*</td><td>Beech</td><td></td><td></td></tr>
<tr><td>57T*</td><td>Dead Standing Tree</td><td></td><td></td></tr>
<tr><td>77T*</td><td>Weeping Ash</td><td></td><td></td></tr>
<tr><td>85T*</td><td>Irish Yew</td><td></td><td></td></tr>
<tr><td>86G*</td><td>Mixed Species Group</td><td></td><td></td></tr>
<tr><td>87T*</td><td>Holly*</td><td></td><td></td></tr>
<tr><td>88G*</td><td>2x Holly*</td><td></td><td></td></tr>
<tr><td>90G*</td><td>5x Holly*</td><td></td><td></td></tr>
<tr><td>91T*</td><td>Yew</td><td></td><td></td></tr>
</table>
In addition ALL vegetation, be it trees, shrubs or undergrowth within Construction Exclusion Zones (as defined by the <u>green/yellow zones</u> within the Tree Protection Plan) <u>must</u> be removed by operatives using hand tools. This includes all stumps – which <u>must</u> be removed using a <u>self powered/hand operated stump grinder</u>.

All trees with an '*' (after the species name) require the stumps to either remain in situ, or to be removed using a self powered stump grinder – on no account must these stumps be extracted using plant machinery.
</td></tr>
</table>

<table>
<tr><th>Phase</th><th>Requirements</th><th>Method</th></tr>
<tr><td>1
CONT..

Prior to erection of protective fencing.</td><td>Undertake tree pruning works in a controlled manner</td><td>The following tree pruning <u>must</u> be undertaken at this Phase:

<table>
<tr><th colspan="2">Items requiring tree surgery:</th></tr>
<tr><td>40G</td><td>4x Beech. The easterly lateral canopy spread of this group requires reducing by approximately 2m to facilitate working space for construction of adjacent development</td></tr>
<tr><td>83T*</td><td>English Oak. Remove/shorten major deadwood and hung up branch within mid canopy</td></tr>
<tr><td>160T*</td><td>Beech. Reduce end weight of the lowest lateral branch to the north-east by shortening length by approximately 6m.</td></tr>
<tr><td>177T*</td><td>Beech. Reduce the lowest lateral section of the canopy spread to the east, by shortening the two lowest lateral easterly limbs by approximately 6m (to lessen end-weight).</td></tr>
<tr><td>178T*</td><td>Beech. Reduce the lowest Lateral limb over the road (to the north-west) by some 4m to lessen end weight.</td></tr>
<tr><td>196T*</td><td>Beech. The lower section of canopy to the north requires reducing back by some 3m to facilitate clearance for scaffolding.</td></tr>
</table></td></tr>
<tr><td>2
Prior to any construction works on site</td><td>Erection of protective fencing:

To retain throughout the duration of the development:

Intermediate fencing to protect areas for permanent installation of Cellweb:</td><td>Protective fencing is to be erected in accordance with 5.6 of AIA/MS report.

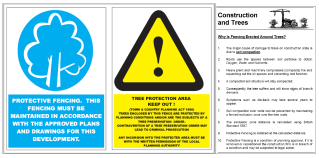
The fencing must comply with the positions shown in the Tree Protection Plan.

No works, no storage of materials, no access, or any ground disturbance is to take place within the Tree Protection Barrier Fencing other than works specified within the Arboricultural Method Statement. Fenced areas are to be treated as Construction Exclusion Zones.

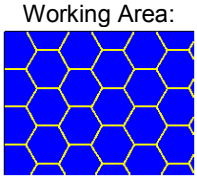
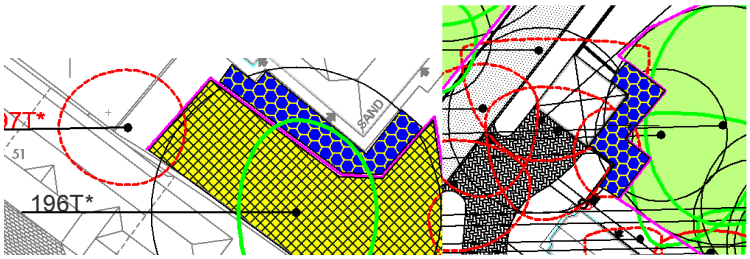
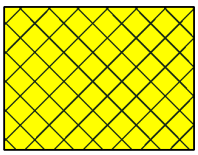
Note that were minor existing structures may prevent placement of fencing a gap may be left to allow the controlled removal of such artefacts (such as mini-railway tracks and play areas). Once these artefacts are removed fencing must be fully instated.

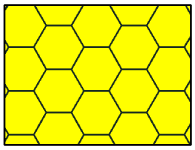
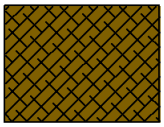
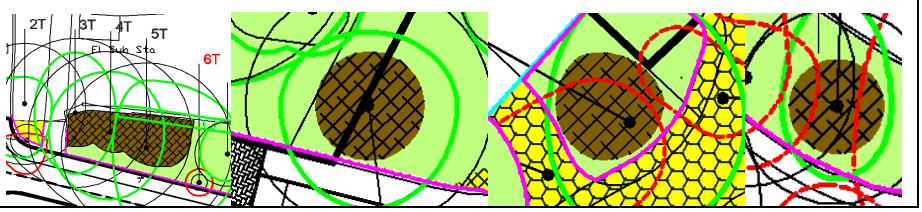
Warning signs to be placed on all protective fencing. For large sections of fencing the signs must be placed at 20m intervals.

Signs must be laminated and securely attached at all corners. Two signs are to be placed side by side; copies of which are attached within Appendix A.

In addition to main protective fencing two areas within the site require intermediate fencing to protect locations where Cellweb is to be installed. This is to ensure no ground disturbance occurs prior to the controlled iinstallation of Cellweb. Intermediate fencing to comprise Heras fencing with feet blocks that are pinned to the ground. Once the Cellweb areas have been installed the intermediate fencing is to be removed.</td></tr>
</table>

Phase	Requirements	Method
3 Prior to demolition works on site.	Placement of temporary ground protection: Special Working Area: 	Special Working Areas are **temporary zones of ground protection** that must remain during the duration of the development to prevent damage occurring to the roots of neighbouring trees. A geotextile cellular confinement system (CELLWEB specified) is to be constructed as shown in the Tree Protection Plan. The accurate placement of the Special Working Area is crucial so that subsequent construction works will marry up. Refer to **Appendix B and C** for installation instructions and use of the special working areas. 
4 Verifying quality of protective barriers	Verify the location and quality of tree protection barriers and special working areas is adequate prior to onset of main site works.	Site visit with Arboricultural Consultant and Site Manager. Tree Officer to be pre-informed of visit. In order for set works to proceed the pro-forma in **Appendix D**. of the AIA/AMS report is to be completed and passed on to the local planning authority: **If the protective barriers are not adequately erected and special working areas not adequately installed, work cannot proceed until rectified.**
5 During demolition phase	Removal of structures, hard surfaces and debris within tree protection areas/construction exclusion zones. 	Areas within the site contain existing small infrastructure, areas of hard surfaces and general soil deposits that are situated within the root protection areas of trees being retained. The careful and controlled removal of all such items within root protection areas is crucial to prevent damage occurring both roots and soil conditions. Access to these areas to be achieved by a) utilising any existing gaps in the protective fencing where it has been placed adjacent such items (such as the rails of the mini-railway, or chain link fencing etc), or by temporarily removing a single Heras fence panel from the erected tree protection fencing. By default all operations should be undertaken by hand. However it is permissible to allow small plant (less than 3 tonne gross weight) if ground protection boards are used for the passage of such vehicles. The following must be noted: A) Hard surfaces must have the top carefully removed then reinstated with 100mm off firmed (not compacted) good quality top-soil, B) All items with foundations or subterranean support must be removed with care. Posts should be agitated to loosen concrete foundations then extracted, not dug out. Where foundations are present they should also be extracted, or if permissible can remain in situ and covered over. C) Soil/debris piles to be carefully dug out. If using a plant bucket the bucket must be straight edged and no excavation undertaken beyond the original ground levels.

Phase	Requirements	Method
6 Start of development	Commencement of development	Protective fencing to remain in situ during development phase.
7 At early stages of developmemt	Installation of geotextile cellular confinement system by 89T*, 183T*,184T*, 186T*, 185T, 188T* 	Installation of non-dig hard surfaces for main access routes and foortpath. A geo-textile cellular confinement system is to be utilised (Cellweb). Guidance for the installation of the Cellweb is attached within **Appendix B**. Cross section details are to be provided (in conjunction with engineer and Cellweb recommendations). Technical specifications required, as well as cross section details relevant to the site can be provided by Cellweb suppliers, Geosynthetic Ltd (01455 617139). Email Sales@geosyn.co.uk. Intermediate Tree barrier protective fencing is to be moved only **immediately prior** to the installation of the Cellweb. The installation is to be carried out **under Arboricultural Supervision**. The ground layer in which Cellweb is to be installed is to be subject only to removal of exiting turf layer. Adjoining levels must marry with the required depth of the Cellweb, not vice versa. Once Cellweb is installed the protective fencing is to be relocated immediately adjacent the intalled areas of Cellweb.
8 Construction of wall	Wall within Construction Exclusion Zone to be constructed using pile and lintel foundation.	A section of proposed wall within the Root Protection Area/Construction Exclusion Zone of 95T* requires constructing in a manner which will reduce impacts on roots. An engineering design must be provided that utilises a pile and lintel foundation. Piles are to be minimal diameter, and no capping within the upper soil level is permitted (Piles must extend just above the soil level and attach to the base lintel. A design is to be submitted to the Local Planning Authority for approval prior to construction.
9 Remediation of soil area within Pines	For the following trees: 3T, 4T, 5T, 37T*, 83T, 95T*, and 102T. Root zones to be ameliorated with composted woodchip mulch to improve soil conditions. 	A single section of the tree protection fencing is to be removed to allow access immediately before placement of mulch is to occur. All works within the root protection area are to be carried out by hand with pedestrian access permitted only. All existing turf within the area to be mulched is to be removed. This is to be done using spades. Only the upper grass turf layer is to be removed (no underlying soil). A layer of composted wood-chip mulch is to be laid down. Wood chip to be transported into the area and raked flat into a consistent layer no more than 100mm depth. Woodchip is not to be placed immediately adjacent any tree trunks (a gap of 300mm from any root-collar must be maintained). 

Phase	Requirements	Method
10 Completion of main construction and undertaking of landscaping	Landscaping, Dismantling of protective fencing and removal of Special Working Areas.	It is essential that ground levels within the root protection areas are not altered, either by raising or lowering soil levels; even at the landscaping stage. No Landscaping operations must not be undertaken in a manner that will impact trees. If new turf is required, any existing turf is to be removed using a hand operated turf removal machine, then new turf laid on the existing ground – a rotovator or similar soil tilling machinery must not be used within root protection areas. Where small divots or depressions are present it is acceptable to fill these with a good quality top-soil and lightly compact. The Special Working Areas are to be removed as per **Appendix C**.

APPENDIX A - SIGNS TO ATTACH TO PROTECTIVE FENCING

Construction and Trees

Why Is Fencing Erected Around Trees?

1. The major cause of damage to trees on construction sites is due to **soil compaction**.
2. Roots use the spaces between soil particles to obtain Oxygen, Water and Nutrients.
3. Heavy plant and machinery compresses (compacts) the soil, squashing out the air spaces and preventing root function.
4. A compacted soil structure will stay compacted.
5. Consequently the tree suffers and will show signs of branch die-back.
6. Symptoms such as die-back may take several years to appear.
7. Soil compaction over roots can be prevented by maintaining a fenced exclusion zone over the tree roots.
8. The exclusion zone distance is calculated using British Standard 5837.
9. Protective Fencing is installed at the calculated distance.
10. Protective Fencing is a condition of planning approval, if it is removed or repositioned the construction firm is in breach of a condition and may be subjected to legal action.

APPENDIX B – OUTLINE SPECIFICATION FOR INSTALLATION OF CELLWEB

PRODUCT DATA SHEET

Geosynthetics Limited Tel: 01455 617 139 Fax: 01455 617 140 Email: sales@geosyn.co.uk

Cellweb® TRP Installation Guide

Step 1: Prepare Surface

Step 2: Lay Treetex® T-300

Step 3: Layout Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
  - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
  - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay the Treetex® T-300 Non-Woven Geotextile

- Lay the Treetex® T-300 over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay the Cellweb® TRP Cellular Confinement System

- Lay the collapsed Cellweb® TRP on-top of the Treetex® T-300.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.

Cellweb® TRP - Installation Guide

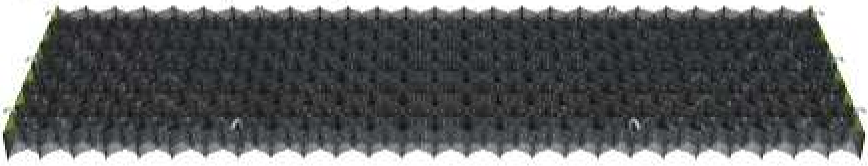
Step 3: Pinning Cellweb® TRP

Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.

- Now measure its width to 2.56m and secure in each of the corners with the J pins.

- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.
  (3 pins at each end of the panel and 2 pins on each side)



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- All cells must be fully opened to the required diameter.

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Cellweb® TRP - Installation Guide

Step 4: Clean Angular Stone

Step 5: Edge Restaints

Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- Surfaces can include block paving, asphalt, loose gravel, grass and gravel retention systems (eg Golpla), resin bound gravel, concrete etc.
- For Root Protection Areas this surface must be porous.

NOTES

1. **Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
2. **Geotextile:** We recommend the installation of a Non-Woven Geotextile between the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
3. **Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
4. **Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

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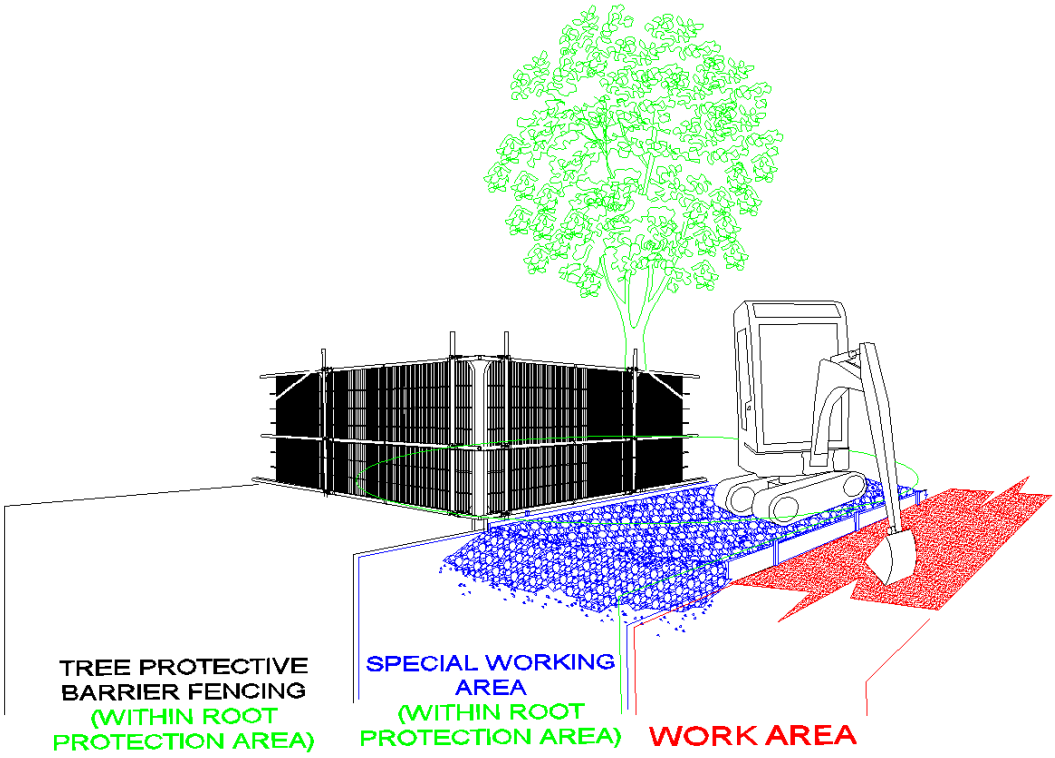
APPENDIX C – USE OF CELLWEB FOR USE AS A TEMPORARY SPECIAL WORKING AREA

SPECIAL WORKING AREAS (SWA's) – These are locations within the site that fall within a root protection area of tree that is to be retained. Due to space constraints access within a root protection area is necessary. In order to allow work to proceed whilst preventing harm to the roots of a tree a SWA is constructed. The location of the SWA is shown on the **TREE PROTECTION PLAN**. Also shown on a tree protection plan is the location of any tree protection barrier fencing as well as other methodologies required to ensure the safe retention of trees.

An SWA must be installed **at the same time, or immediately after** the installation of protective fencing.

An SWA must comprise a geotextile cellular confinement system. A proprietary product called **Cellweb** is recommended. The principle of the special working area is shown below:

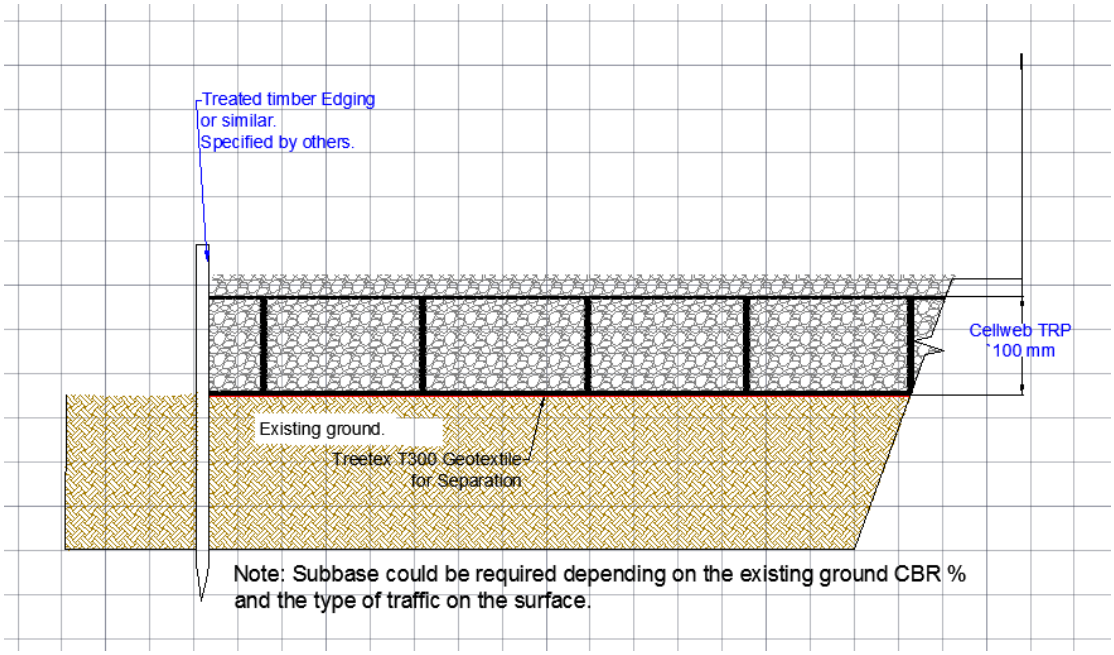


The exact placement of the Cellweb is to checked by the site manager. The Tree protection plan shows the location of Cellweb. All SWA's are, by default, 2.5m in width – this is the same width that Cellweb panels are supplied in.

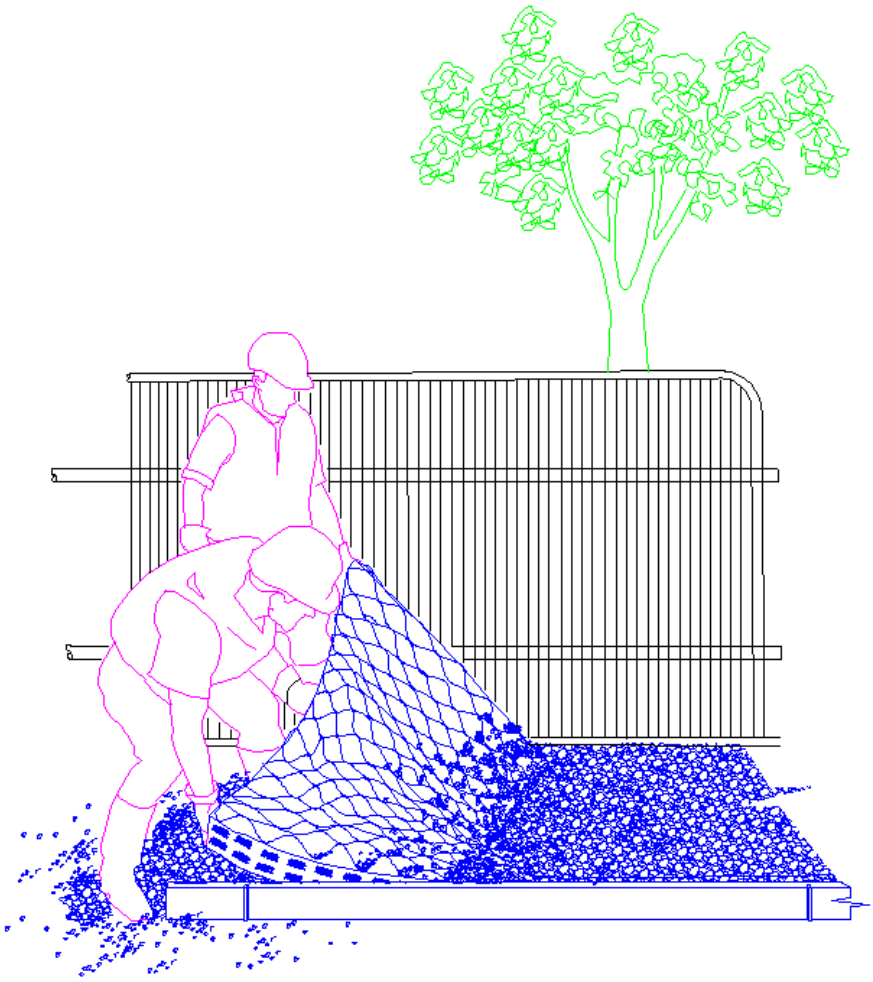
Manufacturer instructions for the installation of Cellweb are provided within Appendix A within this report.

For the purposes of an SWA, a **minimum of 100mm depth** Cellweb is to be used. This will allow access for plant of **no more than 2 tonne gross weight** once it is fully installed.

All Cellweb must be installed utilising a **'rolling out'** technique. A cross section of the installation is shown below:



Once main development is complete the temporary Cellweb is to be dismantled. It is crucial to undertake dismantling in a controlled manner that avoids damage to the root protection area that the Cellweb has been protecting. This can be undertaken by hand.



The Cellweb can be teased free with the stone being allowed to fall between the cell walls. Once the cellweb is removed it can be folded flat (and if removed carefully it is possible it can be reused).

Stone is to be shovelled by hand from the surface of the Treetex T300 Geotextile. It is permissible for a mini-dumper to be utilised on adjacent intact sections of the Cellweb in a reverse 'Rolling out' methodology. Once the stone is removed the separation geotextile is to be removed and final finishing works can take place within the root protection area.

APPENDIX D – Site Inspection pro-forma

SITE INSPECTION - ARBORICULTURAL METHOD STATEMENT (Ref: MG.5086.AIA&AMS.REV B.NOV16)

Site Address : **Land at Harthill, Liverpool**

Name of Arboricultural Inspector:

Date of Inspection:

The purpose of this site inspection is to confirm with requirements within the above referenced Arboricultural Method Statement.

The site is to be visited and the placement of tree protection barrier fencing and special working areas checked for compliance with specifications within the method statement.

Further works on the site shall not proceed until the tree protective fencing and special working areas are installed in compliance with the method statement and in submitting this document to the Local Planning Authority the inspector is verifying that the necessary specifications have been met.

Notes (continue on separate attachments as necessary):

Photographs: (attach below):