
Arboricultural Report and Arboricultural Implications Assessment

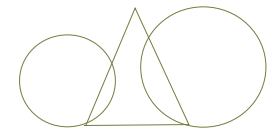
Site – Maltings Farm, Maltings Road, Moreton, Essex

Client – RBL Investment and Management Ltd, Maltings Farm, Maltings Road, Moreton, Essex

Contact – Mr Mitchell, Maltings Farm, Maltings Road, Moreton, Essex

Date - 19-09-19

To be read in conjunction with – Tree Survey Plan Drawing No. RBL/MF/01



Moore Partners Ltd

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BS5837:20012 Tree Assessment and AIA

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1.0 Instruction and client brief

- 1.1 Mr Mitchell has requested a survey of the trees within the site at Maltings Farm. The survey is to support the planning application for the redevelopment of the site. The report should be read in conjunction with the tree constraints and protection plan, drawing number RBL/MF/01
- 1.2 The report was to:
 - assess the trees in line with BS5837:2012
 - advise of the arboricultural implications that the proposed building works will have on the existing trees, in line with BS5837:2012 based on the site layout provided.

2.0 Scope of works and survey method

- 2.1 The trees were surveyed in line with the process laid out in BS5837:2012. Trees under 75mm in diameter were not recorded in line with BS5837 guidance. The details of the trees as required under BS5837:012 were recorded in section 6 of this report. Implications resulting from the proposed development are given in section 7 of the report and the tree constraints and protection plan.
- 2.2 The report is based on a ground level visual tree assessment, using recognised non-invasive techniques, (Mattheck). Condition of the tree was assessed only on date of inspection; it remains valid only if no environmental changes occur around the tree. If any changes should occur, re-inspection should be carried out. Physiological and structural assessments are valid for a period of 12 months. It is an external inspection only. Environmental changes around the tree will render the report invalid.
- 2.3 No internal diagnostic equipment was used, and no pest and disease samples were taken or sent away for analysis. No soil samples were taken for testing. If Soil analysis is required, a soil engineer should be employed.
- 2.4 There has been a check with the local authority of the tree protection status of the site. It remains the responsibility of the tree owner to check TPO status, prior to carrying out any works on the tree.
- 2.5 Any works to the trees should comply with BS3998:2010 Tree Work
- 2.6 A topographical survey was not available for the tree positions within the site. The trees were measured using simple triangulation techniques. Though care is taken, discrepancies can occur and if greater detail is need then a further topographical survey should be carried out.

Site

- 2.1 The site is at the north side Maltings Hill at the junction with the bridleway. The site is a derelict house and sheds, accessed from Maltings Hill. There are residential properties to the west and north, arable land to the south and east.
- 2.2 there has been some clearance of vegetation prior to the report but there are a number of trees around the site. The majority are primarily early mature ornamental conifers.
- 2.3 Levels within the site are relatively level. No soil survey was available at the time of the survey.

4.0 Proposed Development

- 4.1 The proposal is for the redevelopment of the site, the demolition of the existing house garage and sheds; and construction of 3 new dwellings. Car parking to the front of the plots and associated landscaping.

5.0 Tree assessment (For further detail see appendix 1)

No.	Species English & Latin	Approx Height (M)	Dia. @ 1.5 (CM)	Spread (M)	Height Crown Clearance (m)	Age Class	Physiological condition	Structural condition	Preliminary management recommendation	Years remaining	Category grading
T1	<i>Scotts pine</i> <i>Pinus Sylvestris</i>	9	26	N 1 S 2 E 2 W 2	2.2	em	fair	fair	na	20-40	C2
T2	<i>Cedar</i> <i>cederus atlantica</i>	9	28	N 1 S 3 E 3 W 1	2	em	poor	poor	na	<10	U
T3	<i>Lawson cypress</i> <i>Chamacyparis lawsoniana</i>	9	26	N 1.5 S 1.5 E 1.5 W 1.5	1	em	fair	fair	na	10-20	C/U
G1	<i>Cupressus macrocarpa</i>	18	av 40	as plan	2	ma	fair	fair	na	10-20	C
A row of tree probably originally planted as a hedge High water demand species under NHBC guidance.											

No.	Species English & Latin	Approx Height (M)	Dia. @ 1.5 (CM)	Spread (M)	Height Crown Clearance (m)	Age Class	Physiological condition	Structural condition	Preliminary management recommendation	Years remaining	Category grading
T4	<i>Cedar</i> <i>Cedrus deodora</i>	9	41	N 1 S 3.25 E 3.25 W 3.25	2 first main limb 3m high south side	em	fair	fair dense ivy on the trunk and scaffold makes full structural assessment not possible.	na	20-40	C
T5	<i>Goat willow</i> <i>Salix caprea</i>	9	45 15	N 2 S 3.5 E 3 W 3	5	em	poor	poor	fell	<10	U
	poor tree heavily covered in ivy										
T6	<i>Lawson cypress</i> <i>Chamaecyparis</i> <i>lawsoniana</i>	3	10 10	N 0 S 2.5 E 1 W 1	0	ma	fair	fair/poor	na	10	C/U
T7	<i>Thuja plicata</i>	8	22	N 2 S 2 E 2 W 2	2	em	fair	fair	na	20-40	C2
T8	<i>Thuja plicata</i>	8	10 8 18	N 2 S 2 E 2 W 2	0.5	em	fair	fair/poor	na	10-20	C2

No.	Species English & Latin	Approx Height (M)	Dia. @1.5 (CM)	Spread (M)	Height Crown Clearance (m)	Age Class	Physiological condition	Structural condition	Preliminary management recommendation	Years remaining	Category grading
T9	<i>Eastern Hemlock</i> <i>Tsuga canadensis</i>	6	12	N 1.5 S 0 E 1.5 W 0	2	em	fair	poor the tree has been suppressed and is heavily covered by ivy	fell	>10	U
T10	<i>Cupressus arizonica</i>	6	28	N 3.5 S 0 E 2 W 0	2	em	poor	poor heavily covered with ivy	fell	<10U	B123
T11	<i>Blue cedar</i> <i>Cedrus atlantica glauca</i>	10	22	N 4 S 2 E 2 W 0	6	em	fair	poor the lower crown has died off. The tree has a one- sided crown due to competition and suppression.	na	20-40	c2
T12	<i>Eucalyptus spp</i>	20	44	N 0 S 5 E 5 W 0	15	em	fair	fair	na	20-40	C2
High water demand species under NHBC guidance.											
T13	<i>Wellingtonia</i> <i>sequiadendron giganteum</i>	20	65	N 1.5 S 3.5 E 3 W 3	4 first main limb at 4m high on west side	em	fair	fair	na	40	B12

No.	Species English & Latin	Approx Height (M)	Dia. @ 1.5 (CM)	Spread (M)	Height Crown Clearance (m)	Age Class	Physiological condition	Structural condition	Preliminary management recommendation	Years remaining	Category grading
T14	<i>yew</i> <i>Taxus baccata</i>	9	6 x 15cm	N 2.75 S 6 E 4 W 2.5	1.8	ma	fair	fair	na	40	C
T15	<i>Cedar</i> <i>Cedrus deodora</i>	20	48	N 2.5 S 3.6 E 3 W 1	2.5	em	fair	fair/poor	na	20-40	C
T16	<i>Monkey puzzle</i> <i>Araucaria Araucana</i>	10	28	N 2 S 2 E 2 W 2	4	em	dead/dying	poor significant die back the majority of the crown is dead.		<10	U
T17	<i>Lawson cypress</i> <i>Chaemacyparis</i> <i>lawsoniana</i>	9	20	N 2.5 S 2.5 E 2.5 W 2.5	1.5	em	Fair	fair	na	10-20	C/U
T18	<i>Lawson cypress</i> <i>Chaemacyparis</i> <i>lawsoniana</i>	9	20	N 2.5 S 2.5 E 2.5 W 2.5	1.5	em	Fair	fair	na	10-20	C/U

No.	Species English & Latin	Approx Height (M)	Dia. @1.5 (CM)	Spread (M)	Height Crown Clearance (m)	Age Class	Physiological condition	Structural condition	Preliminary management recommendation	Years remaining	Category grading
T19	<i>Fastigate yew</i> <i>Taxus baccata fastigata</i>	5	m/s	N 1.2 S 1.2 E 1.2 W 1.2	0	ma	fair	fair	na	20-40	C23
T20	<i>Scotts pine</i> <i>pinus sylvestris</i>	9	21	N 1.2 S 1.2 E 1.2 W 1.2	8	y	fair	fair	na	20-40	C23
G2	<i>Elm</i> <i>Ulmus procerra</i>	6	15 15 15	as plan	2.2	y	poor	poor	fell	<10	U
signs of dutch elm disease die back in part of the crown.											
T21	<i>Apple</i> <i>Malus domestica cvr</i>	5	49	N 4.5 S 4.5 E 4.8 W 4.8	1.8 first main limb at 2m high all around	ma	fair	fair	na	10-20	C23
T22	<i>Dead trunk covered in ivy</i>										

No.	Species English & Latin	Approx Height (M)	Dia. @ 1.5 (CM)	Spread (M)	Height Crown Clearance (m)	Age Class	Physiological condition	Structural condition	Preliminary management recommendation	Years remaining	Category grading
T23	<i>Yew</i> <i>Taxus baccata</i>	9	10 10 10	N 2 S 0 E 4 W 4	0	em	fair	poor one sided with no foliage on the south-east side	na	20-40	C3
As the crown has now been opened up it would be expected to green up on the side with limited foliage.											
T24	<i>Dead tree covered in ivy</i>										
T25	<i>Lawson cypress</i> <i>chaemacyparis</i> <i>lawsoniana</i>	7	18	N 2 S 2 E 2 W 2	1.2	em	fair	fair	na	20-40	C2
high water demand species under NHBC guidance											
T26	<i>Picea pungens</i>	9	25	N 2.5 S 2.5 E 2.5 W 2.5	1.8	em	fair	fair	na	20-40	C12
T27	<i>Blue spruce</i> <i>abies spp</i>	11	23	N 2.5 S 2.5 E 2.5 W 2.5	5.7	em	fair	fair	na	20-40	C12

No.	Species English & Latin	Approx Height (M)	Dia. @1.5 (CM)	Spread (M)	Height Crown Clearance (m)	Age Class	Physiological condition	Structural condition	Preliminary management recommendation	Years remaining	Category grading
T28	<i>Blue cedar</i> <i>Cederus atlantica glauca</i>	11	46	N 2.5 S 3 E 4 W 5	5	em	fair	fair/poor the main leader has been lost in the past, there are no 3 codominant limbs. Ivy is suppressing the lower limbs	fell	<10	C/U

Key to survey schedule

Tree number on plan

T1 individual tree on the site

BS 5837:2012 Age class

Y – Young first third of life expectancy

EM – Early mature second third of life expectancy

Ma – Mature final third of life expectancy

OM – Over mature showing signs of senescence

V – Veteran over mature and of special conservation value

Remaining years in age bands

<10, 10-20, 20-40, >40

Physiological or structural condition

Good no significant health problems, or no significant structural problems

Fair some symptoms of ill health, or currently insignificant or remediable structural problems

Poor significant symptoms of ill health, or significant structural problems

Moribund (physiological only) in serious and irreversible decline

Dead (physiological only) not alive

Other Abbreviations.

Esti estimated

M/S multi stem the number of stems and diameter are given in line with BS5837:2012 requirements.

HCV high conservation value

N north, E east, S south, W west

BS 5837:2012 Category of quality/retention

Category	Description
A Green	Trees of high quality A1 – Mainly arboricultural value A2 - Mainly landscape value A3 – Mainly cultural value, including conservation
B Blue	Trees of moderate quality B1 – Mainly arboricultural value B2 - Mainly landscape value B3 – Mainly cultural value, including conservation
C Grey	Trees of low quality C1 – Mainly arboricultural value C2 - Mainly landscape value C3 – Mainly cultural value, including conservation
U red	Trees that are in a poor condition, so that any existing value will be lost in the next 10 years, and should, for reasons of sound arboricultural management, be removed.

6.0 Arboricultural Impact Assessment

6.1 The arboricultural impact is based on the following parameters

- All trees that are to be retained will be protected by tree protection fencing in line with BS5837:2012 section 6.2
- Should be read in conjunction with Tree Constraints and Protection Plan drawing number RBL/MF/01.

6.2 The root protection area (RPA) is an area of ground around the tree that should be retained, undisturbed, for the benefit of the tree roots. The RPA is calculated, as set out in BS5837:2012. This determines the square metres of ground area that should be retained. This is often shown as a circle, with a radius as determined by the calculation. However, it is not always essential that this is a circle and, in some situations, the geography of the site can make an alternative shape more appropriate. It must still equate to the same area as the circle calculated under the approved calculation.

Tree no.		RPA m/sq	Radi of RPA (M)	Tree implications assessment	Mitigation
T1	Scotts pine	28	3.0	fell to facilitate the development	
T2	cedar	u	u	fell due to condition	
T3	lawson cypress	28	3.0	fell to facilitate the development	
G1	leylandii		4.8	fell to facilitate the development	
T4	deodora cedar	72	4.8	fell to facilitate the development	
T5	goat willow	U	U	remove due to condition	

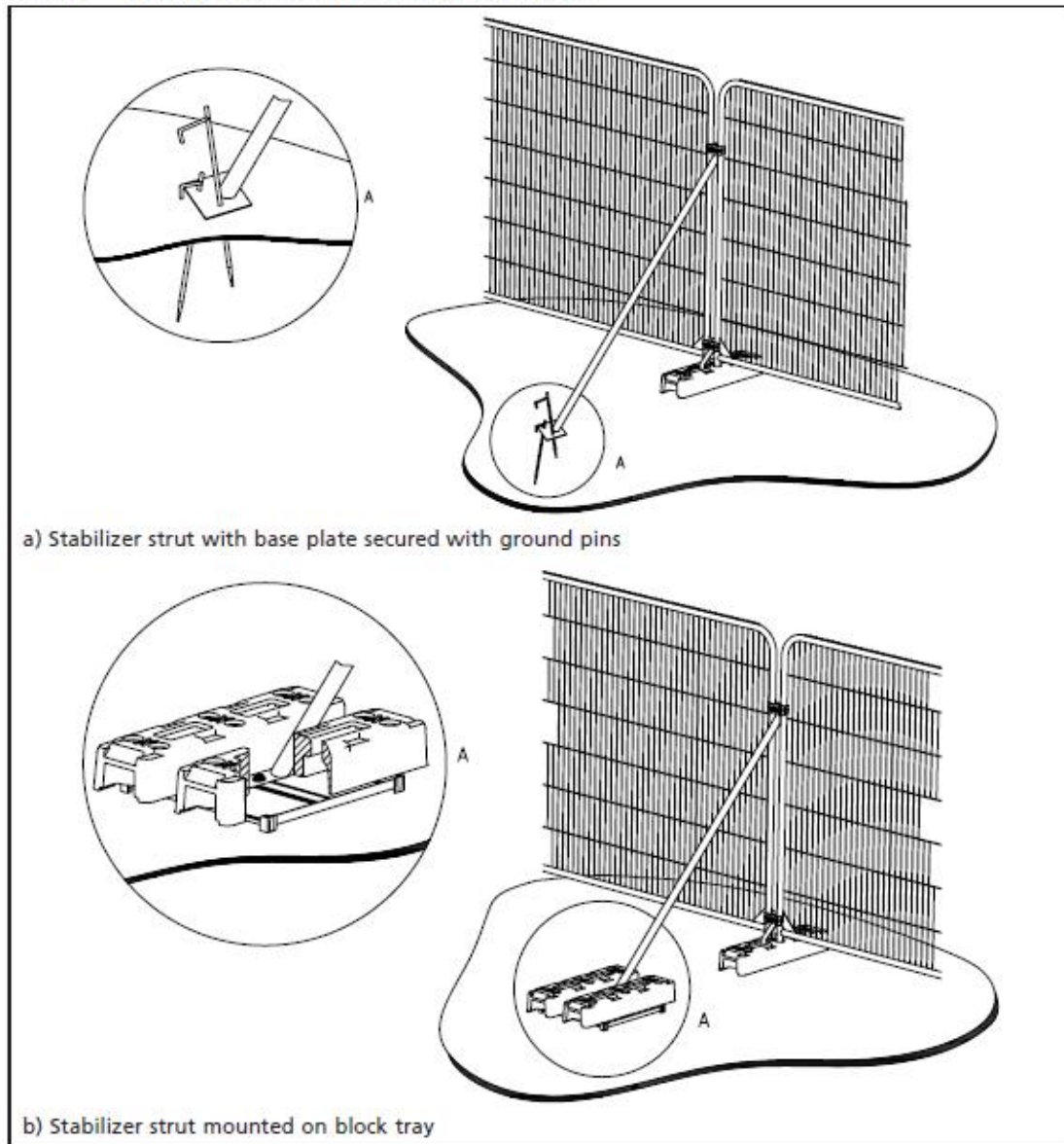
T6	lawson cypress	18	2.4	Distant enough from the proposals not to be affected.	Protect the tree for the duration of the build with an exclusion zone. This will be enclosed by tree protection fencing in line with BS5837, appendix 1 of this report and drawing RBL/MF/01
T7	Thuja	23	2.7	Distant enough from the proposals not to be affected.	Protect the tree for the duration of the build with an exclusion zone. This will be enclosed by tree protection fencing in line with BS5837, appendix 1 of this report and drawing RBL/MF/01
T8	Thuja	12	2.0	fell to facilitate the development	
T9	Eastern hemlock	u	u	fell due to condition	
T10	Arizonian cypress	u	u	fell due to condition	
T11	blue cedar	23	2.7	Distant enough from the proposals not to be affected.	Protect the tree for the duration of the build with an exclusion zone. This will be enclosed by tree protection fencing in line with BS5837, appendix 1 of this report and drawing RBL/MF/01
T12	eucalyptus	92	5.4	fell to give space to the wellingtonia	
T13	Wellingtonia	191	7.8	Distant enough from the proposals not to be affected.	Protect the tree for the duration of the build with an exclusion zone. This will be enclosed by tree protection fencing in line with BS5837, appendix 1 of this report and drawing RBL/MF/01
T14	Yew	61	4.4	fell to facilitate the development	

T15	cedar	102	5.7	fell to facilitate the development	
T16	Monkey puzzle	u	u	remove due to condition	
T17	Lawson cypress	18	2.4	fell to facilitate the development	
T18	lawson cypress	23	2.7	fell to facilitate the development	
T19	Fastigate yew			fell to facilitate the development	
T20	Scotts pine	18	2.4	fell to facilitate the development	
G2	Elm	U	U	fell due to condition	
T21	Apple	113	6.0	Distant enough from the proposals not to be affected.	Protect the tree for the duration of the build with an exclusion zone. This will be enclosed by tree protection fencing in line with BS5837, appendix 1 of this report and drawing RBL/MF/01
T22	dead	u	u	fell due to condition	
T23	Yew	13	2.0	fell to facilitate the development	

T24	dead	u	u	fell due to condition	
T25	lawson cypress	14	2.1	fell to facilitate the development	
T26	abies	28	3.0	fell to facilitate the development	
T27	blue spruce	23	2.7	fell to facilitate the development	
T28	Blue cedar	92	5.4	fell to facilitate the development	

Appendix 1 – Protective fencing

Figure 3 Examples of above-ground stabilizing systems



Tree protection fencing should be installed in the position as shown in the tree constraints and protection plan for the site.



Appendix 2 – Temporary ground protection

If the drive is removed the root area within it, shown on drawing RBL/MF/01, will be protected using additional ground protection, prior to commencing building and demolition works.

This will protect the roots, and the soil around them, from damage by compaction, spillage and excavation.

For pedestrian access, only, a single thickness of scaffold board either suspended on a driven scaffold frame to form a suspended walkway, or on a non compressible layer (eg 100mm layer of bark mulch) laid over a geotextile.

For pedestrian operated plant, up to a gross weight of 2 ton, proprietary inter linked ground protection boards, placed on a non compressible layer (e.g. 100mm layer of bark mulch) laid over a geotextile.

For wheeled or tracked plant over 2 ton is gross weight, an alternative system (e.g. proprietary system or pre-cast reinforced concrete slabs) to an engineering specification designed to accommodate the likely load it will be subject to.

Appendix 3 – Report Caveats

1. The report is based on a ground level visual tree assessment (Mattheck).
2. No soil samples were taken for testing. If Soil analysis is required a soil engineer should be employed.
3. No pest and disease samples were taken or sent away for analysis.
4. It remains the responsibility of the tree owner to check TPO status prior to carrying out any works on the tree.
5. Physiological and structural assessments are valid for a period of 12 months. It is an external inspection only.
6. VTA of the tree was assessed only on date of inspection; it remains valid only if no environmental changes around the tree. If any changes should occur re-inspection should be carried out.
7. Environmental changes around the tree will render the report invalid.
8. No internal diagnostic equipment was used.
9. Any works to the trees should comply with BS3998:2010 Tree Work

Appendix 4 – References

BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

NHBC Chapter 4.2 Building near trees

D Lonsdale 'Principles of Tree Hazard Assessment and Management'
Forestry Commission 2007

Strouts and Winter 'Diagnosis of ill health in trees'
Forestry Commission 2007

C Mattheck and H Breloer 'Body Language of Trees'