ARBORICULTURAL IMPACT ASSESSMENT REPORT

BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'

SITE

Land at Lower Green, Little Whelnetham

CLIENT

Durrants Building Consultancy

Philippa Roberts
FdSc, MArborA

DATE: 19th December 2022

OUR REF: RA501

Executive summary

This report is submitted in connection with a planning application for a change of use from agricultural land for the siting of six holiday units, new access and parking, at Land at Lower Green, Little Whelnetham. All information is provided in accordance with the British Standard BS 5837: 2012 '*Trees in relation to demolition, design and construction – recommendations*'.

There are no tree preservation orders (TPO) registered on site, and it is not located within a designated conservation area.

The proposed development requires the removal of two small, low-quality trees. Additionally, eight further U category trees are proposed to be removed, but these are unsuitable for long-term retention, irrespective of the proposed development.

Provided the recommendations made within this report are followed, the proposed development should not adversely affect trees to be retained, and therefore should be acceptable to the Local Planning Authority from an arboricultural point of view.

Contents

Appendices

1. Introduction:

1.1. This report accompanies a planning application made by Durrants Building Consultancy on behalf of Mr Karl Shelly, to West Suffolk Council for a change of use from agricultural land for the siting of six holiday units, new access, road and parking, at Land at Lower Green, Little Whelnetham.

1.2. This report details tree condition, the impact of the proposal on, and from, the existing trees and the measures taken to protect trees to be retained. It also includes tree surgery recommendations.

1.3. The survey has resulted in a layout as shown in the tree protection plan at Appendix 3. Where technical terms are used, explanations are provided within the glossary.

2. Statement of instructions and the issues addressed:

2.1. Roberts Arboriculture Limited have been instructed by Durrants Building Consultancy , to:-

2.1.1. Carry out a tree survey in accordance with BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*';

2.1.2. Analyse the proposals and the impact on trees to be retained;

2.1.3. Produce a tree protection plan, showing the location of the tree protection fencing in accordance with BS 5837, and a specification for the protection of the existing trees;

2.1.4. Provide a tree surgery schedule which includes work to facilitate construction, based on the layout, and works to trees, due to their condition or previous management;

2.1.5. Provide an arboricultural method statement in as much detail as is practical at this stage.

3. The site:

3.1. The site is a large field located to the north of Water Lane, and to the east of Water Lane Reservoir. It contains a large number of early-mature, and relatively young trees, with an access road, recently installed from the eastern side of the site. There is a gradual decline from north to south, otherwise it is relatively level. There are some existing sheds and containers located to the north of the site.

3.2. Site soils*:* An assessment of soils on-site was carried out by a desktop analysis using the 'Geology of Britain Viewer' on the British Geological Survey website. This identified the bedrock geology to be Lewes Nodular Formation, Seaford Chalk Formation, Newhaven Chalk Formation and Culver Chalk Formation - chalk, and the superficial deposits as Head-clay, silt, sand and gravel. This is a guide only and detailed on-site soil analysis should be undertaken by the project engineer to inform the foundation design.

4. The trees:

4.1. Generally*:* There are 57 individual trees, 8 groups of trees and 1 woodland, which form the subject of this survey, the woodland is located offsite to the north. The majority of trees have been planted and are of native or naturalised species, with a handful of exotic species too. Full details are found in the survey sheets at appendix 1 and their location on the tree survey plan RA501 TSP at appendix 2.

4.2. Legislation*:* There are no tree preservation orders (TPOs) registered on site, and it is not located within a designated conservation area.

5. The Proposal

5.1. The proposal is for a change of use from agricultural land for the siting of six holiday units, new access, road and parking.

6. Arboricultural impact assessment:

6.1. Summary of the impact on trees: Development can adversely impact trees; either through removal to facilitate development; future pressure to prune or remove, through poor layout design/consideration; or from a future decline in health or structural condition, through a lack of suitable protection during development.

6.2. Tree roots can be asphyxiated and die if the rooting zone becomes compacted and soil structure damaged, which can easily occur, particularly on clay soils, even with the passage of light vehicles. At the design stage, disturbance within the RPA should be avoided. If unavoidable (which may need demonstrating), consideration must be given to any construction activity such as demolition, including removal of existing hard surfaces, changing soil levels and the provision of services where within RPAs, as well as new surfaces and structures.

6.3. At the planning stage, any works proposed within RPAs must be shown to be achievable with minimal impact on retained trees. Areas should be identified where a detailed Arboricultural Method Statement will be required post planning consent.

6.4. Construction of hard surfaces and other construction may be acceptable within RPAs providing specialist methods of design and construction are used. This can result in the use of minimal or no-dig methods which result in higher finished levels which must be allowed for during design, due to the effect on access thresholds and structure heights etc. The ability of trees to tolerate some disturbance depends on individual circumstances, including prevailing site conditions, tree species, age and condition.

6.5. Building lines, ideally, should be at least 2m outside of the RPA, to allow for scaffolding and other construction issues, and to allow for service runs and paths around the edge of buildings. Trees are long-lived organisms which take a long time to mature and if considered at an early stage can complement and increase the value of a development.

6.6. Arboricultural Impact Assessment

Two small, low-value trees are proposed to be removed as part of the development. Eight further trees are also proposed to be removed, but these are unsuitable for long term retention irrespective of the proposed development.

6.7. *Comments on specific trees and the arboricultural impact*

6.7.1. **Eastern boundary trees – T1-T10**

These are roadside trees, most of which are in reasonable condition, with some pruning of lower branches to prevent obstruction with the highway.

Photo 1 -T65 (foreground), T1-T3 (left-right, background), looking east

Photo 2 -T6-T9 (left – right), looking north-east

Photo 3 – T65 (left of gate), T66 (right of gate), looking north-east

Arboricultural impact assessment*:* There are no impacts to these trees from the proposed development

6.7.2. **Trees within southern section of site, T11-T34, G24-G25**

The southern boundary trees and those towards the lower western boundary are well established. There is relatively new planting within the more central section of this area of the site.

Photo 4 -G25 (left), G24 (red arrows), T14 (left background) T15 (right background)

Photo 5 – view towards western boundary, T29-30 (far right), T27-28 (centre), T19,T20& T34 (background), looking west

Arboricultural impact assessment: Two small trees conflict with the proposed parking area, and will need to be removed.

6.7.3. **Trees beside access road, T29-T30, G31, G58 & T60-T62**

These are relatively well-established trees, there has been some recent disturbance to one aspect of the root area from the installation of the access road, and some of the stem bases have been partially buried by spoil.

Photo 6 - View down access drive T29 (left), T63 (right), looking west

Photo 7 – G58, looking north

Arboricultural impact assessment:

6.7.4. **Trees within north-west of site, T40-T57**

There is some newer planting along the line of the access drive, with more established planting to the west. All trees have relatively squat forms, which is typical across the site.

Photo 8 – T41 & T42 (left), T54-57 (right), looking north-west

Photo 9 - G31 (left), G33 (right), looking south

Arboricultural impact assessment: there is a small encroachment into the RPA of T43 by a proposed straw bale hut.

7. Conclusions:

7.1. Only two small trees are proposed to be removed due to a conflict with the proposed layout. Eight further trees are proposed to be removed, but these are either unsuitable for long-term retention or should be removed for health & safety reasons.

8. Recommendations:

8.1. That a copy of this report, and subsequent more detailed arboricultural method statement, is kept on site, including a colour copy of the tree protection plan. The arboricultural documents will be part of site induction by the main contractor to all sub-contractors.

8.2. That the foundation design takes into account trees to be retained, trees to be removed and trees to be planted.

8.3. That there are no ground level changes within the area shown on the plan by tree protection fencing.

8.4. That the line of the underground services should be ideally located outside of Root Protection Areas. However, as a precaution the final service plan should be assessed by an arboriculturist. If it is unavoidable that services are to be located in RPAs, then a method statement must be produced.

8.5. That the landscaping scheme includes a mix of trees from a cross section of species to ensure biosecurity against host specific pests and diseases. The trees must be planted and maintained in accordance with BS 8545:2014 *Trees: from nursery to independence in the landscape – Recommendations.*

8.6. That no tree works take place until consent is granted.

8.7. That the tree protection fencing is installed before machinery enters the site and remains in place until the soft landscaping stage.

8.8. That the locations of any exploratory, intrusive, investigation for contamination are assessed by the arboricultural consultant, including ground remediation methodology near trees.

8.9. That the drainage strategy detailing on and/or offsite drainage works, including SuDS, is reviewed by the arboricultural consultant to ensure minimum impact on trees to be retained, and is mindful of new trees to be planted.

Appendix 1

Tree survey sheets

Explanation of the tree survey sheets

The tree survey has been carried out in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Below is an annotation of the abbreviations in the sheet and their meanings.

1	2	3	4	5	6	7				8	9	10	11	12	13	14
Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations

1 Tree

T - Tree, **G** - Group of trees, **H** - Hedge and **S** -shrub mass

2 Species - Botanical name and (Common name)

3 Age

NP – Newly planted, **Y** – Young - an establishing tree that could be easily transplanted

SM - Semi-mature - an established tree still to reach its ultimate height and spread with considerable growth potential.

EM – Early mature – a tree reaching its ultimate height and whose growth is slowing, however it will still increase considerably in stem diameter and crown spread.

M – Mature – a tree with limited potential for further significant increase in size, although likely to have a considerable safe useful life expectancy

OM – Over-mature – of an age where the mature size of the tree can no longer be maintained, and adaptive growth strategies such as retrenchment (growing down) are commencing. These strategies should not be confused with senescence or a moribund condition, as a good life expectancy can remain.

V – Veteran/Ancient – either a tree older than typical for the species, or a tree showing signs of age, and of great ecological, cultural or aesthetic value.

4 Dia (mm)

Diameter of the stem in millimetres at 1.5m above ground level for single stemmed tree or in accordance with Annex C of BS 5837 for multi-stemmed trees or trees with low forks or irregular stems.

5 Stems

Number or stems. Multi-stemmed is m/s

6 Height (Crown height)

Height in metres from the ground to the top of the crown

(Crown height) – height of canopy above ground level

7 NSEW

The crown spread from the trunk to the tips of the crown at the four cardinal points

8 Cond

Physiological condition. Good, fair, poor or dead

9 Life Exp

Estimated remaining contribution in years; <10, 10+, 20+ and 40+.

10 BS Cat

Category in accordance with Table 1 and section 4.5 of BS

U – unsuitable for retention. Existing condition is such that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. Note, category U trees can have existing or potential conservation value which might be desirable to preserve.

A – high quality and value (non-fiscal) with at least 40 years remaining life expectancy

B – moderate quality and value with at least 40 years remaining life expectancy

C – low quality and value with at least 10 years remaining life expectancy, or young trees with a stem diameter below 150mm

A, B and C category trees are additionally graded into: 1 – mainly arboricultural values, 2 – mainly landscape values and 3 – mainly cultural values including conservation

11 RPR (m)

RPR – Root protection area radius (m)

12 RPA – Root protection area (m^2)

13 Comments

Detailed comments about the tree

14 Preliminary recommendations

Recommendations based on the tree's conditions and its current surroundings.

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T1	Crataegus monogyna (Hawthorn)	EM	360	1	6(1.5)	4.5	4.0	3.0	5.0	Dead	<10	U	4.32	58.64	Dead roadside tree	Remove irrespective of proposed development
T2	Acer campestre (Field Maple)	EM	430	1	7(1)	5.0	3.0	6.0	6.5	Fair	20+	B2	5.16	83.66	Roadside tree, pruned back from road, rather squat form but reasonable form and condition. Relatively low category B. DBH measured low due to form.	
T3	Acer campestre (Field Maple)	EM	426	2	8(1.5)	4.0	4.0	4.0	4.5	Fair	20+	B2	5.11	82.04	Roadside tree, pruned back from road, reasonable form and condition.	
T4	Crataegus monogyna (Hawthorn)	EM	190	1	4.5(1)	3.0	2.0	2.0	2.0	Fair	20+	C1	2.28	16.33	Roadside tree, crown lifted over road, slightly suppressed by adjacent trees. Minor deadwood other reasonable form and condition.	
T5	Acer campestre (Field Maple)	EM	470	1	8(1)	5.5	5.0	6.0	6.0	Fair	20+	B2	5.64	99.95	Roadside tree, crown lifted over the road, reasonable form and condition. DBH measured low due to form.	
T6	Acer campestre (Field Maple)	EM	440	1	7(1.5)	4.5	4.0	4.5	4.5	Fair	20+	B2	5.28	87.59	Roadside tree, crown lifted over the road, some minor deadwood otherwise reasonable form and condition. DBH measured low due to form.	
T7	Crataegus monogyna (Hawthorn)	EM	210	1	4.5(1)	3.0	2.5	2.5	3.5	Fair	20+	C1	2.52	19.95	Roadside tree, crown lifted over road, slightly suppressed by adjacent trees. Minor deadwood other reasonable form and condition.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T8	Acer campestre (Field Maple)	EM	440	1	6.5(1)	5.0	5.0	5.5	5.0	Fair	20+	B2	5.28	87.59	Roadside tree, crown lifted over the road, some minor deadwood otherwise reasonable form and condition. DBH measured low due to form.	
T9	Crataegus monogyna (Hawthorn)	EM	190	1	4(1)	3.0	2.0	2.0	2.0	Fair	20+	C1	2.28	16.33	Roadside tree, crown lifted over road. Minor deadwood other reasonable form and condition.	
T10	Acer campestre (Field Maple)	EM	290	1	4(1)	3.0	2.0	3.0	3.0	Poor	<10	U	3.48	38.05	Significantly declining roadside tree. Likely to die within the next couple of growing seasons	
T11	Fraxinus excelsior (Ash)	EM	390	1	6(0.5)	5.0	5.0	4.0	4.0	Fair	20+	B2	4.68	68.82	Crown is a little sparse, rather typical for species at present, and some further defoliation by insects. Otherwise no major defects and reasonable form. Relatively low category B.	
T12	Castanea sativa (Sweet Chestnut)	EM	460	1	6(0.5)	3.5	4.5	4.0	4.5	Poor	<10	U	5.52	95.74	Significant sapwood death at base of stem on north, severe dieback on the northern aspect. Southern aspect of main stem reasonably sound with some live crown, but undersized leaves and dieback. Tree is in terminal decline.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T13	Fraxinus excelsior (Ash)	EM	320	1	5.5(1)	4.5	4.5	4.0	4.0	Fair	20+	B2	3.84	46.33	Crown is a little sparse, rather typical for species at present, and some further defoliation by insects. Otherwise no major defects and reasonable form. Relatively low category B	
T14	Betula pendula (Silver Birch)	EM	320	1	5.5(1)	3.0	3.5	3.0	2.5	Fair	20+	B2	3.84	46.33	Slight lean to the east and some historic damage to stem, otherwise reasonable form and condition. Relatively low category B	
T15	Castanea sativa (Sweet Chestnut)	EM	440	1	7(1)	4.5	4.5	4.5	4.5	Fair	40+	B1	5.28	87.59	A slightly squat form but otherwise an attractive tree with good form and condition.	
T16	Fagus sylvatica 'Purpurea' (Copper Beech)	EM	440	1	9(0)	6.0	6.0	6.0	5.5	Fair	20+	B2	5.28	87.59	A very low crown, some tight branch unions, but nothing of immediate concern. Trench dug on west with some root severance.	
T17	Metasequoia glyptostroboides (Dawn Redwood)	EM	470	1	12(1.5)	4.0	4.0	4.0	4.0	Fair	20+	B1	5.64	99.95	Attractive tree of good form and condition. Trench dug on east with likely root severance.	
G18	Taxus baccata (Yew)	SM	90	1	2(0)	1.5	1.5	1.5	1.5	Fair	20+	C1	1.08	3.66	Two relatively young trees.	
T19	Alnus glutinosa (Common Alder)	EM	320	1	11(0)	3.5	4.0	4.5	4.0	Fair	20+	B2	3.84	46.33	No major defects, reasonable form and condition. Relatively low category B.	
T20	Alnus glutinosa (Common Alder)	EM	510	1	9(1.5)	6.0	5.5	5.0	6.0	Fair	20+	B1	6.12	117.68	Attractive tree with good form and condition.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T21	Fagus sylvatica (Beech)	SM	200	1	5(0.5)	2.5	2.5	3.0	3.0	Fair	20+	C1	2.4	18.1	Relatively small tree for species, no major defects and reasonable form and condition.	
T22	Quercus robur (Common Oak)	SM	180	1	6.5(1)	1.5	1.5	1.5	1.5	Fair	20+	C1	2.16	14.66	Fastigiate oak, relatively young but keeping its compact form. Typical tight branch unions.	
T23	Prunus avium (Wild Cherry)	SM	220	1	5(0.5)	3.0	4.0	3.5	4.0	Fair	20+	C1	2.64	21.9	Crown is a little sparse with further defoliation by insects. No major defects but relatively unremarkable of average form and condition.	
G24	Juglans regia (Walnut)	SM	150	1	4(0)	2.0	2.5	2.5	2.0	Fair	20+	C1	1.8	10.18	Two relatively young trees, quite squat form, but no major defects. Reasonable form and condition.	
G25	Juglans regia (Walnut), Fagus sylvatica (Beech)	SM	100	1	4(0)	1.5	1.5	1.5	1.5	Fair	20+	C1	1.2	4.52	Two walnuts and one beech. Beech is looking slightly chlorotic, walnut are in reasonable condition.	
T26	Prunus avium (Wild Cherry)	SM	220	1	6(1)	3.5	3.5	3.0	3.5	Fair	20+	C1	2.64	21.9	Crown is a little sparse with further defoliation by insects. No major defects but relatively unremarkable of average form and condition.	
T27	Prunus avium (Wild Cherry)	SM	294	4	6(1)	4.0	4.0	4.0	3.0	Fair	20+	C1	3.53	39.15	Crown is a little sparse with further defoliation by insects. No major defects but relatively unremarkable of average form and condition.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T28	Prunus avium (Wild Cherry)	SM	150	1	4(0.5)	3.0	3.0	3.0	3.0	Fair	20+	C1	1.8	10.18	Crown is a little sparse with further defoliation by insects. No major defects but relatively unremarkable of average form and condition.	
T29	Quercus rubra (Red Oak)	EM	340	1	9(1)	4.0	4.0	4.0	3.5	Fair	20+	B2	4.08	52.3	New access road to north, with spoil along the northern aspect from east to west. Lifted over new access road. Tree appears to be in reasonable condition at present.	
T30	Carpinus betulus (Hornbeam)	EM	430	1	7(1)	5.5	4.5	4.0	4.5	Fair	20+	B2	5.16	83.66	New access road approximately 2m to north, with spoil along the northern aspect from east to west Tree appears to be in reasonable condition at present. Low category B.	
G31	Quercus robur (Common Oak)	EM	300	1	6(1)	4.0	4.0	4.0	4.0	Fair	20+	C2	3.6	40.72	Group of two oaks. New access road to north, with spoil along the northern aspect from east to west Trees appear to be in reasonable condition at present. Crown lifted over access road.	
T32	Fraxinus excelsior (Ash)	SM	180	1	6(1.5)	2.5	2.5	2.5	2.5	Poor	<10	U	2.16	14.66	Significant deadwood and dieback, tree is declining.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
G33	Castanea sativa (Sweet Chestnut), Quercus robur (Common Oak)	SM	200	1	6(0.5)	3.0	3.0	3.0	3.0	Fair	20+	C2	2.4	18.1	Group of two oaks and one sweet chestnut. No major defects and reasonable form and condition, only category C due to age and size.	
T34	Acer platanoides (Norway Maple)	EM	460	1	9(0)	4.5	5.5	5.5	5.5	Fair	20+	B2	5.52	95.74	Historic wound to main stem, but now nearly fully occluded. Some tight branch unions and fairly congested crown. Low crown.	
T35	Sorbus aucuparia (Rowan)	SM	180	1	5(1.5)	2.5	2.5	2.5	2.5	Poor	<10	U	2.16	14.66	Significant deadwood and dieback, tree is declining.	
T36	Quercus robur (Common Oak)	SM	270	1	7.5(0.5)	5.0	4.0	3.5	4.5	Fair	20+	C2	3.24	32.98	Unremarkable tree of average form and condition, rather dominated by adjacent maple.	
G37	Quercus robur (Common Oak), Acer platanoides (Norway Maple)	SM	220	1	6(1)	3.0	3.0	3.0	3.0	Fair	20+	C2	2.64	21.9	Group of one Norway maple and one oak. Oak is the better of the two trees with reasonable form and condition, which should mature into a good quality tree. Maple has rather poor form, likely to be 'Drummondii' or similar variety, but most growth has reverted	
T38	Betula pendula (Silver Birch)	EM	320	1	13(0.5)	3.5	3.0	3.5	3.0	Fair	20+	B2	3.84	46.33	Tight main union which may become problematic with age, otherwise reasonable form and condition. Relatively low category B.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T39	Sorbus aucuparia (Rowan)	SM	180	1	5(1.5)	2.5	2.5	2.5	2.5	Poor	<10	U	2.16	14.66	Significant deadwood and dieback, tree is declining.	
T40	Quercus rubra (Red Oak)	SM	190	1	5.5(2)	4.0	4.0	3.0	4.0	Poor	<10	U	2.28	16.33	Sparse crown, chlorotic and browning foliage, tree in decline.	
T41	Acer campestre (Field Maple)	EM	200	1	8(0.5)	5.0	6.0	5.5	4.0	Fair	20+	C2	2.4	18.1	Rather congested crown formation, with tight unions. Fire damage to edge of crown on south. Relatively attractive looking tree from a distance, but rather average form and condition close up.	
T42	Aesculus hippocastanum (Horse Chestnut)	EM	350	2	7(1)	4.0	4.0	4.0	3.0	Fair	10+	C2	4.2	55.42	Large open tear out wound on western limb. Tight main union which is likely to become problematic with age.	
T43	Acer platanoides (Norway Maple)	EM	509	2	6(0.5)	5.0	5.0	4.5	4.0	Fair	20+	B2	6.11	117.3	Small, squat tree, atypical of species, but an attractive shape tree of reasonable form and condition. Low category B	
T44	Salix matsundana (Corkscrew Willow)	EM	328	2	7(1)	4.0	4.0	4.5	4.0	Fair	20+	B2	3.94	48.78	Some tight unions and evidence of some crown thinning, both typical of species as it matures. Low category B	
T45	Carpinus betulus (Hornbeam)	EM	250	1	7(1)	4.5	4.0	4.0	4.0	Fair	20+	C2	3	28.28	Squat, little tree for species, no major defects but rather average form.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T46	Carpinus betulus (Hornbeam)	EM	340	1	7(1)	4.5	4.5	4.5	4.5	Fair	20+	C2	4.08	52.3	Squat little tree of average form, but reasonable condition.	
T47	Quercus robur (Common Oak)	SM	240	1	7(2)	4.0	3.5	4.0	4.5	Fair	20+	C2	2.88	26.06	Recently crown lifted to facilitate installation of scaffolding. No major defects, relatively young tree.	
T48	Salix caprea (Goat Willow)	EM	550	1	8.5(1.5)	4.0	5.5	5.5	4.0	Fair	20+	B2	6.6	136.87	Relatively good example of species, with unusually good form, with single stem. Lower branches on east have been removed which detracts slightly. Unusually attractive example of species. Low category B	
W49	Quercus robur (Common Oak), Prunus spinosa (Blackthorn), Fraxinus excelsior (Ash), Acer campestre (Field Maple)	SM	300	1	14(1)	4.5	4.5	4.5	4.5	Fair	20+	B2	3.6	40.72	Offsite woodland with most larger trees set back some distance from boundary. No current rooting constraints but some crown spread encroachment likely in a few years	
T50	Fraxinus excelsior (Ash)	SM	190	1	7(2)	2.5	2.5	2.5	2.5	Fair	10+	C1	2.28	16.33	Unremarkable tree of average form and condition.	
T51	Fraxinus excelsior (Ash)	SM	220	1	7(1)	3.0	3.5	3.0	3.0	Fair	10+	C1	2.64	21.9	Some root severance on south as a result of new access road. Currently in reasonable condition, with a full relatively dense crown. Average form.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T52	Fraxinus excelsior (Ash)	EM	480	1	9(1.5)	6.0	6.0	6.0	6.0	Fair	20+	B2	5.76	104.24	Some thinning of the crown and formation of minor dieback. Access road and spoil to east, with some potential for root severance. Low category B.	
T53	Fraxinus excelsior (Ash)	EM	480	1	8(1)	5.0	5.0	5.5	5.5	Fair	20+	B2	5.76	104.24	Relatively good condition, with reasonably dense crown, acceptable form.	
T54	Fraxinus excelsior (Ash)	SM	210	1	7(2)	2.5	2.5	2.5	2.5	Fair	10+	C1	2.52	19.95	Access road to the east, with potential for root severance, line of spoil extending from north to south, base of tree is buried. Reasonable condition at present.	
T55	Fraxinus excelsior (Ash)	SM	210	1	8(2)	2.0	2.0	2.0	2.0	Poor	<10	U	2.52	19.95	declining tree	
T56	Betula pendula 'Dalecarlica' (Cut Leaf Birch)	SM	200	1	9(1)	2.5	3.0	2.5	2.5	Fair	10+	C1	2.4	18.1	Cut leaf birch. No major defects, reasonable form and condition. Only category C due to age.	
T57	Juglans regia (Walnut)	SM	170	1	5.5(1)	3.0	3.0	3.0	3.0	Fair	10+	C1	2.04	13.08	Access road to east, with potential for root severance. Spoil to east extending north to south, base of tree is buried. Tree in reasonable condition at present.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
G58	Castanea sativa (Sweet Chestnut)	EM	400	1	7(0.5)	3.0	3.0	3.0	3.0	Fair	20+	B2	4.8	72.39	Two trees set back slightly from access road. Lower branches have been removed on northern-most tree. Both trees are in reasonable condition, relatively small for species but making an attractive feature.	
T59	Aesculus carnea (Red Horse Chestnut)	SM	280	1	7(0)	4.0	4.0	4.5	4.0	Fair	10+	C1	3.36	35.47	Evidence of bacterial bleeding canker, not a heavy infection, but sapwood death from previous years and new areas of bleeding this growing season. Level of infection is tolerable and tree has good potential for recovery.	
T60	Acer platanoides (Norway Maple)	EM	280	1	8.5(1)	4.0	4.0	4.0	3.0	Fair	20+	B2	3.36	35.47	Set back slightly from access road, but spoil mound within RPA. No major defects and reasonable form and condition. Low category B.	
T61	Alnus glutinosa (Common Alder)	EM	280	1	8.5(1)	4.0	5.5	3.0	3.0	Fair	20+	B2	3.36	35.47	Access road to west and south, with evidence of two large roots severed. Low branch on west removed. Tree is currently in reasonable condition but may decline over time due to damage to root system. Low category B.	

Tree Number	Botanical Name (Common name)	Age	Dia (mm)	Stems	Height (crown height)	N	E	S	W	Cond	Life Exp	BS Cat	RPR (m)	RPA (m^2)	Comments	Recommendations
T62	Quercus robur (Common Oak)	EM	400	1	7(0)	5.5	5.5	5.0	5.0	Fair	20+	B2	4.8	72.39	Access road to south with potential for root damage. Low, large branch on south removed. Tree is currently in reasonable condition. Low category B.	
G63	Quercus robur (Common Oak), Aesculus hippocastanum (Horse Chestnut), Aesculus carnea (Red Horse Chestnut)	SM	250	1	6(1)	3.0	3.0	3.0	3.0	Fair	20+	C1	3	28.28	Group of three trees, all are in reasonable condition, with future potential to mature into good quality trees. Category C due to size and relatively young age.	
T64	Quercus robur (Common Oak)	EM	380	1	8(1)	5.0	4.0	4.0	5.5	Fair	20+	B2	4.56	65.33	Fairly squat form for species. No major defects and reasonable form and condition.	
T65	Fagus sylvatica (Beech)	SM	130	1	4(1)	2.0	2.0	2.0	2.0	Fair	20+	C1	1.56	7.65	Young tree of average form and condition.	
T66	Sorbus aucuparia (Rowan)	SM	140	1	4(1.5)	3.0	2.5	2.0	2.0	Fair	10+	C1	1.68	8.87	Impact damage at base on west. Base of main stem buried in spoil. No major defects but average form and condition.	

Appendix 2

Tree survey plan RA501 TSP

T1 - A Category A - high quality and value
T1 - B Category B - moderate quality and value
T1 - C Category C - low quality and value
T1 - U Category U - unsuitable for retention

Crown spread

RPA - root protection area as defined by Table 2 BS 5837:2012

Woodland

Group of trees

Highest quality trees

Notes

1. Contractors to check all dimensions on site
2. Discrepancies must be reported to the Arboricultural Consultant before proceeding
3. The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
4. It is the responsibility of the contractor to ensure necessary consents for tree works are in place

Rev :	Description :	Authorized :

Roberts Arboriculture Ltd

Client
Durrants Building Consultancy

Site Address
Land at Lower Green, Little Whelnetham

Drawing Title	Orientation	Drawn
Tree Survey Plan		PJR
Date	Drawing Number	Scale
10.07.2022	RA501 TSP	1:300 @ A1

Revision
-

Appendix 3

Tree protection plan RA501 TPP

T1 - A Category A - high quality and value
T1 - B Category B - moderate quality and value
T1 - C Category C - low quality and value
T1 - U Category U - unsuitable for retention

Crown spread of tree to be retained

RPA - root protection area as defined by Table 2 BS 5837:2012

Woodland

Tree to be removed

Tree protection fencing

Notes

1. Contractors to check all dimensions on site
2. Discrepancies must be reported to the Arboricultural Consultant before proceeding
3. The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
4. It is the responsibility of the contractor to ensure necessary consents for tree works are in place

Rev :	Description :	Authorized :

Roberts Arboriculture Ltd

Client
Durrants Building Consultancy

Site Address
Land at Lower Green, Little Whelnetham

Drawing Title	Orientation	Drawn
Tree Protection Plan		PJR
Date	**Drawing Number**	**Scale**
18.12.2022	RA501 TPP	1:300 @ A1

Revision
-

Appendix 4

Tree surgery schedule

Tree surgery schedule

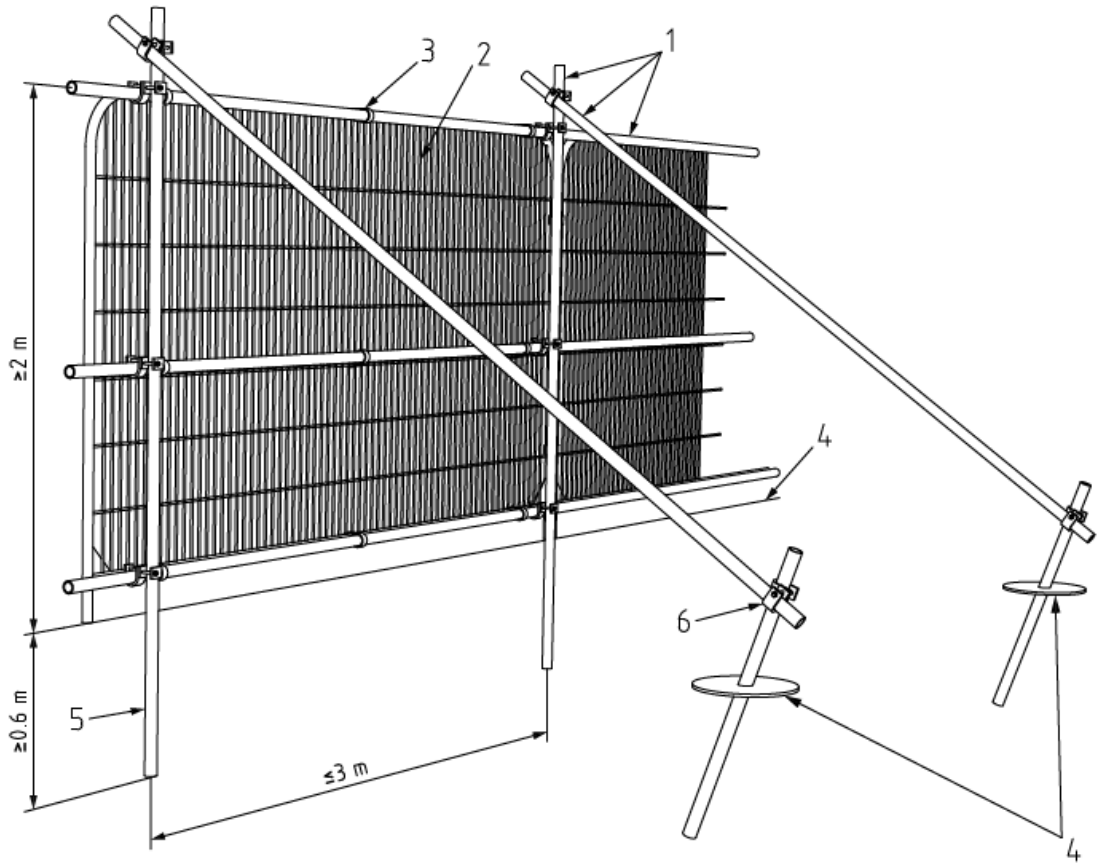
All works to be carried out in accordance with BS 3998:2010 'Tree works – Recommendations'. All pruning cuts to be made at suitable growing points in the line with the principles of 'natural target pruning'. An ecological check is required by a competent person prior to tree works being carried. Works should not take place until planning permission is granted and all pre-commencement conditions are discharged.

Tree no.		Species	Proposed works	Reason
T	1	Hawthorn	Remove	Health and safety
T	10	Field maple	Remove	Health and safety
T	12	Sweet chestnut	Remove	Unsuitable for long-term retention
G	25	2 x trees (see RA501TPP)	Remove	Conflicts with proposed layout
T	32	Ash	Remove	Unsuitable for long-term retention
T	35	Rowan	Remove	Unsuitable for long-term retention
T	39	Rowan	Remove	Unsuitable for long-term retention
T	40	Red oak	Remove	Unsuitable for long-term retention
T	55	Ash	Remove	Unsuitable for long-term retention

Appendix 5

Tree protection specification

Figure 2 Default specification for protective barrier



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Tree protection fencing specification from BS 5837:2012 Figure 2

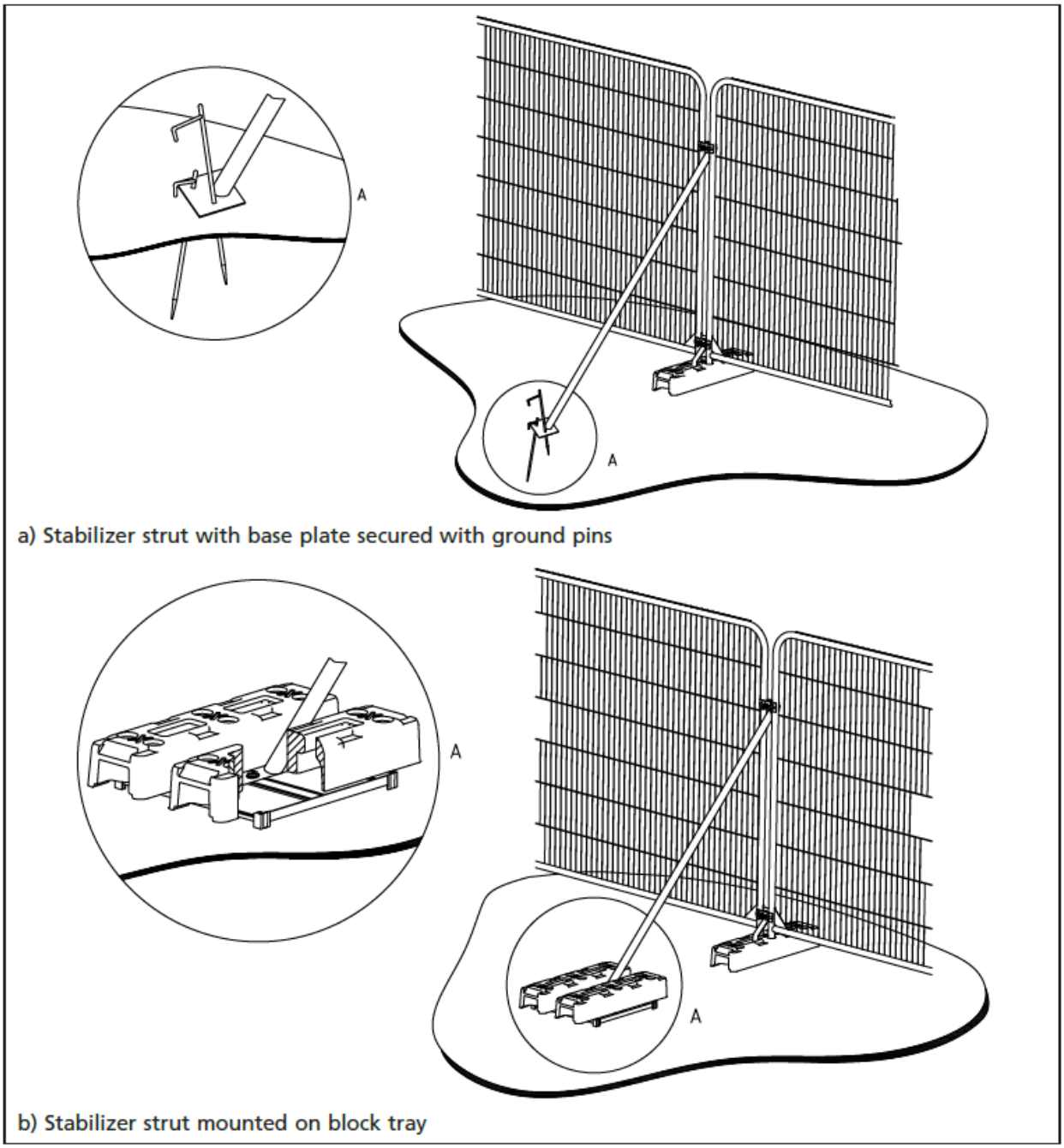
Section 6.2.2 of BS 5837.

Barriers should be fit for purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees(s). Barriers should be maintained to ensure that they remain rigid and complete.

The default specification is shown above at Figure 2. Care should be taken when locating the vertical poles to avoid underground services and structural roots. Where it is not possible to drive a pole into the ground, for example on hard surfacing, figure 3 overleaf, applies.

The location for the tree protection fencing is shown on the tree protection plan delineated by a magenta dash/dot line. The location of the fencing is shown by dimensions from fixed points on the tree protection plan (TPP). All weather signs should be affixed to the barriers, no more than 12m apart.

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

Suggested site warning sign format

Ground protection during demolition and construction

Where working space 'temporary access' is needed within the root protection area during works, fencing should be set back the minimum amount to achieve the required room. If there is existing hard surfacing in this area, it should remain during the works as ground protection. The suitability of this surfacing for ground protection, and whether it needs to be reinforced to bear the weight of machinery, should be assessed by an engineer and discussed with an arboriculturist.

Where the set back of the fencing exposes unmade ground, the ground must be protected before any works take place on site. This is to prevent root damage and soil compaction.

The ground protection might comprise of one of the following: (section 6.2.3.3 of BS 5837)

A) For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;
B) For pedestrian-operated plant up to a gross weight of 2 tonnes, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;
C) For wheeled or tracked construction traffic exceeding 2 tonnes gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

The location for ground protection is shown on the tree protection plan by coloured hatching, identified in the key.

Appendix 6

Preliminary arboricultural method statement

Tree works:

Recommendations for tree works can be found in the tree surgery schedule in Appendix 4. All works shall be in accordance with BS 3998:2010 '*Tree work. Recommendations'*. The use of a competent and insured tree surgery contractor is necessary to comply with this. The main contractor and tree surgery contractor must ensure that any necessary consents have been received from the local authority and that no protected species are harmed whilst carrying out site clearance or tree surgery works. Within root protection areas, stumps, shrubs and other vegetation must be removed by hand or using stump grinding machinery to minimize root damage of retained trees. Where poisoning of stumps is specified, this must be carried out by competent operatives. Only chemicals approved for this purpose and used in accordance with the manufacturer's instructions will be used.

The following information must be sought:

- Current employers, public and product liability insurance
- Waste carriers Licence
- Qualification and experience of key personnel, including relevant NPTC certificates
- COSHH assessment
- Tool and task based risk assessment, including a Working at Height Risk Assessment
- Site specific risk assessment
- Emergency procedure plan
- Method Statement

A list of suitable tree surgeons is found at: http://www.trees.org.uk/find-a-professional/Directory-of-Tree-Surgeons

Bio security measures are important and found athttps://www.forestry.gov.uk/biosecurity

Fires: Fires on site should be avoided if possible. If unavoidable, they should be situated far enough so that there is no risk of damage to the trees, taking into consideration the wind direction.

Site and fuel storage, cement mixing and washing points: All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside root protection areas unless otherwise agreed with the Local Planning Authority. No discharge of potential contaminants should occur within 10m of a retained tree stem or where there is a risk of run off into Root Protection Areas.

Temporary buildings for site use: Site cabins, trailers and other temporary buildings can sometimes be used in root protection area if consent is agreed by the local planning authority. This can be very useful if there is a robust existing hard surfacing in place. The method for installing the buildings, and assessment of whether ground protection is needed is to be agreed with the Arboriculturist and specified prior to installation.

Protection of tree canopies: Piling rigs and cranes are often used close to trees. Work must be carefully planned so that there is sufficient room to avoid hitting the canopy during transportation or operation. Arboricultural supervision may be required, however it is the responsibility of the contractor to assess and plan the work. Any access facilitation pruning required is detailed in the tree surgery schedule.

New landscaping: Within the root protection areas of trees to be retained, the preparation of soil for planting and turfing will be carried out by hand. Cultivation will be kept to a minimum and new topsoil must not exceed 100mm in depth within 1m of the stem. Top soil and other materials will be transported by wheelbarrow on running boards when working near trees.

Appendix 7

Tree related legislation affecting the site

Tree preservation orders

The Town and Country Planning (Tree Preservation) (England) Regulations 2012.

There are no tree preservation orders affecting the site.

Conservation Area:

The site does not lie in a conservation area.

Ecological considerations

The Wildlife and Countryside Act 1981, as amended, The Conservation of Habitats and Species Regulations 2010 and the Countryside and Rights of Way Act 2000, provide statutory protection to species of flora and fauna including birds, bats and other species that are associated with trees.

Occupiers Liability Act 1957 and 1984

The Occupiers Liability Act (1957 and 1984) places a duty of care to ensure that no reasonably foreseeable harm takes place due to tree defects. Therefore, this report includes recommendations within the tree tables for work required for safety reasons. 'Common sense risk management of tree (National Tree Safety Group 2012)' states that *'The owner of the land on which a tree stands, together with any party who has control over the tree's management, owes a duty of care at Common Law to all people who might be injured by the tree. The duty of care is to take reasonable care to avoid acts or omissions that cause a reasonably foreseeable risk of injury to persons or property'.*

Common law enables pruning back to the boundary line providing the work is reasonable. Other restrictions, such as tree preservation orders/conservation areas still apply.

The owner of a tree is not obliged to trim their trees or hedges to prevent them from crossing over a boundary. Whilst the tree owner is not obliged to cut back the branches, the person whose property is overhung has the right to cut back the branches to the boundary providing there are no planning or legal restrictions on the trees such as Tree Protection Orders or if they are located in a church yard, in which case suitable consent must be obtained. Such pruning works must be undertaken to a suitable standard and must not cause significant damage to the tree, whereby it dies or becomes unstable.

The resulting debris remains the property of the tree owner, and therefore permission should be sought before it is disposed. In the interests of good neighbourly relations, we would encourage neighbours to discuss their intentions with each other before carrying out such works, providing the work is reasonable and that the trees are not subject to TPO or Conservation Area protection.

Felling Licence

A felling Licence is required to fell more than 5 cubic metres of timber in a calendar quarter. Applications typically take 13 weeks to process and are administered by the Forestry Commission.

Exemptions include:

- Tree surgery other than felling
- Trees smaller than 8cm at 1.3m
- Trees growing in a garden, orchard, and churchyard or designated open space.
- Works to facilitate planning permission once all pre-commencement conditions are discharged
- Works to dangerous trees

Appendix 8

Statement of methodology and reference material

Statement of methodology

Review of architects' plans

Site visit made by Philippa Roberts on 2nd July 2022.

Tree survey using Visual Tree Assessment carried out in accordance with BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*'. All investigations were from ground level only and binoculars were used when necessary. All trees with a trunk diameter of 75mm or above were surveyed. Obvious hedges and shrub masses were identified where appropriate. Information collected is in accordance with recommendations in subsection 4.4.2.5 of BS and include species, height, diameter, branch spread, crown clearance, age class, physiological condition, structural condition and remaining contribution. Each tree was then allocated one of four categories (U, A, B or C).

Received material

Topographical survey plan, drawing no. PLS-1163-NP-FT-TS-00, BY Parish Land Surveys Ltd

Proposed Site Plan, drawing no. 304256-30-005, by Durrants Building Consultancy

Reviewed text

BSI. BS 3998:2010 *Tree Work-Recommendations.*

BSI. BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*

R.G.Strouts and T.G.Winter 'Diagnosis of ill-health in trees' TSO 1994

West Suffolk District Council website

C. Mattheck 'The body language of trees' 2015

British Geological Survey website

Appendix 9

Caveats & Exclusions

Specific report caveats

1. At the time of writing this report, the protected tree status is correct. However, this can change. Therefore, it is advised that a further check is made with West Suffolk District Council before any works to trees take place.
2. No internal diagnostic equipment was used other than a sounding mallet and probe and all inspections were from ground level only, with the aid of binoculars where necessary.
3. The survey is concerned solely with arboricultural issues.
4. Any changes in ground level, or excavations near to tree roots not discussed within this report may change the stability and condition of the trees and a further examination would be required.
5. As trees are a dynamic living organism this report is only valid for a period of 12 months, in respect to their health and condition.
6. Only the trees listed in this report have been examined.
7. The measurement of off-site trees has been estimated, except any crown which overhangs into the site, which is measured. Where the crown of an on-site tree overhangs the boundary, the crown spread in this direction is also likely to be estimated.
8. The base and trunk of the off-site trees could not be examined, and therefore a full assessment of the trees condition could not be made.
9. Dense ivy and undergrowth prevent a full condition survey being carried out. The vegetation may be hiding structural defects.
10. The tree information is from the time of the survey. Some pests, diseases and fungi only appear seasonally, therefore it is possible not all issues that may affect the health of the trees could be observed.

Appendix 10

Glossary

Abscission	**The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a corky layer across its base.**
Access facilitation pruning	One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary for operations on site.
Adaptive growth	In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. (This helps to maintain a uniform distribution of mechanical stress).
Adventitious	Describing shoots which develop neither from terminal nor axillary buds (see also Epicormic and dormant bud) or roots which form other than through primary development.
Anchorage	In trees, the holding of the root system within the soil, involving the flow of forces from the stem through the branches of the roots system to the cohesive root/soil interface.
Apical dominance	The hormone-induced regulation of the development of a tree or a branch, whereby the apical shoot(s) grows more than the laterals.
Arboriculture	Formerly all aspects of the culture of trees, especially for forestry. Latterly, the art and science of cultivating and managing trees as groups and individuals, primarily for amenity and other non-forestry purpose.
Arboricultural method statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Arboriculturist	Person who has, through relevant education, training and experience in the field of trees in relation to construction.
Architecture	In a tree, a term describing the pattern of branching of the crown or root system.
Backfill medium	Material used for refilling an excavated planting hole.
Bacteria	Microscopic single celled organisms, including many species that break down dead organic matter, together with others that can cause disease in other organisms.
Bark	A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm.
Biodiversity	The variability among all living organisms of an ecological complex.
Biomechanical	Pertaining to the mechanical functions and properties of living organisms, such as trees.
Body language	In trees, the outward display of growth responses and/or deformation in response to mechanical stresses.
Branch	A limb extending from the main stem or parent branch of a tree.
Branch bark ridge	The raised arc of bark tissues that forms the acute angle between a branch and its parent stem
Branch collar	The swelling or roughened bark often found at the base of a branch which should be left intact if the branch is to be pruned off.

Canker	A lesion in which bark and cambium have been killed, sometimes exposing the wood and often showing a swollen appearance owing to the encircling growth of new tissues.
Cambium	Layers of meristematic cells in the cells peripheral to the phloem that give rise to bark.
Canopy	The topmost layer of twigs and foliage in a tree.
Chlorosis	A yellowing of the leaves and other green parts of a plant owing to low chlorophyll content, typically caused by nutrient deficiencies or other adverse conditions.
Construction exclusion zone	An area based on the root protection area from which access is prohibited for the duration of the project.
Coppicing	The cutting of a woody plant near ground level to encourage the development of multiple stems.
Crown	In arboriculture, the main foliage-bearing portion of a tree.
Crown lifting	The removal of shortening of the branches that form the lower part of the crown of a tree.
Crown reduction	Pruning in order to reduce the size of the crown of a tree.
Crown thinning	Pruning inside the crown of a tree in order to reduce its density.
Defect	In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.
Desiccation	The state of extreme dryness, the drying out of roots.
Dieback	The death of part of a plant, usually starting from a distal point and often progressing proximally in stages.
Direct damage	Direct physical damage to a structure of surface from pressure exerted by the trunk or growing roots.
Dormant bud	An axillar bud which does not develop into a shoot until after the second season following its formation. Many such buds persist through the life of a tree and develop only if stimulated to do so.
Epicormic	Pertaining to shoots or roots which are initiated on mature woody stems; shoots can form tin this way from dormant buds or they can be adventitious.
Hazard	A thing, a process or a potential event that has the potential to cause harm.
Included bark	Bark of adjacent parts of a tree (usually forked stems, acutely joined branches or basal flutes) which is in face-to-face contact; i.e. without a woody connection. Such a structure lacks inherent strength but is in many instances strongly reinforced by a surrounding 'shell' of wood.
Mulch	Material laid down over the rooting area of a tree or other plant to help conserve moisture, suppress weeds and encourage a beneficial microflora.
Mycorrhizal	Pertaining to an intimate symbiotic association between plant roots and specialised fungi.
Necrosis	The death of specific areas of living tissue owing to some adverse factor.
Occlusion	The process whereby a wound in a tree is progressively closed by the formation of new wood and bark around it.

Phloem	Conductive tissue of trees and other plants, via which dissolved sugars are translocated from the foliage to tissues where they are needed for growth or for storage. In trees, phloem makes up the innermost layer of the living bark.
Probability	A statistical measure of the chance that a particular event (e.g. a specific failure of a tree or specific kind of harm to persons or property) might occur.
Risks	The likelihood of the potential harm from a particular hazard becoming actual harm.
Root protection area	A layout tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. BS 5837:2012 *'Trees in relation to design, demolition and construction – Recommendations'.*
Sapwood	The living xylem of a wood pant, which either loses viability gradually over a number of years or decades or becomes converted in to a distinct, largely dead heartwood.
Stress	In plant physiology, a condition under which one or more physiological functions are not operation within their optimum range, for example owing to lack of water, inadequate nutrition or extremes of temperature.
Stub cut	A pruning cut which is made at some length distal to the branch bark ridge.
Target pruning	The pruning of a twig or branch so that tissues recognisably belonging to the parent stem or branch are retained and not damaged.
Targets	In tree hazard assessment, persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it.
Tree Preservation Order	In Great Britain, an order made by a local authority, whereby the authority's consent is generally required for the cutting down, topping or lopping of specified trees.
Tree protection plan	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposal, showing trees for retention and illustrating the tree and landscape protection measures.
Utility	An undertaker by statute that has a legal right to provide customer services (e.g. communication, electricity, gas and water).
Vigour	In tree assessment, an overall measure of the rate of shoot production, shoot extension or diameter growth.
Vitality	In tree assessment, an overall appraisal of physiological and biomechanical processes, in which high vitality equates with near-optimal function.
Visual Tree Assessment (VTA)	In addition to the literal meaning, a system expounded by Matteck and Breloer (1995) to aid the diagnosis of potential defects through visual signs and the application of mechanical criteria.
Wound	Injury caused to a tree by a physical force.
Xylem	Plant tissue with the special function of translocated water and dissolved mineral nutrients.

ARBORICULTURAL IMPACT ASSESSMENT REPORT

BS 5837:2012 'Trees in relation to design, demolition and construction. Recommendations'

SITE

Land at Lower Green, Little Whelnetham

CLIENT

Durrants Building Consultancy

Philippa Roberts

FdSc, MArborA

DATE: 19th December 2022

OUR REF: RA501