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Arboricultural Consultancy
www.treeplanningsolutions.co.uk

Arboricultural Impact Assessment
and
Preliminary Method Statements

For

Land at Does Farm, Wallow Lane, Naughton, Suffolk

Date	30th December 2019
Client	Nicholas Jacob Architects
Report by	Mr James Choat BSc, M Arbor A
Site	Does Farm
Reference No.	TPSarb02807119

Arboricultural ASSOCIATION Professional Member PR00530

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1. Summary

1.1.1 Tree Planning Solutions received instruction from Nicholas Jacob Architects to complete a suitable arboricultural site survey and produce this subsequent impact assessment for an area of land at Does Farm, Wallow Lane, Naughton, Suffolk.

1.1.2 The survey and this report are provided in support of a planning application for subdivision of the existing plot and development of 2 detached dwellings with new access and parking.

1.1.3 The site was surveyed on the 13th December 2019, the weather was overcast and cold with a light wind. A total of 11 individual trees, 3 tree groups and 3 hedgerows were surveyed as part of the impact assessment.

1.1.4 The report provides the following information and data in accordance with the criteria provided within BS 5837 2012 '*Trees in relation to design, demolition and construction Recommendations'*

- Tree survey and schedule
- Tree constraints data and plan
- Arboricultural Impact Assessment
- Arboricultural Method Statement and Tree Protection Plan

1.1.5 **Mid Suffolk District Council's planning GIS data was checked 26/11/19 -The site is not subject to a Tree Preservation Order (TPO) or designated Conservation Area (CA). The hedgerow regulations are not applicable in this instance as the area of land is part of the garden area and not on land used for agriculture, common land or the grazing / keeping of horses. It is recommended the applicant obtain written consent from Mid Suffolk District Council and where applicable the Forestry Commission, before carrying out recommendations contained within this report. Furthermore, no works should be carried out to any 3rd party tree(s) without first obtaining consent from the owner(s) of the tree(s).**

1.1.6 Multi agency nature on the map GIS data (MAGIC) was checked 26/11/19. The site is subject to a nitrate vulnerable zone and site of special scientific interest (SSSI) impact zone (Middle Wood SSSI).

1.1.7 This report pays particular reference to:

▪ British Standard 5837 2012	Trees in relation to design, demolition and construction Recommendations
▪ British Standard 3998 2010	Recommendations for tree work
▪ NHBC CH 4.2	Building near trees
▪ NJUG 4	National Joint Utilities Group 'Working Near Trees'
▪ NPPF 2018	National Planning Policy Framework

1.2 Limitations

1.2.1 The applicant has supplied a plan of the existing and proposed (desired) site, no further information has been provided.

The following plans have been provided with the instruction of this report:

- Existing layout drawing provided by NJA
- Proposed layout/concept drawing provided by NJA

1.2.2 This survey is for the purpose of determining the impact of the development upon existing trees; it is not a detailed tree condition survey and should not be used as such. All trees have been assessed from ground level; no aerial or below ground parts have been inspected in detail.

1.2.3 The survey remains valid for 12 months. If during 12 months following the tree survey adverse weather conditions have occurred, or the site environment changed in any form, it is recommended the trees be reassessed.

1.2.4 The content of this report remains the property of Tree Planning Solutions unless otherwise stated. This report is not to be copied without written consent from Tree Planning Solutions.

1.2.5 The consultant is a qualified arboriculturist, occasionally opinions and views are provided regarding buildings and structures, the consultant is not a qualified buildings surveyor or

structural engineer and therefore all opinions and views should be supported by a qualified structural/building engineer.

1.3 Qualifications

1.3.1 The consultant has been working within the Arboricultural industry for 20 years as a tree surgeon, tree officer and consultant. Knowledge and experience are regularly updated by attending industry related seminars and courses. Continued professional development is verified by professional membership to the Arboricultural Association (membership No. PR00530), CPD is updated on-line, a record can be provided upon request.

1.3.2 The consultant holds a Bachelor of Science (BSc) degree in Rural Resource Development, a Higher National Diploma (HND) in Rural Resource Management, the Lantra Professional Tree Inspection Award, the RFS Level 2 Certificate in Arboriculture, level 3 certificate in Ecology and is a registered user of Quantified Tree Risk Assessment (QTRA).

2.1 Site description

2.1.1 The site is located to the north east of the village of Naughton and accessed from Wallow Lane via a crossover providing access to the site and existing dwelling. The trees subject of this report are situated randomly throughout the site. The trees consist of young to mature native and non-native stock. The site consists of the following built structures – hard stand access/driveway, detached dwelling and various outbuildings. The site consists of the following habitat / green features – shrub borders, improved grass and amenity trees.

2.2 Topographical survey

2.2.1 A topographical survey was provided with the instruction for this project, all site features plotted to the survey were present during the site tree survey. OD recordings ranging from 83.61 to the south and 83.50 to the north were provided on the topographical survey, the site is generally flat with no significant changes in levels that will influence root orientation or morphology, it is therefore reasonable to assume the root protection areas throughout the site will be normal in size and shape. Various inspection chambers were recorded during the survey, the date of construction/servicing is not known, it is not known therefore whether the below ground services are affecting / have previously affected the rooting zone of the trees. Overhead services were not recorded during the tree survey.

2.3 Soils

2.3.1 British Soil Geology Maps scaled at 1:50,000 show the site to be situated on bedrock of Red Crag Formation – sand and superficial deposits of Lowestoft Formation – diamicton. Sand and gravel soil texture is likely to offer a deeper rooting environment than that of clay as the roots can easily penetrate and explore sandy soils with little resistance, clay like soils tend to restrict root exploration. Clay soils can be modified by moisture, either reduced or increased in volume by fluctuations in moisture content, such fluctuations can influence how structures perform and therefore may require additional, engineered support to improve the stability or the structure. Local variations and differing soil seams of superficial and bedrock deposits do occur, differing bedrock and superficial deposits will have a different soil texture and structure to those described above and will perform differently. It is recommended core samples be obtained to determine the exact soil texture at the site.

3.1 Tree survey and schedule

3.1.1 The tree schedule is an account of all the trees at or adjacent to the site and is written on to a tabular form. Each tree is given a unique reference number that is plotted on to a tree survey plan to be cross-referenced with the tabular form. Contained within the schedule are tree dimensions and any physiological or mechanical problems worthy of note. The tree is given an estimated life expectancy and then graded for its suitability for retention. The tabular form can be found in appendix 1 with explanatory notes for each column heading. The tree survey plan can be found in appendix 2. Provided below is a table of the existing trees, their current condition and British Standard 5837 category grading. The categories for retention are; A - high value, B - moderate value, C - low value and U - unable to be retained as a living tree, each category is given a colour code for use with the tree survey plan (appendix 2), A - Green, B- Blue, C - Grey and U- Red. There are further sub-categories used for the final categorisation, these are; 1 arboricultural, 2 landscape and 3 wildlife or historical values. A tree with more than 1 subcategory is considered more valuable than 1 with just 1, i.e. a tree categorised as B1/2/3 is more valuable than B1. British Standard 5837 recommends trees with a stem diameter of less than 150mm are categorised as C regardless of condition, form etc. it is assumed that a tree of this size can either be transplanted or replaced without any negative impact upon tree-based visual amenity.

Table 1 Tree condition table

Tree ref	Species	Age class	Observations	Category grading
T1	Larch *Larix decidua*	M	Leaning stem. Tear wound at 10m.	C1
H1	Leyland cypress Cupressus x leylandii	EM	Maintained on regular basis as formal hedge.	C1
H2	Box *Buxus sp*	EM	Maintained on regular basis as formal hedge.	C1
S1	Group of multi stem shrubs.	M	Maintained on regular basis.	C1
T2	Cherry P*runus kanzan*	M	Low crown break. Large pruning wounds at 1m. Congested crown break with included unions.	C1
T3	Cherry *Prunus avium*	M	Good condition.	B1
T4	Ash *Fraxinus excelsior*	M	3rd party, unable to fully assess. Lapsed pollard last cut circa 40 years. Ivy clad stem. Low crown encroachment into site.	B1/2/3
T5	Lime *Tilia sp*	EM	Recent planting. Good condition, good stem taper and open well-formed crown.	B1
T6	Sweet Chestnut *Castanea sativa*	EM	Recent planting. Good condition, good stem taper and open well-formed crown.	B1
T7	Weeping beech *Fagus sylvatica*	Y	Recent planting. Misshaped crown due cultivation.	C1

Tree ref	Species	Age class	Observations	Category grading
T8	Tulip tree Liriodendron tulipifera	EM	Recent planting. Good condition, good stem taper and open well-formed crown.	B1
G1	Walnut *Juglans regia*	EM	Western most tree with low included union.	B1
T9	Pin oak *Quercus palustris*	EM	Recent planting. Good condition, good stem taper and open well-formed crown.	B1
T10	Maidenhair tree *Gingko biloba*	Y	Recent planting. Good condition, good stem taper and open well-formed crown.	C1
T11	Oak *Quercus robur*	M	3rd party, unable to fully assess. Lapsed pollard last cut circa 40 years. Ivy clad stem. Low crown encroachment into site.	A1/2/3
H3	Field maple *Acer campestre* Hawthorn *Crataegus monogyna*	M	Maintained at current height and spread.	C1/2/3
G2	Lime *Tilia sp*	M	Most in decline, some partially failed, significant die back.	C1/2/3
G3	Field maple Acer campestre Hawthorn Crataegus monogyna Sycamore acer pseudoplatanus	EM	3rd party, unable to fully assess. Group of multi stem trees on boundary.	C1/2/3

Further discussion

3.1.2 All trees have been categorised in accordance with British Standard 5837: 2012. Visual tree amenity is limited due to the remote location of the site, young to early mature age range favouring the majority of the internal tree stock and boundary hedgerows obscuring much of the internal tree stock. The landscape and wildlife value is considered reasonable due the connectivity with the wider rural landscape, structural diversity providing good canopy connectivity and green corridors providing migratory routes for wildlife. T4 Ash and T11 Oak appear to be aged trees (full assessment was not possible due to 3rd party ownership), lapsed pollards, with probable occasional veteran associations such as deadwood, decay pockets, water pockets, tear wounds etc. Such associations provide microhabitats and increase the species diversity associated with the host trees; T4 and T11 should be retained and protected in accordance with NPPF recommendations.

NPPF: -

'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;
and
development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity'

Para 175 page 50 -NPPF - July 2018 Ministry of Housing, Communities and Local Government

It is very likely that regardless of development, crown works will be required to maintain the structural integrity of T4 and T11 to reduce end load and the bending stresses found at the pollard head where stresses tend to be uneven as the surface area is non-shape optimised. With the exception of T1, H3 and G2 the remaining trees are generally recent plantings (15-20years) and, although in reasonable condition, could be replaced without a significant loss to the local landscape character or visual amenity value.

3.1.1 Provided below is the British Standard 5837 categorisations with total number of trees for each corresponding categorisation:

A = 1

B = 7

C = 3

U = 10

3.1.2 All category A trees should be retained. The development design should seek to accommodate such trees using special construction techniques and design modification. There should be only very minor work within the RPA and only minor crown works, generally those required to improve the condition of the tree. Category A trees are those that offer a significant contribution to the amenity and character of the area, they have a long-life expectancy and contain very few defects.

3.1.3 The majority of category B trees should be retained where their long-term retention is achievable. A mixture of tree works, design modification and special construction techniques should be employed to accommodate these trees. Generally, category B trees have a life expectancy over 20 years and offer a medium to long-term contribution to the amenity/character of the area. They contain some defects that can be remedied with suitable tree works.

3.1.2 The category C trees are desirable for retention in the short term. Generally, category C trees have a life expectancy of less than 10 years and would be acceptable to remove once new planting is established. Category C trees contain many defects that are likely to reduce the long-term life expectancy of the tree. Category C trees do not add to the character or visual amenity of the area.

Photo 1 T1 Larch – leaning stem

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Photo 2 H2 Box hedge, H1 and T1 in background

Photo 3 T5 - Young Lime H3 in background

Photo 4 T4 Ash, G2 Lime and H3 boundary hedgerow

Photo 5 T3 Cherry and H3 boundary hedgerow

Photo 6 T8 Tulip tree, T9 Pin oak in background, T11 Oak beyond H3 Boundary hedgerow

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4.1 Tree constraints

4.1.1 The above and below ground tree constraints are represented by the present crown spread and root protection areas (RPA) of each retained tree. British Standard 5837 provides a calculation for root protection areas for both single and multi-stem trees. The constraints are plotted to a site plan around each individual tree; the constraints plan is used to influence site layout and further clarifies tree retention or removal. The constraints plan can be found in appendix 2. Further consideration should be given to the future growth potential for each retained tree; the table below provides estimated growth rates that should be considered when achieving a suitable design layout.

4.1.2 Provided below is a constraints table that provides data for the radial distance required for the RPA, the present height and spread of the tree, the future increase in height and spread of the tree in 10 years and tree management considerations.

Table 2 Tree constraints table

					Branch spread							
Tree ref	**Species**	**Height in m**	**Stem diameter in mm**	**Radial distance required for RPA**	**N**	**E**	**S**	**W**	**Height of crown clearance in m**	**Estimated increase in crown height in M in 10 years**	**Estimated increase in crown spread in M in 10 years**	**Management considerations**
T1	Larch *Larix decidua*	11	540	6.48	3	3	3	3	1	1	1	None
H1	Leyland cypress Cupressus x leylandii	2	100	1.2	0.3	0.3	0.3	0.3	0	0	0	Maintained at current height and spread
H2	Box *Buxus sp*	0.5	50	0.6	0.2	0.2	0.2	0.2	0	0	0	Maintained at current height and spread
S1	Group of multi stem shrubs.	3	100	1.2	1	1	1	1	0	0	0	Maintained at current height and spread
T2	Cherry P*runus kanzan*	5	320	3.84	4	4	4	4	1	1	1	None
T3	Cherry *Prunus avium*	8	390	4.68	3	3	3	3	1	1	1	None
T4	Ash *Fraxinus excelsior*	15	1000	12	6	6	6	6	1	0	0	Likely to require crown works in future to maintain structural integrity.
T5	Lime *Tilia sp*	9	220	2.64	4	4	4	4	0.5	1	1	None
T6	Sweet Chestnut *Castanea sativa*	4	180	2.16	3	3	3	3	0.5	2	2	None
T7	Weeping beech *Fagus sylvatica*	5	100	1.2	3	3	3	3	0	1	2	None

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					Branch spread							
Tree ref	**Species**	**Height in m**	**Stem diameter in mm**	**Radial distance required for RPA**	**N**	**E**	**S**	**W**	**Height of crown clearance in m**	**Estimated increase in crown height in M in 10 years**	**Estimated increase in crown spread in M in 10 years**	**Management considerations**
T8	Tulip tree Liriodendron tulipifera	8	240	2.88	3	3	3	3	0.5	2	2	None
G1	Walnut *Juglans regia*	8	200	2.4	3	3	3	3	0.5	2	2	None
T9	Pin oak *Quercus palustris*	8	170	2.04	4	4	4	4	1.52	2	2	None
T10	Maidenhair tree *Gingko biloba*	4	100	1.2	0.3	0.3	0.3	0.3	1	1	1	None
T11	Oak *Quercus robur*	11	800	9.6	5	5	5	5	3	0	0	Likely to require crown works in future to maintain structural integrity.
H3	Field maple *Acer campestre* Hawthorn *Crataegus monogyna*	2.5	75	0.9	0.5	0.5	0.5	0.5	0	0	0	Maintained at current height and spread
G2	Lime *Tilia sp*	12	400	4.8	2	2	2	2	3	0	0	Likely to require crown works in future to maintain structural integrity.
G3	Field maple Acer campestre Hawthorn Crataegus monogyna Sycamore acer pseudoplatanus	8	200	2.4	3	3	3	3	0	2	2	None

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5.1 Arboricultural impact assessment

5.1.1 Provided below is an assessment of the impact of the development on each individual tree and any design requirements for the site. Such factors include; tree preservation orders, tree amenity, tree retention, removal of structures within RPA, infrastructure requirements, construction of infrastructure, end use of space, tree loss / new planting, veteran/aged tree assessment, light issues, proximity to structures, relationship with new homeowners and tree nuisance.

Table 3 Arboricultural Impact Assessment

Tree Ref	TPO/CA/other statutory protection. Amenity assessment. Retention recommendation.	Removal of existing structures and hard surfacing within RPA	Proposed Infrastructure within RPA	Construction methods for proposed infrastructure	End use of space	Tree loss and new planting	Shading and light	Proximity to structures	Future pressure for tree removal/works	Seasonal tree nuisance
T1, S1, T2, T3, G3, H3	• Mid Suffolk Council planning GIS data checked 26/11/19 – site not subject to a TPO or designated conservation area. • MAGIC GIS checked 26/11/19 – site listed within Nitrate vulnerable zone and SSSI Impact Zone. • Reasonable amenity, landscape and wildlife value. • Trees recommended for retention.	N/a	N/a	N/a	• T2 and T3 – minor crown reduction and crown lift to improve clearance over proposed driveway and parking area.	• Part removal of H3 for new access. • Sufficient mature cover retained to mitigate loss.	N/a	N/a	N/a	• Leaf and fruit dispersal • Nuisance of blocked drains, gutters etc. • Recommend use of guards as appropriate to prevent blockages occurring. • Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.) • Patios and sheds to be located outside present and future crown spread to prevent future nuisance occurring.
T4 and T11	• Mid Suffolk Council planning GIS data checked 26/11/19 – site not subject to a TPO or designated conservation area. • MAGIC GIS checked 26/11/19 – site listed within Nitrate vulnerable zone and SSSI Impact Zone. • Limited amenity value; high landscape and wildlife value. • Trees recommended for retention.	N/a	N/a	N/a	N/a	N/a	• T4 - Crown reduction in future to manage structural integrity of tree. Light reaching adjacent proposed plot will be increased following crown reduction works.	N/a	N/a	• Leaf and fruit dispersal • Nuisance of blocked drains, gutters etc. • Recommend use of guards as appropriate to prevent blockages occurring. • Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.)

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Tree Ref	TPO/CA/other statutory protection. Amenity assessment. Retention recommendation.	Removal of existing structures and hard surfacing within RPA	Proposed Infrastructure within RPA	Construction methods for proposed infrastructure	End use of space	Tree loss and new planting	Shading and light	Proximity to structures	Future pressure for tree removal/works	Seasonal tree nuisance
										• Patios and sheds to be located outside present and future crown spread to prevent future nuisance occurring.
S1, H2, T5 and T6	• Mid Suffolk Council planning GIS data checked 26/11/19 – site not subject to a TPO or designated conservation area. • MAGIC GIS checked 26/11/19 – site listed within Nitrate vulnerable zone and SSSI Impact Zone. • Limited amenity, landscape and wildlife value. • Trees recommended for removal.	N/a	N/a	N/a	N/a	• Fell trees to facilitate development. • No requirement for replacement planting as sufficient boundary tree cover is being retained.	N/a	N/a	N/a	N/a
T7, T8, T9, T10, G1, G2	• Mid Suffolk Council planning GIS data checked 26/11/19 – site not subject to a TPO or designated conservation area. • MAGIC GIS checked 26/11/19 – site listed within Nitrate vulnerable zone and SSSI Impact Zone. • Limited amenity, landscape and wildlife value. • Trees recommended for retention	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	• Leaf and fruit dispersal • Nuisance of blocked drains, gutters etc. • Recommend use of guards as appropriate to prevent blockages occurring. • Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.) Patios and sheds to be located outside present and future crown spread to prevent future nuisance occurring.

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5.2 Further discussion

5.2.1 Below ground services for drainage, electricity, gas, water, telecoms, are to be located outside the RPA of the retained trees or connected to existing services within the site. If however, this is not viable then trenchless methods of working will be adopted, shallow trenching may be permitted although a trial trench should be prepared to determine the presence of roots to be affected and the impact upon the health of the tree affected. Overhead services such as; lighting columns, electricity, telecoms, etc. are to be outside the present and future canopy spread, use of Table 2 'Tree Constraints' will aid design.

5.2.2 Guttering and drains will have guards to prevent leaf/fruit drain blockage. Where a significant loss of rainwater water is likely due to loss of natural soft surfaces, the rainwater drainage will be redirected into the rooting area of the retained trees. The drainage should result in a fine spray/distribution across the rooting area and not cause waterlogged conditions or damage to the soil structure, structural engineer to advise further.

5.2.3 The information provided in the impact assessment and constraints advice has provided a basis for tree retention, works specification and construction techniques required. Further details for this can be found in the following sections of this report.

6.1 Tree removals and impact assessment

6.1.1 Provided below is a table of the trees to be removed. This is to be cross-referenced with the tree survey plan provided in appendix 2.

Table 4 Trees to be removed

Trees to be removed	Reason for removal	Impact upon visual amenity
S1, H2, T5, T6, H3 (part of).	Facilitate proposal and access.	Minor impact from part removal of H3 due to position to front of site, sufficient mature tree cover retained to mitigate loss. No impact to occur from removal of S1, H2, T5 and T6, small trees obscured from public view.

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7.1 Tree works specification

7.1.1 All tree works are to be completed as a starting phase of development unless otherwise stated.

7.1.2 All works are to be completed to BS3998 2010 'Recommendations for tree works'

7.1.3 Research suggests that tree works are better completed when the trees are using the least amount of energy and when conditions do not favour pathogens. It is recommended that the works specified below be carried out in midsummer July/early August or the dormant period Jan/Feb. Specifically, times of bud break and leaf abscission should be avoided. This may need further assessment for different species or for aged/veteran trees whose energy reserve and potential to kinetic ratio is susceptible to change from minor tree works. Where this is likely to occur, a separate management plan for that individual tree may be required.

7.1.4 Provided below is a table showing tree works specification. The key for works urgency can be found in Appendix 1 Explanatory notes.

Table 5 Tree works specification

Tree ref	Species	Tree works	Works urgency
T1	Larch *Larix decidua*	None	0
H1	Leyland cypress Cupressus x leylandii	Maintain at current dimensions.	3
H2	Box *Buxus sp*	Fell and grind stumps following below ground service check.	3
S1	Group of multi stem shrubs.	Part fell group and grind stumps following below ground service check.	3
T2	Cherry P*runus kanzan*	Raise crown to 3m and reduce crown on southern aspect by around 1m to allow improved crown clearance from proposed access.	3
T3	Cherry *Prunus avium*	Raise crown to 3m and reduce crown on southern aspect by around 1m to allow improved crown clearance from proposed access.	3
T4	Ash *Fraxinus excelsior*	Recommend reduce crown or re-pollard – 3rd party ownership consent required.	3
T5	Lime *Tilia sp*	Fell and grind stump following below ground service check.	3
T6	Sweet Chestnut *Castanea sativa*	Fell and grind stump following below ground service check.	3
T7	Weeping beech *Fagus sylvatica*	None	0
T8	Tulip tree Liriodendron tulipifera	None	0

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Tree ref	Species	Tree works	Works urgency
G1	Walnut *Juglans regia*	None	0
T9	Pin oak *Quercus palustris*	None	0
T10	Maidenhair tree *Gingko biloba*	None	0
T11	Oak *Quercus robur*	None	0
H3	Field maple *Acer campestre* Hawthorn *Crataegus monogyna*	Part fell group and grind stumps following below ground service check.	3
G2	Lime *Tilia sp*	Recommend coppice those in decline – 3rd party ownership consent required.	3
G3	Field maple Acer campestre Hawthorn Crataegus monogyna Sycamore acer pseudoplatanus	None	0

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8.1 Tree protection

8.1.1 Tree protection is required to prevent physical damage to the stem, branch and crown structure. Tree protection is used also to prevent indirect damage caused by loads passing over the root protection area that would otherwise cause compaction of the soil. Soil compaction reduces soil pore space, which in turn reduces; soil air, available water and nutrients, the anaerobic environment will prevent healthy and strong root growth (elongation, thickening, mycorrhizal association, etc.). Prolonged anaerobic soil conditions will lead to longer term poor tree health with symptoms (crown die back, sparse crown, poor extension growth, etc.) not evident until well after the occurrence. The simplest and most effective way to prevent damage to any retained tree on the development site is the provision of a construction exclusion zone around the tree and its calculated rooting area.

8.1.2 At this site the areas for protection will see the RPA confirmed on the ground with the erection of a scaffold frame with wire mesh attached (Please see appendix 3 Barrier protection construction profile, diagram 2). Where site personnel require access across the RPA, ground protection will be installed utilising scaffold boards laid on a compressible layer (100mm of woodchip) with geotextile membrane beneath, as per British Standard 5837 section 6.2.3.3 (see appendix 5 tree protection plan).

8.1.3 The barrier protection will contain and display information highlighting the protected tree and consequences of any breach of tree protection. Please see appendix 4, example of informative to be placed on barrier protection.

8.1.4 The tree protection plan is shown in appendix 5. This shows; the RPA for each retained tree, the location of protective barriers/ground protection and areas for site storage and contractors parking.

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9.1 Method statements

9.1.1 Provided in this section are arboricultural method statements primarily concerned with working within the RPA of the retained trees. The method statements are designed to minimise/remove any impact or damage/disturbance that may otherwise occur. The method statements provided should be distributed to all key staff involved with the development.

9.4 Soft surfaces within RPA

9.4.1 Provided below is a method statement to avoid damaging/disturbance to the roots of the retained trees during soft landscape operations.

- No tractor mounted or heavy plant rotavating machinery is to be used unless working on surface fit for purpose to reduce/spread load and prevent soil compaction.

- Cultivation is to be completed using manual hand tools only.

- Existing soil is to be used, where additional soil is required it should be containment free, well drained and suitable PH, texture and structure for the site and planting/existing trees/shrubs.

- Damage to roots is to be avoided, large structural roots may be seen at or near the surface and where they radiate from the stem of the tree from large buttresses. After around 4m radial distance structural roots tend to taper to around 3cm in diameter.

- Changes in ground levels are to be avoided, any lowering or raising of levels should be carried out using a suitable method statement that provides continued soil conditions of gas exchange and water percolation.

- Planting is to be done with care and to avoid severing tree roots; generally, planting should be completed outside the RPA.

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10.1 General arboricultural considerations

10.1.1 Provided in this section are wider arboricultural considerations to be used either at the later design stage or when on-site with the contracting team. Further information contained within this section provides details on tree and associated wildlife legislation. The method statements provided should be distributed to all key staff involved with the development.

10.2 Storage

10.2.1 There is to be no storage within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

10.3 Contractors parking

10.3.1 There is to be no parking within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

10.4 Slope

10.4.1 It is recommended that all mixing and storage of materials/chemicals be done on a pre-prepared flat/level surface with sealed sides to prevent any runoff. Storage of all chemicals/materials likely to cause harm to the trees should be in a sealed container or area with a bund to prevent run off if spillages occur. Site personnel are to have access to spillage treatment equipment.

10.5 Services

10.5.1 Methods for service run construction within the RPA are micro tunnelling, Surface launched directional drilling, pipe ramming and impact moling, method statements for these should be provided by the relevant utility companies. Shallow trenching may be

acceptable for minor services; if shallow trenching is required then hand excavation should be adopted as per section 9.

10.5.2 All overhead services will be located outside the present and future crown spread of the retained trees, use tree constraints table provided in section 4 to aid design.

10.6 Levels

10.6.1 There is to be no stripping or raising of levels within the RPA without consent from the local authority. If site levels need to be reduced the use of hand excavation or an air spade should be adopted (see section 9). If site levels are to be raised the material added should allow for water infiltration and gaseous exchange allowing the roots to carry out their normal biological function.

10.7 Development phasing

10.7.1 All contracting staff working at the site should be briefed on approved working practices and protection requirements for the retained trees.

10.7.2 The tree works specification should be completed following approval from the local authority.

10.7.3 All barrier/ground protection should be erected/laid and confirmed as correct by the arboriculturist. All signs should be placed on the barriers at a height of 2m at 3m intervals.

10.7.4 Barrier/ground protection removed after intensive phase of development.

10.7.5 Soft landscaping as final phase of development.

TPS

10.8 Monitoring

10.8.1 Site key personnel

Architect and Contractors

Name	Position	Contact details
Nicholas Jacob Architects Ltd	Design consultants	nproctor@njarchitects.co.uk
Builder TBC	Site manager TBC	

Planning Authority

Name	Position	Contact details
David Pizzey	Tree Officer	david.pizzey@babergh.gov.uk

Arboriculturist

Name	Position	Contact details
James Choat	Arboricultural Consultant	07813204621
		james@treeplanningsoutions.co.uk

10.8.2 **Site specific monitoring**

Item	**Number of visits required**	**Timing of visit**
Pre-commencement site meeting with key personnel. (Contractor, site manager, architect).	1	Meeting to be arranged with architect and site manager before construction phase including demolition, or any breaking of ground.
Tree works	1	Meeting to be arranged between tree surgeon and arboriculturist to determine tree works prior to commencement.
Tree protection installation (ground/barrier) as per tree protection plan and method statements within supplied arboricultural report. Identify area for contractors parking, site storage and access. Place 'exclusion zone' signs at 2m height, 3m intervals facing outwards on temporary fencing.	1	Meeting to be arranged with site manager before construction phase including demolition, or any breaking of ground to determine tree protection location and setting out of site storage, access and any other required access arrangements.
Site visits during construction phase to monitor tree health and tree protection condition.	1	During construction phase
Removal of tree protection.	1	After intensive construction phase

10.8.3 The above is subject to the client/site manager informing the project staff of the proposed date for each development activity. Following each site visit a brief report (see appendix 1 pro forma) to be sent to the client and local authority within 24 hrs following the visit. Any incidents will be dealt with within 2 hours and to be reported to the project arboriculturist, photos to be provided via email and recommendations provided verbally, if required a site visit should be undertaken to provide further advice/ recommendations.

10.9 Incidents/variations

Planned

- Site manager to contact arboriculturist for any anticipated/planned variations
- Site manager to contact local planning authority to determine planning requirements for planned variations.
- Arboriculturist to assess impact upon trees and provide further information / advice regarding alternative methods.
- Arboriculturist to update tree officer and providing details of variations.

Non-planned

- Site manager to inform arboriculturist of incident
- Site manager to photograph incident and send to arboriculturist
- Arboriculturist to provide initial advice via telephone or email
- Arboriculturist to make site visit within 1 day to assess impact upon trees and offer advice to reduce/remove impact
- Arboriculturist to update the local authority tree officer providing details of incident and measure taken to reduce/remove impact.

10.10 Wildlife

10.10.2 The planning applicant should be mindful of the Wildlife and Countryside Act 1981, The Habitats Directive 1994 and The Countryside and Rights of Way Act 2000. These acts protect certain species of flora and fauna; it is an offence to intentionally or recklessly destroy species or habitats contained within these acts. Trees can support associated flora and fauna that is protected via the above legislation. It is recommended the

applicant employ a suitably qualified ecologist to carry out a survey of the area to ensure no offence is committed. Greater detail can be found at the following web link https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications

10.11 Tree legislation

10.11.2 Before any tree works commence at this site it is recommended that written consent be obtained from the local authority. It is an offence to cut down, uproot, lop, top, or cause wilful damage or destruction to a tree subject of a tree preservation order or conservation area. Such acts will lead to prosecution and if convicted a fine not exceeding £20,000 in the magistrate's court; if the case is referred to the crown court the fine may be unlimited. Greater detail can be found at the following web link https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas

10.11.3 Hedgerow Regulations 1997

The above regulations protect certain hedgerows from being removed (grubbed out). A hedgerow removal notice is required to be submitted to the local authority who are to consider a hedgerow retention notice or allow works to proceed following consultation. Certain exemptions and criteria apply. See the following link for further details http://www.legislation.gov.uk/uksi/1997/1160/contents/made

10.11.4 Forestry Act 1967 as amended - Felling licences are issued by the forestry commission, certain exemptions apply, you should check with the Forestry Commission that a licence is not required before felling trees. Greater detail can be found at the following web link http://www.legislation.gov.uk/ukpga/1967/10/contents

11.1 Conclusion

11.1.1 All surveyed trees have been categorised in accordance with British Standard 5837 2012. Visual tree amenity is limited due to the remote location of the site, young to early mature age range favouring the majority of the internal tree stock and boundary hedgerows obscuring much of the internal tree stock. The landscape and wildlife value is considered reasonable due the connectivity with the wider rural landscape, structural diversity providing good canopy connectivity and green corridors providing migratory routes for wildlife. T4 Ash and T11 Oak appear to be aged trees (full assessment was not possible due to 3rd party ownership), lapsed pollards, with probable occasional veteran associations such as deadwood, decay pockets, water pockets, tear wounds etc. Such associations provide microhabitats and increase the species diversity associated with the host trees; T4 and T11 should be retained and protected in accordance with NPPF recommendations.

NPPF: -

'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;

and

development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity'

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11.1.2 It is very likely that regardless of development, crown works will be required to maintain the structural integrity of T4 and T11 to reduce end load and the bending stresses found at the pollard head where stresses tend to be uneven as the surface area is non-shape optimised. With the exception of T1, H3 and G2 the remaining trees are generally recent

plantings (15-20years) and, although in reasonable condition, could be replaced without a significant loss to the local landscape character or visual amenity value.

11.1.3 Trees T5, T6, H2 part of S1 and part of H3 are to be removed to facilitate the proposal. The removal of these particular trees will not have a significant impact upon visual tree amenity, they are small trees mostly obscured from public view by existing site features. Sufficient mature boundary tree cover is being retained to mitigate tree loss. Trees T2 and T3 will require crown works to provide improved crown clearance from the proposed access, the works are considered routine (crown lift and reduction) and will not cause a loss to visual amenity or negative impact upon tree health. The retained tree stock can be adequately protected during the development phase using barrier protection, access to the site will be created as starting phase of development to ensure full barrier protection of the retained tree stock from the outset of development. The proposal will not further obscure the tree features and is therefore considered to have a low impact upon visual tree amenity.

11.1.4 Tree protection and method statements have been provided within this report to reduce the risk of direct and indirect development related damage that may otherwise occur to the retained trees. In conclusion, assuming the method statements and tree protection are implemented as part of the development, the proposal can be constructed with reduced disturbance to the trees ensuring their continued health and functionality.