Tree Survey
Arboricultural Impact Assessment
Outline Method Statement & Tree Protection Plan
HPK/2012/0528

Site Ref: Talbot Road Glossop

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Executive Summary

This arboricultural document is interchangeably called an impact assessment or arboricultural implications report. The report essentially balances the competing needs of trees and develop-able space. Clear justification grounded in knowledge of the nature and biology of trees is required to make cases for tree loss, or arguing for their retention if trying to remove the trees would weaken the planning case substantially. The tree survey is a plan led report that is concise and to the point. This is a careful and considered set of arguments and reasons, containing justification for tree loss—as well as practical, real world solutions for protecting retained trees where relevant. This Plan led report gets straight to the point and communicates how the scheme sits with tree constraints.

1.0 INTRODUCTION

This report has been commissioned by the Applicant for the design of a new dwelling situated on a natural south facing plot on Talbot Road.

This report has been prepared in accordance with British Standard 5837:2005, for trees in relation to the development of the site:

This report is required to address the following points of reference: • To provide an Arboricultural Implications Assessment; • To provide an Arboricultural Method Statement; • To provide a Tree Protection Plan.

Scope of the report

The trees on the site were surveyed from ground level using the Visual Tree Assessment methodology (Body Language of Trees by C. Mattheck). None of the trees were climbed as part of this survey. The report details the trees (on the site) that will be influenced by the development. Trees under 75mm in diameter have not been included in this survey (in accordance with BS 5837:2005 s 4.1.3). The surveyed trees are listed in the schedule in Appendix 1and attachment.

2.0 ARBORICULTURAL IMPACT ASSESSMENT

Individual Trees

There are 6 individual trees on the developable area of the site. Of these, 2 are rated as category R trees which would require removal within the next 10 years due to their condition. The category R trees are T2, T4, and T44. The remaining 3 individual trees on the site to be developed are all category C trees. Of these, trees T8, T10, and T45 will require removal to accommodate the building, revised road access and proposed ground level changes. Trees T14 and T15 are apple trees planted along the site boundary with The Beeches. These trees can be maintained.

Tree T2, is within the Hedges to the southern boundary of the site. The proposed development shows this tree as retained; it suffered damage last winter (2012) with a bough collapsing due to light snow accumulation and highways may require its removal. There would also be a proportion of the theoretical rooting area of T1 within the proposed exit road should it remain. The amenity value of the above trees is low and their removal would have a minimal impact upon the biodiversity of the overall site given the area to the north of hawthorn hedge that is to remain.

All trees to the north of this hedge will be unaffected by the proposal and are recommended for retention. All of this area is outside the proposed development boundary, and will therefore only be included as context in any development plans.

T11, T12, T13 and T14, may be slightly affected by the proposal. The trees on the adjoining site however should not constrain the development in any way.

Hedgerows. There are 5 hedgerows within the development site. Hedgerows, to the north and west are not affected by the development and their retention is recommended. Hedgerows on the southern boundary to Talbot Road can be retained outside the new access positions. The internal Beech hedge will require removal as indicated with the other hedges remaining.

CONCLUSIONS

Report Conclusions

The following trees will be removed in order to facilitate the development: T4, T8, T10, T44 and T45. The following trees are recommended for removal due to their condition T1, T2 and T44.

The following trees will be removed in order to facilitate the development T8, T10 andT45

The following group will be retained but may be very slightly affected by the development, T11, T12, T13, and T14

The following trees will not be affected by the development T15. The area outside the construction and development site is to remain in its entirety as indicated on the plans.

The hedges to the southern boundary will be affected by the development with the internal beech hedge being removed. North and west hedges will not be affected.

Bibliography • B.S.5837:2005 Trees in relation to construction – Recommendations. BSI Publications. • B.S.3998:1989 Recommendations for tree work. BSI Publications. • Tree Roots in the Built Environment, Dept. Communities and Local Government.

ARBORICULTURAL REPORT

The site has been assessed in accordance with BS 5837:2005 'Trees In Relation to Construction – Recommendations'.

The site is neither in a conservation area or has any TPOs

The site consists of the grounds to the west of The Poplars grounds with altered ground levels. Trees are located around the periphery of the site with a dense tree and shrub screen to both the West and East boundaries. Small and insignificant trees are located within part of the central area, along with a single mature group which are outside the development site. No trees are prominent in the wider landscape.

Trees are used for fuel – see page 13

The proposal is to erect a new single new dwelling with garage.

The proposal will entail the removal of six trees within the development site. The tree loss will be insignificant in the wider landscape. The building will be within close proximity, but outside of canopy spreads of retained trees. The elevations nearest buildings do not have any significant windows and the trees will not cause any unreasonable nuisance to the building. No pruning will be required to provide clearance of the new building and the separation is good as illustrated on the plan.

The proposed building makes good use of the space available allowing the good quality trees to be retained with ample space around the perimeter of the site, whilst retaining the vast majority of B quality trees on the overall site.

1.0 **Brief**

1. To assess the quality of the Trees and Hedgerows on (and immediately adjacent to) the site.
2. To provide an Arboricultural Impact Assessment with regard to the proposal.
3. To describe measures that will suitably protect retained trees during the development process, based on the illustrative outline scheme.
4. To describe an appropriate level of mitigation and/or compensation where necessary in accordance with the all matters reserved application.

1.1 Following an initial site visit/survey and discussion period, the following arboricultural information is provided in support of the application and was undertaken in November 2010 and Feb/March 2011 and August 2012.

1.2 The report is based on the following drawings and documents,

i. Tree Survey drawing

ii Existing Site Plan

2.0 Limitations / Methodology

Scope of Survey

2.1 The survey is concerned with the arboricultural aspects of the site only.

2.2 The trees on site have been surveyed and classified in accordance with British Standard 5837:2005 'Trees in Relation to Construction – Recommendations' [BS5837].

2.3 The baseline survey was undertaken using the Visual Tree Assessment [VTA1] methodology to conduct a preliminary assessment of the above ground portion of the tree.

2.4 Trees are large dynamic organisms whose health and condition can change rapidly, therefore due to the changing nature of trees and other site considerations, this report and any recommendations made are only valid for the 12 month period following the latest site survey,.

Survey Method

2.5 The survey was undertaken from ground level with the aid of binoculars, no excavations were carried out nor soil or root samples taken. Where a more detailed assessment/inspection of a particular feature is deemed necessary it has been recommended in the survey schedule. No aerial inspection nor invasive probing or drilling has been undertaken.

2.6 The canopy spread of each subject tree was measured on four compass points using laser survey equipment – where access was restricted the spread was estimated and marked as such on the survey schedule. The height of each subject tree was estimated using a clinometer.

2.7 Trees located outside of the site perimeter have been noted during the site survey where they pose an above or below ground constraint, however, their exact location and measurements may have been visually estimated due to lack of access.

Subsidence Risk

2.8 This report is primarily concerned with the condition of existing trees and the application of current guidance for their retention. Any discussion of soil characteristics is only presented where this may have a direct effect on tree growth. This report does not seek to address the specific area of subsidence risk assessment.

Terminology

2.9 This report considers the arboricultural Impacts and Implications of the proposed development. Discussion and comment of Impact relates to the general nature/level of development; whereas Implications refer to specific issues relating to layout and individual trees/groups.

2.10 When describing impacts on arboricultural features; reference is made to the following parameters:

a) **Positive or negative**

b) **Magnitude**: Refers to the 'size' or 'amount' of an impact, determined on a quantitative basis where possible.

c) **Extent**: The area of which the impact occurs (magnitude and extent may be synonymous).

d) **Duration**: The time for which the impact is expected to last prior to recovery or replacement of the resource of feature. Defined in relation to the feature -rather than human timeframes. The duration of an activity may differ from the duration of the resulting impact caused by the activity. For example, if short-term construction activities cause soil compaction around mature trees, there may be longer-term implications for tree health.

e) **Reversibility**: An irreversible (permanent) impact is one from which recovery is not possible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it. A reversible (temporary) impact is one from which spontaneous recovery is possible or for which effective mitigation are both possible and an enforceable commitment has been made.

f) **Timing and frequency**: Some changes may only cause an impact if they happen to coincide with the critical life-stages or seasons (for example, the bird nesting season). This may be avoided by careful scheduling of the relevant activities.

g) **Compensation**: Measures taken to make up for the loss of, or permanent damage to, arboricultural resources through the provision of replacements.

h) **Enhancement**: A new benefit -unrelated to any negative impact.

i) **Impact**: The way in which an arboricultural resource is affected by the project.

j) **Mitigation**: Measures taken to avoid or reduce negative impacts.

3.0 Site Description

3.1 The site is located opposite Glossopdale Community College, to the north east of the existing Talbot Road. The site is currently used as a residential property and is located on a south facing slope.

3.2 Trees located on the slope between the higher and lower areas do not form a prominent skyline feature.

3.3 A dense layer of trees and shrubs are located around the boundaries. A wide area of garden is located on the southern boundary. This area has been managed for many years resulting in dense shrubs. Planting beds are present with suppressed trees amongst them.

3.4 A single mature Ash (it suffered damage last winter (2012) with a bough collapsing due to light snow accumulation) is located on the southern boundary overhanging the boundary whilst a mature Cherry is a feature in the South East entrance.

3.5 The site is in a location with only limited views into the site from the east and west of Talbot Road. The adjoining sites' mature trees screen the site at all points of the compass.

4.0 Baseline Factors

4.1 The Baseline survey data describes the conditions that would pertain in the absence of the proposed project at the time that the project would be constructed.

Presence of Tree Preservation Orders [TPO] or Conservation Area [CA] Designation

4.2 There is no Tree Preservation Order is in place on the adjacent site and none on the development area, at the time of writing this report. The proposed development site does not fall within a Conservation Area.

Existing Trees on Site

4.3 The significant trees on site are located around the boundaries and include a mature Ash and Cherry. Dense shrubs are located in the gardens and Hawthorne, Holly and Beech form hedges to Talbot Road.

4.4 A schedule of tree condition and category of retention (see section 4.8 below) is attached as appendix 1.

4.5 Notable arboricultural features and issues on site are as follows:

- T1 Cherry, T2 Ash (it suffered damage last winter (2012) with a bough collapsing due to light snow accumulation) on southern boundary.

Trees Adjacent to the Site

4.6 The adjacent sites to the south, north east and west also contain arboricultural features which do not pose a constraint to any development on site. Information about adjacent trees has been included in the tree survey schedule and/or on the accompanying plans, where appropriate.

Significance of Site Tree Cover

4.7 Whilst the scope of the arboricultural assessment does not extend to a full landscape or ecological appraisal, the accepted methodology detailed in BS5837 presents a suitable starting point to be able to take a strategic view of the subject site.

Table 1 – Summary of Baseline Assessment overall site

BS:5837 Retention Category	Number of individual Trees: Y/MA/M	Estimated length of hedgerows (m)	Estimated area under canopy -tree groups (m^2)	Existing future management requirements High/Med/Low	Visibility from public location %	Potential to reach full maturity %
A	0/0/0	0	0	N/A	N/A	N/A
B	0/0/2	0	86	Low	100%	100%
C	0/0/50	145	1600	Med	12%	85%
R	0/0/7	0	60	Low	5%	0%

4.8 The retention category is a construct of the British Standard which allows arboriculturist's to place trees in certain bands so that impacts can be appropriately quantified and managed; broadly defined as follows:

- A Category -High quality and value -such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested);
- B Category -Moderate quality and value -those in such a condition as to make a significant contribution (a minimum of 20 years is suggested);
- C Category -low quality and value – currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested).
- R Category -in such a condition that any existing value would be lost within 10 years and which should, in the current context be removed for reasons of sound Arboricultural management.

4.9 It is important to note BS5837 states that 'C' category trees will usually not be retained where they would impose a significant constraint on development. Therefore the most significant constraints are (A&B category trees)+(important hedgerows)+(TPO/CA).

4.10 It is also important to note the potential for conflict between the retention category and the impact on important receptors, for example, an 'R' quality tree - usually removed from the development site – may be an important habitat for protected wildlife with an assessment undertaken in accordance with English Nature's requirements under separate cover.

Root Protection Areas

4.11 The Root Protection Areas (RPA's) have been calculated in accordance with BS5837 (Table 2, Page 8), and are detailed on the Tree Survey Data Sheets located in the appendix of this report. Where ground constraints have had, or are likely to have, an effect on tree root development, for example, where level changes or changes in rooting medium (heavily compacted ground) have influenced tree root growth, the RPA has been adjusted accordingly.

4.13 The following RPA's have been modified:

Table 2 – Modified RPA's

Tree / Group Ref. No.	Reasons for Modifying RPA
TG3	Adjoining retaining wall

5.0 Project Requirements

Proposed Development

5.1 The proposal is to erect a four storey residential project although in outline planning only. The building will occupy the existing central area to the rear and the Talbot Road frontage. The building includes store, maintenance rooms and circulation.

5.2 The area that the building will occupy is adjusted to 'step' up the existing topography.

Implications Assessment

6.0 Above Ground Constraints

Effects of New Building on Amenity Value on or near the Site

6.1 The existing trees located around the periphery of the site will be retained with the possible exception of T2. These in conjunction with hedges screen the site. The trees have a high amenity value and they are to be retained in the proposed development. The proposal will remove trees internal to the site that have a very limited public visibility or potential visibility. Therefore, the amenities of the area will not be adversely affected by the proposed development.

Pruning and Felling Works to Facilitate Development

6.2 The proposed building will entail the removal of vegetation and trees within the central area but retaining the more prominent boundary trees. The most notable tree is T2 Ash. The tree is Category R and has a medium amenity value. Its loss would have a negligible impact on the wider landscape and it can be easily compensated for with new planting and/or management of the boundary vegetation should its removal be required by the Highways authority on the grounds of overhanging and safety.

6.3 Some minor pruning may be required to ensure that clearance of the proposed building is adequate, but this will be at a low level and not lead to the decline of the trees. The works could be justified as part of the management of the existing site regardless of the proposed development.

Proximity of Trees to Structures

6.4 The trees around the periphery of the site tend to be at different ground levels, especially those to the north which are located at a higher ground level. The building has been designed to avoid the retained trees where possible, whilst meeting other constraints.

6.5 The building is outside the canopy spread of all the retained trees. The building is close to the canopy of several trees but the relationship is not poor, due to the location and quantity of windows and the use of the building.

6.6 The building is not within 3.5m of trees 14, and 15. There are 2 OM apple trees located on higher ground. The trees have a 2m canopy clearance (height of lower branch) but this could be increased to clear the path and to provide a greater clearance of the building, if required. The upper trees are close to the rear elevation that does not contain windows so they will not cast any meaningful shade or dominate it to an unreasonable level.

6.7 The canopy spread as can be seen from the plans is not affected

6.8 The clearance from the remaining trees is very good with the building orientated to avoid the trees.

6.9 It should be noted that the use of the building is important in determining if the spatial relationship between trees and the building is acceptable. Effectively the building is functional living space that does require a high level of daylight penetration and contained a large volume of windows.

6.10 The building has a generally good relationship with the trees and is only close to canopy spreads on some corners and on the rear elevation. This should not lead to reasonable calls to fell or prune trees and the trees will help to screen the building effectively.

7.0 Below Ground Constraints

Proximity of Trees to Structures

7.1 The building has been designed to utilise the garden space associated with the occupied existing house. Therefore, the footprint is within ground that has been heavily altered and with a low level of root penetration. It is highly unlikely that the layout will lead to the loss of trees due to root loss.

Works Required Within the RPA

7.2 The western elevation does not occur within the edge of the RPA of tree T14. The excavations will occur on the opposite side of a pedestrian path to the tree and will not involve any proportion of the RPA. The primary rooting area of the tree is likely to be the slope and the effect of excavations adjacent to a small area of the RPA is unlikely to have a detrimental impact on the trees due to the low level of roots that are likely to be encountered.

7.3 As a precautionary measure it is proposed that the excavation here is controlled so that any roots over 2.5cm in diameter are cut using a sharp saw and that the ground within the existing path area is protected to allow construction operations to go ahead without causing damage to the soil structure and root growth beyond the extent of the excavations.

Works Required within 5m of the RPA/within Falling Distance of Existing Trees

7.4 In other areas the excavations will be within the areas that have been heavily disturbed / altered by the construction of the original house and existing retaining walls.

Ground Level Changes

7.5 The site is not level but the ground level changes required will be minimal and not lead to increased drainage of the soil within proximity to retained trees. Ground level changes occur outside the RPA except on the fringes where excavations will be conducted in a controlled manner. This will not compromise the long-term viability of the trees.

8.0 Construction Processes of the Proposed Development

8.1 Development processes that lead to soil compaction in tree rooting zones and physical damage to trees an adversely affect long-term tree health. This can lead to unnecessary tree loss if not controlled properly on site during the building and the construction phases.

Tree Protection

8.2 No access to the RPA of any retained tree will be permitted or required before or during construction activity, unless detailed in the attached Arboricultural Method Statement or otherwise agreed in advance with the LPA following advice from the appointed specialist.

8.3 The processes of construction are highly unlikely to have a detrimental effect upon the health of the retained trees assuming recommendations made in this report are adhered to at all times by the contractors e.g. the positioning of a fence between the retained trees construction activities is placed prior to commencement of works and remains intact and in position throughout the duration of the construction activities.

8.4 BS5837 recommends that retained trees (and areas suitable for new planting) are incorporated into CONSTRUCTION EXCLUSION ZONES (CEZ's) and suitably protected throughout the development process. The CEZ's are clearly marked on the TREE PROTECTION PLAN

8.5 The development will be carried out in the following order:

1) Remedial tree works undertaken
2) Tree Protection Fence installed.
3) Development of site.
4) Removal of Tree Protection Fence.

9.0 Modifications proposed to accommodate trees

9.1 The positioning of the building dispenses with a need to modify building construction to accommodate retained trees. The retained trees are far enough away from the position of the dwelling so as to permit light infiltration to the windows. This will negate the need for subsequent calls for tree pruning due to shading.

10.0 Infrastructure requirements – highway visibility, lighting, CCTV, services etc

10.1 The installation of services within the rooting zones of trees can have a large detrimental impact on the long-term survival of retained trees leading to their unnecessary loss or root failure in high winds. No services are to be installed within any tree RPA.

10.2 The proposed vehicle entrance will be used to gain access to the site. Any enhancement of the driveway by digging down could have a significant impact upon the retained tree health causing die back and subsequent requests for removal. The single Ash tree T2, on site does have some impact on highway safety following last winters collapse and given its condition and is identified for possible retention subject to highways requirements.

10.3 Undisclosed locating of above ground services, CCTV cameras, electrical sub-stations, refuse stores, lighting and other infrastructure requirements can lead to unnecessary pruning of tree crowns or root loss during or post development. There are no such developments planned to take place adjacent or within the RPA of any retained trees.

10.4 Underground services near to trees will need to be installed in accordance with the guidance given in BS5837 together with the National Joint Utilities Group (NJUG) publication Volume 4 'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees' - 2007.

11.0 Mitigating tree loss/new planting

11.1 Should any tree loss will take place as a result of the development of the new building. New planting should be in accordance with the National House Building Council Standards (NHBC 4.2 'Building near Trees' – 2006).

11.2 A landscape plan has been considered. This will incorporate management of the existing vegetation and new planting of trees sympathetic to the environment and to the benefit of the new development and the surrounding landscape.

11.3 Where future new tree planting is planned it is imperative that consideration is given to management and maintenance. It is recommended that a minimum five year plan is constructed and submitted with the new landscape proposals.

11.4 The arboricultural impacts of the development have been summarised in the executive summary section above. Appropriate measures, including new planting, have been recommended by way of minimising the overall affect of the project on the site - in terms of its landscape contribution with regard trees and hedgerows.

12.00 **Firewood**

12.01 The upper levels of the site have trees used to supply the alternative sustainable heating system within the property – Firewood. This has proved successful over the past few years reducing the reliance on fossil fuels. Trees around the site fulfil this function, this then is a private small scale unfunded MOREwoods Forestry Commission type project.

12.02 The Woodland Trust provides detail of the growing of firewood on their web site with the following quotes.

http://www.woodlandtrust.org.uk/en/plant-your-own-wood/Pages/woodfuel.aspx

- Firewood is sustainable, it is not reliant on outside suppliers, and it means not having to watch prices climb... and could be worth up to £200 a tonne.

  Harvesting your own sustainable fuel and have a native woodland to enjoy.

- Planting trees on your own land will also help keep watercourses clean and gather particulate matter that would otherwise lands on crops.

  They lock up carbon and can become a source of timber as they mature.

12.2 Using wood as fuel to produce heat and possibly power can be an excellent low carbon alternative to coal, oil and gas, but it depends on having a local, sustainable supply.

12.3 The carbon released when wood is burned is effectively recaptured by growing replacement trees.

12.4 This is much better than using fossil fuels, which add carbon dioxide to the atmosphere: using wood fuel avoids those extra emissions.

12.5 The best ones are ash, because ash wood burns well without drying, cherry, oak, birch and hornbeam and many other native broadleaf trees are also suitable.

13.0 Impact Assessment - Overview

13.1 The following assessment demonstrates the consequence of change in terms of the affects of the development on significant trees and hedgerows.

Table 3 – Impact Assessment

Summary of Baseline Tree Cover for the complete site including the construction development area:						
BS:5837 Retention Category	**Number of Individual Trees: Y/MA/M**	**Estimated length of hedgerows (m)**	**Estimated area Under canopy –tree groups (m^2)**	**Existing future management requirements High/Med/Low**	**Visibility from public location %**	**Potential to reach full maturity %**
A quality trees	0/0/0		0	N/A	N/A	N/A
B quality trees	0/0/2		86	Low	100%	100%
C quality trees	0/0/50	145	1600	Med	121%	85%
Impact of Proposed Development:						
BS:5837 Retention Category	**Number of Individual Trees: Y/MA/M**	**Estimated length of hedgerows (m)**	**Estimated area Under canopy –tree groups (m^2)**	**Existing future management requirements High/Med/Low**	**Visibility from public location %**	**Potential to reach full maturity %**
A quality trees	0/0/0	0	0	0	0%	100%
B quality trees/R	0/0/0	0	0	Low	100%	100%
C quality trees	See above	74	0	low	5%	80%

Degree of Impact	**Individual Trees/Groups**	**Hedgerows**	**Tree Groups**
Extent – area affected	See Plan	See Plan	
Duration	Short term	N/A	Mid term
Magnitude - size/amount	<20%	<50%	
Reversibility	Temporary	N/A	Temporary
Mitigation/Compensation recommended	New Planting 5 year management plan	Management of remaining hedgerows	Management Plan

13.2 Table 3 above demonstrates that the proposed development will have a moderately low arboricultural effect on the site as a whole. With minimal effect on the development site where only 6 trees are to be removed. In the context of sustainability, the information clearly shows that the impact on significant trees has been considered through the design process. The level of mitigation recommended is appropriate to ensure the site is only temporarily affected. In the long term the effects on trees will be negligible and easily mitigated for with management of the screen vegetation and new planting.

13.3 The above table has not included 'R' category tree as by definition they are in such a condition that any existing value would be lost within 10 years and which should, in the current context be removed for reasons of sound Arboricultural management.

13.4 By taking a strategic overview of the site we have been able to communicate more effectively with all other parties involved with the project. Furthermore Table 3 allows the arboricultural aspects of the development to be measured/assessed in line with OPDM Planning Policy, for example:

PPS 1 – Protection and Enhancement of the Environment -"Planning should seek to maintain and improve the local environment and help to mitigate the effects of declining environmental quality" and "to protect and enhance the quality, character and amenity value of the countryside and urban areas as a whole."

PPS 9 – Key Principles -"development should take a strategic approach to the conservation, enhancement and restoration of biodiversity and geology, and recognise the contributions that sites, areas and features, both individually and in combination, make to conserve these resources."

PPS 3 – When assessing design quality -"the extent to which the proposed development.....provides for the retention or re-establishment of the biodiversity within residential environments."

13.5 Only trees and shrubs internal to the site will be removed and these have an inherently low amenity value. The loss of this vegetation is acceptable and will not impact on the wider landscape. Any impact from this will be temporary (in relation to the wider landscape) and of a very low magnitude.

13.6 The RPA of trees will need to be excavated at their periphery, along the edge of the proposed footpaths. Whilst this is within the RPA the level of roots is likely to be reduced due to the compacted ground and the impact on the tree will be minimal, reversible and of low magnitude.

13.7 The retained trees may require some minor pruning over the 10-20 years following completion of the development but the level of pruning is likely to be minor with a low impact on the trees health and amenity value.

14.0 Post Development Pressure

14.1 The level of tree management required will be low and similar to that required as part of the normal management of the site, regardless of the proposed development.

14.2 The building is not residential and the elevations or parts of the building nearest the trees are low use areas and do not have windows. Therefore, the trees will not cause an unreasonable dominating effect or cast excessive shade to windows.

14.3 In consideration of these matters, there will be no appreciable post development pressure, and certainly none that would oblige the Council to give consent to inappropriate tree works.

15.0 Conclusions

15.1 The layout of the proposed house has been designed following the production of a Tree Constraints Plan. The footprint occupies an existing garden area.

15.2 The layout has avoided the retained trees with good separation except for minor parts of the building with no windows and low use. Therefore, the layout is acceptable and will not lead to reasonable pressure to fell or prune the trees.

15.3 The building will entail the removal of areas of shrubs and an R category ash tree on the site. This vegetation is not readily visible from outside the site due to the substantial screening that already exists. The loss of this vegetation will not adversely affect the amenities of the area and can be easily mitigated for with new planting and/or management of the screening vegetation.

15.4 The proposals are acceptable and will not compromise the health or prominence of the good quality trees.

16.0 Recommendations

16.1 The tree protection measures given in this report should be implemented.

16.2 It is strongly recommended that the arboricultural protection measures are clearly communicated to the entire construction team prior to commencement – this process should involve the Local Planning Authority so as to ensure any planning conditions are not breached. This is most effectively managed by monitoring the development on a regular basis, checking tree protection measures in relation to the Tree Protection Plan & Arboricultural Method Statement(s) and reporting to the LPA on a monthly basis.

16.3 The development will be carried out in the following order:

1) Remedial tree works undertaken
2) Tree Protection Fence installed.
3) Development of site.
4) Removal of Tree Protection Fence.

16.4 All tree work should be undertaken by trained and competent personnel to current industry standards and guidance.

Appendix 1

Tree Survey

BS 5837:2005 – Table 1

Tree Survey Data Sheets

To be read in conjunction with the overall site Tree Survey plan 2341-210

Cascade chart for tree quality assessment (extract from BS 5837:2005 – Table 1

Category and definition	Criteria			Identification on plan
Category R Those in such a condition that any Existing value would be lost within 10 years and which should, in the current context be removed for reasons of sound Arboricultural management.	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate and irreversible overall decline. • Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease) or very low quality trees suppressing adjacent trees of better quality • NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree.			DARK RED
Category and definition	**Criteria – Sub-categories**			
	1 Mainly Arboricultural values	2 Main landscape values	3 Mainly cultural values, including	Identification on plan
Category A Those of high quality and value Such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially fi rare or unusual or essential components of groups or of formal or semi-formal Arboricultural features (e.g. the dominant and/or principal trees within an avenue).	Trees, groups or woodlands which Provide a definite screening or softening effect to the locality in relation to views into or out of the site or those of particular visual importance (e.g. avenues or other Arboricultural features assessed as groups).	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).	LIGHT GREEN
Category B Those of moderate quality and value@ those in such a condition as to make a significant contribution (a minimum of 20 years is suggested	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating that they might as individuals but which are not, individually, essential components of formal or semi-formal Arboricultural features	Trees with very limited conservation or other cultural benefits	MID BLUE
Category C (Those of low quality and value Currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested).	Trees not qualifying in higher categories	Trees present in groups or woodlands but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE Whilst c category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation			

Tree No On Plan	Species	HGT	ST Ø	Cr RAD N E S W	Cr Hgt	Age	Physiological & Structural Observations – ve/+ve	Preliminary Management Recommendations	Est Cont	Rad RPA	BS CAT
1	Cherry	9m	470	3-6-5-4							
2	Ash	12m	500	5-5-8-4							
3	Lime	12m	350	3-4-4-4							
4	Cedar	9m	300	3-2-3-3							
5	Cypress Arizona	9m	300	3-2-3-3							
6	Hawthorn	4m	60	0.5-0.5-0.5-0.5							
7	Cedar Blue now Felled	7m	130	1.5-3-3-1							
8	Acer	6m	60	2-1.5-1-2							
9	Cherry now Felled	5.5m	100	4-4-4-3							
10	Cherry	5m	100	2-4-1-2							
11	Copper Beech	7.5m	400	3-4-4-3.5							
12	Beech	5m	85	2-1.5-2-1.5							
13	Cypress Leylandii	7m	150	0.5-0.5-0.5-							

				0.5							
Tree No On Plan	**Species**	**HGT**	**ST Ø**	**Cr RAD N E S W**	**Cr Hgt**	**Age**	**Physiological & Structural Observations – ve/+ve**	**Preliminary Management Recommendations**	**Est Cont**	**Rad RPA**	**BS CAT**
14	Apple	7m	350	3-3-3-3	1.8	MA	P: Good S: Good	None at time of writing			B1
15	Apple	6m	300	1-3-3-1	2.1	MA	P: Good S: Fair	Remove adjoining Ceda T4			B1
16	Holly	7m	150	2.5-2.5-2-2	2.4	Y		None at time of survey	30-50		C1
17	Cherry	7m	80	0.5-2-2-2							C2
18	Holly	6m	180	2-2-3-2							C1
19	Holly	6m	200	3-3-3-3							C1
20	Hawthorn	4.5m	350	3-3-2-3.5							
21	Willow	5m	180	2-3.5-3-3							
22	Hawthorn	3.5m	80	3-3-2-3							
23	Crab Apple	4m	80	1.5-1.5-2-2							
24	Laburnum	3m	180	2.5-2.5-3-3							
25	Oak	5m	150	2-2.5-2-3							
26	Oak	6m	220	2-3-3-2.5							
27	Ash	7m	400	3-3.5-3-3							

Tree No On Plan	**Species**	**HGT**	**ST Ø**	**Cr RAD N E S W**	**Cr Hgt**	**Age**	**Physiological & Structural Observations – ve/+ve**	**Preliminary Management Recommendations**	**Est Cont**	**Rad RPA**	**BS CAT**
28	Oak	5.5m	160	1.5-1.5-1.5-2							
29	Oak	4m	190	3-3-3-3							
30	Holly	4.5m	250	2-3.5-3-3							
31	Sycamore	6.5m	290	2-3-3-3.5							
32	Holly	5m	250	2-3-3-3.5							
33	Holly	5m	220	2-3-3-3							
34	Beech	6.5m	220	2.5-3-3-3							
35	Oak	7m	300	3-3-3.5-3							
36	Cypress Leylandii	5.5m	210	1.5-1.5-1.5-1.5							
37	Cypress Monterey	7m	300	2-2-2-2							
38	Sycamore	4m	350	3-3-4-3							
39	Poplar	6.5m	360	3-3-3-1							
40											

Tree No On Plan	Species	HGT	ST Ø	Cr RAD N E S W	Cr Hgt	Age	Physiological & Structural Observations – ve/+ve	Preliminary Management Recommendations	Est Cont	Rad RPA	BS CAT
41											
42	Holly	3.5m	100	1-2-2-1.5							
43	Lime (Pollarded)	9.5m	450	3-3-2.5-2.5							
44	Damson	7m	280	2.5-4-3-3							
45	Willow	7m	190	1-2-3.5-2.5							
46											
47											
48											
49											
50											
51											
52											
53											

54											
Tree No On Plan	**Species**	**HGT**	**ST Ø**	**Cr RAD N E S W**	**Cr Hgt**	**Age**	**Physiological & Structural Observations – ve/+ve**	**Preliminary Management Recommendations**	**Est Cont**	**Rad RPA**	**BS CAT**
55											
56											
57											
58											

Tree Survey - KEY		
HGT: Height in Metres **ST Ø:** Stem Diameter in millimetres **Cr RAD:** Estimated average canopy radius to compass points **Cr Hgt:** Estimated height of lowest branch/crown clearance **Est Cont** Estimated remainng contribution in years **Rad RPA:** Radial Root Protection Area in metres from stem centre	**Age Class:** **NP** New Planting **Y** Young (1st 1/3 of life expectancy) **MA** Middle Age (2nd 1/3 of life expectancy) **M** Mature (final 1/3rd of life expectancy) **OM** Over mature (beyond life expectancy and declining naturally) **V** Veteran (of great age for its species and possibly of conservation value)	**Condition:** P= Physiological Good – no significant health problems Fair= symptoms of ill health that can be remediated S=Structural Poor-significant ill health Poor=significant ill health

BS Cat: Category of retention	**R** Removal	**A** High quality value	**B** Moderate quality value	**C** Low quality value	**e:** estimated figure

Appendix 2

Tree Protection – Detail

OUTLINE METHOD STATEMENT FOR TREE PROTECTION

Outline Method Statement for Tree Protection

Throughout the Development & Construction Period

The following Outline Arboricultural Method Statement (AMS) includes a Tree Protection Plan (TPP)

- Trees to be retained.
- Construction Exclusion Zones (CEZ)
- Measurements to identify CEZ in relation to centres of trees.

1.0 Construction Exclusion Zone

1.1 The Construction Exclusion Zone (CEZ) required by the current edition (2005) BS 5837 Trees in Relation to Construction relates to the stem diameter of each tree when measured at a height of 1.5m from ground level, adjusted where necessary to account for actual rooting patterns on site. The CEZs are to be afforded protection at all times and will be protected by robust fencing. No works will be undertaken within any CEZ that causes compaction to the soil or severance of tree roots.

1.2 There is construction operations planned within the CEZ in the following locations:
- On the western elevation within the edge of the RPA for tree 0919.

1.3 The construction measures within the CEZ will be controlled by the outline method statement in Appendix 4 and following details supplied to, and approved by, the Local Planning Authority.

2.0 **Protective Fences**

2.1 A protective fence will be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site, development or the stripping of soil commences. The barrier will have signs attached to it stating that this is a Construction Exclusion Zone and that NO WORKS are permitted within the barrier. The barrier may only be removed following completion of all construction works.

2.2 The fence is required to be sited in accordance with the Tree Protection Plan enclosed with this method statement as appendix 1. The fence must ideally be constructed as per figure 2 in BS 5837:2005 and be fit for the purpose of excluding any construction activity (see appendix 2.2). The level of construction on site would be suitably excluded from the CEZ with any barrier type construction, coupled with the designated site manager to formally brief any work person with regard the contents of this method statement.

2.3 There are no new accessible areas of planting to be protected during the construction phase.

2.4 No access to the site from any other part of the property than the existing entrance will be permitted for construction traffic or delivery of supplies.

3.0 Precautions In Respect Of Temporary Works

3.1 If temporary access is required to a CEZ then access may only be gained after consultation with the Local Planning Authority and following placement of materials such as concrete slabs or geo-textile fabrics that will spread the weight of any vehicular load and prevent compaction to the soil. For pedestrian movements within any CEZ then a single thickness scaffold board on top of a compressible layer laid onto a geotextile fabric may be acceptable.

3.2 No temporary access into RPAs should be required on this site, with the exception of the excavations required within the edge of the RPA of identified trees.

4.0 **Access Details**

4.1 There is no requirement for any special measures related to the retained trees as all access for construction vehicles will be from the existing access drive, well outside of the CEZ.

5.0 **Contractors Car Parking**

5.1 Within the existing compound area.

6.0 Site Huts and Toilets

6.1 Within the existing compound area.

7.0 Storage Space

7.1 The storage space has been allocated within the existing compound area.

8.0 Additional Precautions

8.1 There are no services planned to be installed within a CEZ.

8.2 No storage of materials, lighting of fires will take place within the CEZ. No mixing or storage of materials will take place up a slope where they may leak into a CEZ.

8.3 No fires will be lit within 20 metres of any tree stem and will take into account fire size and wind direction so that, no flames come within 5m of any foliage.

8.4 If there is a requirement to use cranes or high sided vehicles during the construction process then a method statement will be supplied, and approved by the LPA, to ensure that there is no damage to the retained trees.

8.5 No notice boards, cables or other services will be attached to any tree.

8.6 Materials which may contaminate the soil will not be discharged within 10m of any tree stem. When undertaking the mixing of materials it is essential that any slope of the ground does not allow contaminates to run towards a tree root area.

9.0 **Site Gradients**

9.1 No alterations of soil levels will take place within the CEZ of the protected trees. See Appendix 4 for details.

10.0 **Demolition**

10.1 Demolition of the existing four storey stone house is required for this site.

11.0 **Hard Surfaces**

11.1 No hard surfaces are to be constructed within the CEZ.

12.0 **Soft Landscaping**

12.1 No soft landscaping is scheduled to be carried out in any CEZ. It is recommended that management of the existing boundary screens is carried out, including thinning and shrub pruning, with replacement planting. If this is adopted then details will be supplied to and agreed by the LPA prior to the commencement of works.

13.0 **Use of Herbicides**

13.1 No herbicide use is required on this site.

14.0 **On Site Monitoring Regime**

14.1 The tree protection measures shall be monitored by the appointed specialist who will meet with the contractor and site manager prior to the commencement of development to explain the tree protection requirements and emergency procedures. The appointed specialist shall submit a monthly monitoring log to the LPA, the site manager, and to the client.

14.2 The contractor / site manager shall contact the appointed specialist if any breaches of the CEZ and tree protection measures occur. The appointed specialist shall recommend an action plan to incorporate mitigation measures where necessary.

15.0 **Use Of Subcontractors** The main contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

16.0 **Contingency Plan**

16.1 Water is readily available on site and will be used to flush spilt materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor will contact the appropriate authorities for advice.

17.0 **Remedial Tree Works**

17.1 Tree works (see schedule at appendix 3) will be undertaken in prior to the commencement of works. All tree works are to be carried out in accordance with BS 3998 (British Standard Recommendations for Tree Work 1989).

18.0 **Responsibilities**

18.1 It will be the responsibility of the main contractor to ensure that the planning conditions attached to planning consent are adhered to at all times and that a monitoring regime in regards to tree protection is adopted on site.

18.2 The main contractor will be responsible for contacting the Local Planning Authority at any time issues are raised related to the trees on site.

18.3 If at any time pruning works are required permission must be sought from the Local Planning Authority first and then carried out in accordance with BS 3998 Recommendations for Tree Works 1989.

18.4 The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective fences will remain in position until completion of ALL construction works on the site.

18.5 The fencing and signs must be maintained in position at all times and checked on a regular basis by an on-site person designated that responsibility.

Appendix 3

Tree Work Schedule

The following trees require removal to facilitate development:

Tree No.	Species
*	

* See plans as scheme is illustrative.

The following tree works are required to allow access or to address safety concerns:

Tree No.	Species	Works
**		

** Table to be completed once conditions and planning details are known.

Control measures:

- All tree works to be in accordance with the British Standard for Recommendations for Tree Works, BS3998:1989 and the European Tree Pruning Guide (ISA).
- The general tree protection measures shall apply to the tree surgery teams.
- All contractor vehicles to be parked and stored outside the CEZ.
- No re-fuelling of machinery to take place within the CEZ and not within 10m of the CEZ or uphill of it.
- All stumps within the CEZ to be removed via grinding out and not removed with a JCB or other mechanical means.

Appendix 4

Arboricultural Method Statement – installation of foundations at the edge of the RPA

The foundations of the building are to take place at the edge of the Root Protection Area for trees. The method statement sets out the principles of tree protection that need to be followed. This is an outline method statement to demonstrate that the proposal is possible without causing unnecessary damage to the tree. A detailed method statement will be provided once a contractor has been appointed.
The installation will be as follows:

- The tree protective fencing will be erected prior to any works commencing on site.
- The line of the final cut for the foundations will be marked on the ground.
- The ground will be excavated with a digger located outside the CEZ.
- Any exposed roots present in the trench will be pruned using hand tools e.g. sharp pruning saw or secateurs leaving as small a diameter cut as possible.
- The sides of the trench will be lined with a plastic membrane, DPC or similar, to prevent contamination of the ground by concrete.
- The operation will be supervised by the appointed specialist.

Outline Method Statement for Tree Protection

Throughout the Development and Construction Period

The following Outline Arboricultural |Method Statement (AMS) includes a Tree Protection Plan (TPP) to identify:

- Trees to be retained
- Construction Exclusion Zones (CEZ)
- Measurements to identify CEZ in relation to centres of trees.

1.0 **Construction Exclusion Zone**

1.1 The Construction Exclusion Zone (CEZ) required by the current edition (2005) BS 5837 Trees in Relation to Construction relates to the stem diameter of each tree when measured at a height of 1.5m from ground level, adjusted where necessary to account for actual rooting patterns on site. The CEZ are to be afforded protection at all times and will be protected by robust fencing. No works will be undertaken within any CES that causes compaction to the soil or severance of tree roots.

1.2 There may be construction operations planned within the CEZ and locations to be identified when the Planning Conditions are to be discharged.

1.3 The construction measures within the CEZ will be controlled by the outline method statement in Appendix 4 and following details supplied to and approved by, the Local Planning Authority.

2.0 **Protective Fences**

2.1 A protective fence will be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site, development or the stripping of soil commences. The barrier will have signs attached to it stating that this is a Construction Exclusion Zone and that NO **WORKS are permitted** within the barrier. The barrier may only be removed following completion of all construction works.

2.2 The fence is required to be sited in accordance with the Tree Protection Plan. The fence must ideally be constructed to standard requirements and be fit for the purpose of excluding any construction activity. The relatively low level of construction on site will be suitably excluded from the CEZ with any barrier type construction, coupled with the designated site manager to formally brief any work person with regard to the contents of this method statement.

2.3 There are no new accessible areas of planting to be protected during the construction phase.

2.4 No access to the site from any other part of the property than the proposed entrance will be permitted for construction traffic or delivery of supplies.

3.0 **Precautions in respect of temporary works**

3.1 If temporary access is required to a CEZ then access may only be gained after consultation with the Local Planning Authority and following placement of materials such as concrete slabs or geo-textile fabrics that will spread the weight of any vehicular load and present compaction to the soil. For pedestrian movements within any CEZ then a single thickness scaffold board on top of a compressible layer laid onto a geotextile fabric may be acceptable.

3.2 No temporary access into RPAs will be required on this site with the exception of the excavations required within the edge of the RPA of trees. See Appendix 4

4.0 **Access Details**

4.1 There is no requirement for any special measures related to the retained trees as all access for construction vehicles will be from the existing access drive, well outside of the CEZ.

5.0 **Contractors Car Parking**

5.1 Within the existing compound area

6.0 **Site Huts and Toilets**

6.1 Within the existing compound area

7.0 **Storage Space**

7.1 The storage space will be allocated within the existing compound area.

8.0 Additional Precautions

8.1 There are no services planned to be installed within a CEZ.

8.2 No storage of materials, lighting of fires will take place within the CEZ. No mixing or storage of materials will take place up a slope where they may leak into a CEZ.

8.3 No fires will be lit within 20 m of any tree stem and will take into account fire size and wind direction so that, no flames come within 5m of any foliage.

8.4 If there is a requirement to use cranes or high sided vehicles during the construction process then a method statement will be supplied and approved by the LPA, to ensure that there is no damage to the retained trees.

8.5 No notice boards, cables or other services will be attached to any tree.

8.6 Materials which may contaminate the soil will not be discharged within 10m of any tree stem. When undertaking the mixing of materials it is essential that any slope of the ground does not allow contaminates to run towards a tree root area.

9.0 **Site Gradients**

9.1 No alterations of soil levels will take place within the CEZ of the protected trees with the exception of part of the northern elevation at the edge of the RPA for trees. See Appendix 4 for details.

10.0 **Demolition**

10.1 Demolition of the existing four storey stone house is required for this site.

11.0 Hard Surfaces

11.1 No hard surfaces are to be constructed within the CEZ.

12.0 **Soft Landscaping**

12.1 No soft landscaping is scheduled to be carried out in any CEZ. It is recommended that management of the existing boundary screens is carried out, including thinning and shrub pruning with replacement planting. If this is adopted then details will be supplied to and agreed by the LPA prior to the commencement of works.

13.0 **Use of Herbicides**

13.1 No herbicide use is required on this site.

14.0 **On site monitoring regime**

14.1 The tree protection measure shall be monitored by the appointed specialist who will meet with the contractor and site manager prior to the commencement of development to explain the tree protection requirements and emergency procedures. The appointed specialist shall submit a monthly monitoring log to the LPA, the site manager and to the client.

15.0 **Use of Sub-Contractors**

15.1 The main contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

16.0 **Contingency Plan**

16.1 Water is readily available on site and will be used to flush spilt materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor will contact the appropriate authorities for advice.

17.0 **Remedial Tree Works**

17.1 Tree works (see schedule at appendix 3) will be undertaken prior to the commencement of works. All tree works are to be carried out in accordance with BS 3998 (British Standard Recommendation for Tree Work 1989).

18.0 **Responsibilities**

18.1 It will be the responsibility of the main contractor to ensure that the planning conditions attached to planning consent are adhered to at all times and that a monitoring regime with regard to tree protection is adopted on site.

18.2 The main contractor will be responsible for contacting the LPA at any time issues are raised related to the trees on site.

18.3 If at any time pruning works are required permission must be sought from the LPA first and then carried out in accordance with BS 3998. Recommendations for Tree Works 1989.

18.4 The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective fences will remain in position until completion of all construction works on the site.

18.5 The fencing and signs must be maintained in position at all times and checked on a regular basis by an on-site person designated that responsibility.

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