ADRIAN HOPE
TREE SERVICES

OUTLINE ARBORICULTURAL IMPACT ASSESSMENT

Ref: 12259

REGARDING PROPOSED DEVELOPMENT WITHIN THE CURTILAGE OF THE FORMER HEREFORDSHIRE COUNCIL OFFICES, BATH STREET, HEREFORD HR1 2GY

Prepared on behalf of:

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1 Summary

The purpose of this report is to provide a preliminary consideration of the arboricultural implications created by the proposed development. In accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations", trees standing both within the curtilage of the site and off-site trees within 12x their stem diameter of the site have been assessed in accordance with the requirements of BS5837:2012.

In this instance, it is proposed to demolish part of the existing buildings and construct a new apartment block within the curtilage of Herefordshire Council's former office buildings, Bath Street, Hereford HR1 2GY. The arboricultural implications of the proposal are as follows:

1 Implications on Construction Methods

Provided that the demolition of the parts of the existing buildings to be removed and construction of the new apartment block take place outside of the Root Protection Area (RPA) of any retained tree (as the attached indicative site layout shows), these works will not require specialist construction methods to protect trees. The removal and replacement of the existing hard surfacing from within the RPAs of G1, T2, T3 and G4 will need to be carried out in a controlled manner however.

2 Implications for Retained Trees

Provided that the works replacing the existing hard surfacing are carried out in a controlled manner, the implications for retained trees are likely to be negligible. The replacement of the existing tarmac with a porous surface may in fact be of betterment to the trees.

3 Landscape Implications

The likely removal of the small trees within the eastern part of the site will be of negligible impact to the landscape of the wider area. The majority of these trees have a somewhat limited public visibility, with others being of such poor form they are unlikely to ever make specimen trees of value. A post-development landscaping scheme incorporating tree planting would more than mitigate the loss of these trees.

4 Post Development Implications

The design of the development, together with the orientation of the site is such that matters involving retained trees (e.g. privacy, screening, direct damage, future pressure for removal) are not considered to be significant issues.

Given the above, there are no overt or overwhelming arboricultural constraints that can be reasonably cited to preclude the proposed construction. The proposed design has taken into consideration the constraints of the existing trees and has sought to integrate them as an integral feature of the site.

Impact	Trees Affected	Proposed Mitigation
Trees felled	G5, T6, T7, T8, T9, G11 & H12	New plantings
Removal of structures / hard surfaces within RPA	G1, T2, T3 & G4	Controlled removal of hard surfacing
Building within RPA	None	Low-invasive foundations / manual excavation
Hard surfaces within RPA	G1, T2, T3, G4 & T9	No-dig construction Manual excavation

Table 1: Summary of potential impacts

2 Introduction

2.1 Terms of Reference

2.1.1 I have been instructed by Herefordshire Housing Ltd with regard to a planning application to be made in respect of the erection of 4 detached dwellings and an apartment building within the curtilage of the former Herefordshire Council offices on Bath Street, Hereford to report on the following in full accordance with British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction: Recommendations. To that end, my instructions are to:

i) Carry out site visit inspecting all trees likely to be affected by the proposed development

ii) Produce an Arboricultural Impact Assessment and associated Arboricultural Implications Assessment Plan

2.1.2 I have been provided with and relied upon the following information in the production of this document:

- Topographical survey G8504-Topo-R0
- Indicative site layout 8990 SK050

2.1.3 In the absence of a full topographical survey, tree positions may be approximate only.

2.2 Scope of Survey

2.2.1 As Adrian Hope Tree Service's arboricultural consultant I visited the site on 15th September 2016 recording relevant qualitative data in order to assess the condition of the trees present and any constraints they may pose to development in accordance with BS5837: 2012.

2.2.2 The survey of the trees, soils and any other factor is of a preliminary nature. The trees were surveyed on the basis of the Visual Tree Assessment (VTA) method as developed by Mattheck and Breloer (1994). The trees were surveyed from ground level only with no climbing inspections undertaken. It is not always possible to access every tree and as such some measurements may have to be estimated. Where this has been necessary, it will be highlighted in Appendix 1. No samples have been removed from the site for analysis. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

2.2.3 An intrinsic part of tree inspection in relation to development is the assessment of risk associated with trees in close proximity to persons and property. Most human activities involve a degree of risk with such risks being commonly accepted, if the associated benefits are perceived to be commensurate. In general, risks relating to trees tend to increase with the age of the trees concerned, as do the benefits. It will be deemed to be accepted by the client that the formulation of the recommendations for all the management of the trees will be guided by the cost-benefit analysis (in terms of amenity), of the tree work that would remove all the risk of tree related damage.

2.2.4 Trees are living organisms whose health and condition can change rapidly; the health, condition and safety of trees should be checked on a regular basis, preferably at least once a year. The conclusions and recommendations in this report are only valid for a period of one year. The period of validity may be reduced in the case of a change of conditions to or in proximity to the tree.

2.3 The Site

Photograph 1: Western part of application site (G1 visible in foreground)

Photograph 2: Eastern part of application site (note extensive hard surfacing)

2.3.1 The site comprises a former office building of Herefordshire Council and currently provides a number of pay and display car parking spaces. There is an extensive amount of hard surfacing around the buildings which are located centrally within the site.

2.3.2 The site is relatively level throughout.

2.4 Subject Trees

2.4.1 A total of 7 individual trees, 4 small groups of trees and 1 hedgerow were surveyed, of which 1 is of high quality (A category), 1 is of moderate quality (B category), 10 are of low quality (C category) and none are of poor quality / unsuitable for retention (U category).

2.4.2 The species present comprise common yew, Corsican pine, eucalyptus, sycamore, alder, silver birch, cherry, rowan, Norway spruce, Himalayan birch, English oak, Lawson cypress and golden Leyland cypress.

2.4.3 A number of small shrubs and hedges are also present within and adjacent to the site but were not recorded due to their size meaning they do not qualify for inclusion within this report.

2.5 Statutory Tree Protection

2.5.1 Herefordshire Council's online Administrative Map indicates that, at the time of writing, there are no Tree Preservation Orders in place for any subject tree, nor does it lie within a Conservation Area.

2.5.2 Plan Extract 1 overleaf shows the boundary of the Central Conservation Area abutting the site boundary; therefore the off-site T10 does lie within a Conservation Area. It is a criminal offence to fell, prune or otherwise damage such trees without prior notification of the Council.

Plan Extract 1: Central Conservation Area boundary (solid blue line) abutting eastern site boundary

3 Arboricultural Implications Assessment

3.1 Effects of Development on the Amenity Value of Trees On or Near the Site

3.1.1 It is likely that some tree removal will be necessary to facilitate the development of the site. The indicative site layout I have been provided with (Ref: 8990 SK050) shows that this tree removal is focused within the eastern part of the site, therefore enabling the retention of the most significant trees present.

3.1.2 The loss of the low-quality, more internal site trees is assessed as being of low impact to the amenity provided subject to replacement plantings. The impact of their loss is also lessened by the presence of the mature limes along Central Avenue which dominate the treescape of the area.

Photograph 3: View of site from Central Avenue showing lack of tree visibility (Source: Google Maps)

Photograph 4: View of site from further east on Central Avenue
(Source: Google Maps)

3.2 Above and Below Ground Constraints

3.2.1 The constraints trees can pose to development can be broadly grouped as being above or below ground. Above ground constraints primarily consist of the current and ultimate height and spread of the trees with species characteristics such as susceptibility to honeydew drip, branch drop *etcetera* also forming a consideration.

3.2.2 Below ground constraints comprise the Root Protection Area (RPA) around each retained tree. Paragraph 4.6.2 of BS5837: 2012 states that this is calculated as an area equivalent to a circle with a radius 12 times the stem diameter. It must be remembered that the circular RPA put forward in the British Standard is a notional representation of the minimum area to be protected rather than an accurate representation of where the roots are likely to be found.

3.2.3 Paragraph 4.6.2 of the British Standard states that where pre-existing site conditions or other factors indicate that rooting is likely to have occurred asymmetrically, a polygon of equivalent area shall be produced that reflects a soundly based arboricultural assessment of the likely root distribution.

3.2.4 Whilst the Standard comments that the default position should be that structures are located outside the RPAs of trees to be retained, it also recognises (paragraph 5.3.1) that technical solutions such as low-invasive foundations are available that enable construction to occur within RPAs without damage to trees.

3.2.5 The quality of the tree in question will also have a bearing on the significance of the constraint it poses. Ordinarily, only moderate quality (category B) and above trees will pose a constraint to development although the removal of significant numbers of low quality (category C) trees may pose a constraint in certain circumstances.

3.3 Site constraints

3.3.1 The primary arboricultural constraints on this site arise from the high and moderate quality trees along the frontage with Bath Street. The remaining low quality trees / groups do pose some constraints in that they will require replacement but not to the extent that the site layout would be altered to enable their retention.

3.3.2 The primary impact that arises from the indicative site layout is the removal of the low quality G5 – T9, G11 and H12. As previously discussed, the loss of these trees is rated as a low impact which, due to the low quality of some specimens in particular and their lack of public visibility could easily be mitigated by a post-development planting scheme.

3.3.3 As the demolition of the parts of the existing buildings to be removed and construction of the new building is likely to take place outside of the RPA of any retained tree, specialist construction methods will not be necessary.

3.3.4 The removal and replacement of the existing tarmac surface within the RPAs of G1, T2, T3 and G4 will however require the use of specialist construction methods whereby the existing surface is carefully broken up using manual power tools, retaining the sub-base in place for the new surface to be laid upon.

3.3.5 The provision of the proposed parking spaces within the RPA of the off-site T9 necessitates the use of a no-dig construction method employing a three-dimensional cellular confinement system as a base. No soil stripping can occur to install this and the increased levels (circa 150mm) this entails should be borne in mind during the design process.

3.4 Infrastructure Requirements

3.4.1 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 retained tree's RPA.

3.5.1 Proximity of Structures to Trees

3.5.1 The juxtaposition of the proposed units retained trees means shading will not be a significant issue to the although some minor organic deposition may occur. I would comment that this can be easily managed by minor crown reductions that are highly unlikely to become onerous over time.

4 Conclusions

4.1 The potential impacts of development are all low in terms of both quality of trees removed and level of encroachment into retained trees RPAs.

4.2 The affected trees are generally tolerant of root disturbance and as such capable of sustaining these low impacts with significant effect on long-term health and growth.

4.3 The trees that are recommended for removal are of negligible individual or collective significance and as such, their loss will not affect the wider area.

4.4 Therefore, the site has the potential to be developed in line with the proposals with no significant impact to the retained trees or the wider area.

Appendix 1 – Schedule of Tree Condition and Retention Category

Tree ref on plan	Species	Ht (m)	Crown spread (M) NESW	Trunk Dia @ 1.5m (mm)	RPA radius (m)	Ht of lowest branch (M)	Age class	Life expectancy (years)	Physiological and Structural condition. Observations- negative and positive	Preliminary Management Recommendations	Category of retention
G1	Yew & Corsican pine	6 & 14	4444	300 & 600	3.6 & 7.2	1	M	>40	P = Good S = Good ▪ Very prominent group	None	A2
T2	Eucalyptus	12	4333	500	6.0	0.5	M	>40	P = Good S = Good	Consider cutting back from adjacent building	B2
T3	Sycamore	3	0000	650	7.8	-	M	20-40	P = Fair S = Good ▪ Recently pollarded to current height ▪ Growing in inappropriate long-term position	Consider removal	C2
G4	Alder & silver birch	8	2222	200	2.4	2	MA	20-40	P = Good S = Good ▪ Standing on third party land ▪ Remote survey only	None	C2
G5	Rowan, cherry & alder	6-8	3333	250 – 360	3.0 – 4.3	2	MA	20-40	P = Good S = Good	None	C2
T6	Norway spruce	10	3333	280	3.4	2	MA	20-40	P = Good S = Good	None	C2
T7	Himalayan birch	6	4444	380	4.6	2	MA	20-40	P = Good S = Good	None	C2

Tree ref on plan	Species	Ht (m)	Crown spread (M) NESW	Trunk Dia @ 1.5m (mm)	RPA radius (m)	Ht of lowest branch (M)	Age class	Life expectancy (years)	Physiological and Structural condition. Observations- negative and positive	Preliminary Management Recommendations	Category of retention
T8	English oak	6	4444	350	4.2	2	MA	>40	P = Good S = Good ▪ Of poor form – unlikely to ever make decent specimen ▪ Numerous pruning wounds on main stem and branches	None	C2
T9	Norway spruce	12	3333	320	3.8	2	MA	20-40	P = Good S = Good	None	C2
T10	Sycamore	10	4442	9 X 150	5.4	2	MA	20-40	P = Good S = Good ▪ Previously coppiced ▪ Standing on third party land ▪ Remote survey only	None	C2
G11	Lawson cypress	12	3333	300	3.6	1	MA	20-40	P = Good S = Good	None	C2
H12	Golden Leyland cypress	6	1111	100	1.2	0	MA	20-40	P = Good S = Good ▪ Previously topped at approx. 4m ▪ Previously cut back too hard W side	None	C/U

Key:

Age Class: **Y M**- Young (1st 1/3rd of life expectancy) **MA** - Middle aged (2nd 1/3rd 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 **Poor** – significant ill health
S = Structural **Good** – no significant defects **Fair** – significant defects that can be remediated. **Poor** – Significant defects no remedy

Category of retention: **U** – Unsuitable for retention regardless of development **A** - High quality value **B** - Moderate quality value **C** - Low quality value

Appendix 2 – Tree Constraints Plan

Adrian Hope Tree Services
Tree Constraints Plan
Ref: HHL/BHS/TCP/01
Do not scale from this drawing

Key:

- Category A tree
- Category B tree
- Category C Tree
- Root Protection Area

T3
T2
G4
G5
T6
T7
T10
T8
T9
G1
H12
G11

Appendix 3 – Indicative Site Layout