

Arboricultural Impact Assessment (AIA)

March 2022

**Standen Phases 5 and 6
Littlemoor Road
Clitheroe
BB7 1HF**

**U R B A N
G R E E N**



QUALITY MANAGEMENT

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1. Executive Summary

- 1.1.1. Urban Green has been instructed by Taylor Wimpey, Manchester, to carry out an Arboricultural Survey to British Standard 5837:2012 guidelines at Higher Standen Farm/Worston Rd, Clitheroe and produce our findings in a report.
- 1.1.2. It is proposed to develop the site into two phases of residential housing plots – phase 5 consisting of 161 units and phase 6 consisting of 139 units, alongside associated landscape improvements such as parking and soft landscaping. Full details of the proposed site layout can be seen on the plans included in Appendix 4.
- 1.1.3. The proposed development necessitates the removal part of one woodland, six trees, one group, a section of one group, two hedges and a section of an additional hedge.
- 1.1.4. Most of the trees highlighted for removal are of moderate quality, with moderate impacts on visual amenity projected. However, an extensive new planting scheme is proposed which is projected to adequately compensate for the necessary tree loss at the site.
- 1.1.5. Removal of sections of a high-quality woodland are required to accommodate for the construction of an approved internal access road.
- 1.1.6. Tree protection fencing, and ground protection will need to be installed at the alignment shown on the Tree Protection Plan in Appendix 4 before any construction activity takes place.
- 1.1.7. Supervised excavation within the RPA's of T47 will be required to construct the development as proposed, as detailed in the Tree Protection Plan.
- 1.1.8. Information regarding the layout of new utilities and drainage and final site levels should be submitted to the Arboricultural Consultant so that the impact of these on the retained trees can be assessed.

2. Introduction

2.1. Instructions and references

- 2.1.1. We have been instructed by Taylor Wimpey to carry out an Arboricultural Impact Assessment (AIA) in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations at the site location and produce our findings in a report to be submitted alongside a detailed planning application.
- 2.1.2. All trees, regardless of their statutory status, are a material consideration in a planning application. BS 5837 recognises the potential conflict between trees and development. The standard sets out to assist those concerned with trees in relation to construction and aid with decision making. This is achieved by providing impartial and balanced information on trees and their potential impacts.
- 2.1.3. Due to the size and nature of the site, it was decided that the survey methodology would include broadly grouping trees that share very similar characteristics. This method is in line with point 4.4.2.3 of BS 5837:2012 that states ‘Trees forming groups...should be identified and considered as groups where the arboriculturist determines that this is appropriate... It may be appropriate to assess the quality and value of trees as a whole, rather than individuals.’
- 2.1.4. The site is located in the area shown in Figure 1. The OS Grid Reference is SD7446740714 .



Figure 1 – Site Location Plan

2.2. Scope

- 2.2.1. The AIA considers any potential impacts on existing trees including the effect of any tree loss required to implement the design and recommendation for the establishment of new trees.
- 2.2.2. The AIA will also assess any potentially damaging activities proposed in the vicinity of retained trees and the effect that the retained trees may have on the development such as potential nuisance caused by excessive leaf/fruit litter, lighting levels and potential damage to structures.

2.3. Documents provided

- 2.3.1. A scaled topographical survey plan has been provided with tree positions already plotted. Any extra trees found on site that were not included on the original plan have been plotted according to measurements taken on site and/or using aerial photography, and as such, their locations cannot be considered wholly accurate.
- 2.3.2. Tree locations which have been estimated are illustrated on the Tree Protection Plan in Appendix 4. The exact locations of these trees must be verified, and any discrepancies discussed with the project Arboriculturist prior to the commencement of any works on site.
- 2.3.3. A development proposal has been provided by the client which has been overlaid with the Tree Constraints Plan to assess the potential impacts to the existing tree population at the site.

2.4. Limitations

- 2.4.1. The report is based upon a visual inspection, taken from ground level using non-invasive techniques, in sufficient detail to gather data for and inform the design of the current project only. The consultant shall not be responsible for events that happen after the date of the report due to factors that were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- 2.4.2. The consultant accepts no liability in respect of the trees unless the recommendations of this report are carried out under his supervision.
- 2.4.3. Assessing the potential influence of trees upon load bearing soils, beneath existing and proposed structures resulting from water abstraction by trees or rehydration of shrinkable soils was not included in the contract brief and is therefore not considered in the report. The consultant cannot be held responsible for damage arising from such action.
- 2.4.4. Trees are living organisms whose health, condition and structure can change over time. The contents of this report are valid for a period of one year from the date of the report.
- 2.4.5. Potentially hazardous trees are highlighted, and appropriate recommendations are made. However, this report is not a substitute for a full tree risk assessment or management plan which are specifically designed to minimise risk and liability associated with responsibility for trees.

3. Legislation

3.1. Tree protection status

- 3.1.1. A Tree Preservation Order (TPO) is an order made by a Local Authority to protect specific trees, groups of trees or woodlands in the interests of amenity. A TPO prohibits the cutting down, topping, lopping, uprooting and wilful damage or destruction of trees without the Local Authority's written consent.
- 3.1.2. At the time of writing the report, Ribble Valley Borough Councils interactive mapping system displays that there are currently no TPO's at the site nor does the site reside within a Conservation area. Details of this can be found at - https://www.ribblevalley.gov.uk/info/200365/trees_and_countryside/1442/tree_preservation_order_tpo
- 3.1.3. It is strongly advised that the Local Authority is consulted before any tree works are undertaken, as new TPOs may have been created since the time of enquiry, and heavy fines exist for unauthorised works to protected trees.
- 3.1.4. All works to trees covered by a TPO require permission from the Local Authority, including any pruning. However, this does not include trees that are dead or have become dangerous. The removal of dead branches is also excluded from a TPO. Although the above exceptions exist, it is advisable to give the Local Authority five days' notice in writing of any intended removal. Permission is not needed where tree work is required to implement an approved planning application.

3.2. Wildlife

- 3.2.1. Prior to the commencement of any tree works, the trees should be assessed for the presence of protected species, some of which are subject to the *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species Regulations 2017*.
- 3.2.2. Urban Green have previously visited the site and undertaken a primary ecological assessment (PEA) – Report ref (UG1451_ECO_PEA_01)
- 3.2.3. If tree works are carried out during the bird nesting season (March to August inclusive), trees would need to be inspected by a qualified ecologist within the 24-hour period prior to the commencement works.

4. Arboricultural Impact Assessment (AIA)

4.1. Summary of the development

- 4.1.1. It is proposed to develop the site into two phases of residential housing plots – phase 5 consisting of 155 units and phase 6 consisting of 145 units, alongside associated landscape improvements such as parking and soft landscaping. Full details of the proposed site layout can be seen on the plans included in Appendix 4.

4.2. Tree constraints

- 4.2.1. BS 5837:2012 recognises that conflicting requirements of the planning system for development means that trees are only one factor which need to be taken into consideration. Although there may be certain specimens that can pose significant constraints to development due to their importance, it is essential that inappropriate tree retention is avoided.
- 4.2.2. Trees can be adversely affected on development sites if their protection is not factored into the wider project management of onsite operations. We have transposed the tree survey plan over plans detailing current proposals in order to assess the impact on surveyed trees.
- 4.2.3. It is essential that roots are protected from construction works including physical damage from excavation and changes in soil structure from compaction and changes in ground levels.

4.3. Root Protection Areas (RPAs) explained

- 4.3.1. The RPA is an area of ground around the base of a retained tree, which is calculated in relation to the stem diameter, where disturbance should be kept to a minimum and avoided if at all possible.
- 4.3.2. The majority of tree roots grow within the upper 600mm of the soil profile where most nutrients are available as the result of the decomposition of organic matter close to the surface. Rooting conditions become less favourable at depth as the soil density increases, creating anaerobic conditions.

4.4. The tree population

- 4.4.1. The survey assessed 33 individual trees, 17 groups of trees, nine hedges and two areas of woodland. the quality and value of which are summarised below.
- 4.4.2. 11 trees, four groups and both woodlands were categorised as BS5837: 2012 high quality (i.e. 'A' category), 10 trees, 10 groups and eight hedges were categorised as moderate quality (i.e. 'B' category), eight trees, three groups and one hedge were categorised as low quality (i.e. 'C' category), with an additional four trees being categorised as unsuitable for long term retention (i.e. 'U' category) due to poor physiological or structural condition. Full details of the tree population can be found in the survey schedule attached as Appendix 1.
- 4.4.3. Trees T5, T19, T46, parts of groups G21, G51, G55, G57, G58, G59, G60, G61 and parts of woodlands W36 and W52 reside outside the provided red line boundary of the development proposal and are understood to be under third party ownership. All other surveyed trees reside within ownership boundaries unless stated otherwise.

4.5. Impacts of development

- 4.5.1. The removal of part of one woodland of high quality (W36), two trees, one group, sections of a further group, two hedges and sections of a further hedge of moderate quality, one tree of low quality are required to facilitate the development as proposed. Refer to Tree Works Schedule at appendix 4 for full details.
- 4.5.2. The loss of these trees will have moderate impacts on overall amenity value of the site, as well as moderate impacts on the ecological benefits provided from the trees. However, as detailed in the proposal, there is a landscape proposal plan which included significant tree replanting which is projected to adequately compensate for the tree loss. Accordingly, the adherence to a landscape proposal plan can be assured through the imposition of a suitably worded planning condition.
- 4.5.3. The part removal of G61 is required to construct the new vehicular access to the northwest of the site as proposed. It should be noted that a section of this group resides outside the provided red line boundary and is understood to be under third party ownership. As such, permission from relevant landowner(s) will be required before any removals are undertaken.
- 4.5.4. T49 and T50 are both of poor structural condition and should be removed irrespective of any development proposal.
- 4.5.5. Approximately three trees from G57 require minor pruning works to accommodate for the construction of the access driveways as proposed. The proposed works are not projected to have a detrimental effect on the vitality or overall amenity value of the group. Full details of all recommended works are detailed in the Tree Removal Plan attached at Appendix 4.
- 4.5.6. Removal of an approximately 40m wide section of woodland W36 is required to facilitate the construction of a proposed spine road linking phase 1 to phases 2, 3, 4, and 5. The location of the road has been previously granted full planning permission application reference - 3/2019/0951
- 4.5.7. The trees proposed for retention can be adequately protected during demolition and construction in accordance with current best practice as detailed in BS5837: 2012.
- 4.5.8. Hard surfaces are proposed within the RPA's of trees T32, T38, and groups G35, G51, G57 and G58. Therefore, guidance detailed in section 7.4 of BS5837 for construction within RPA's should be adhered to. Installation of engineered hard surface such as 3D cellular confinement will alleviate pressure on the rooting system and prevent compaction of the soil.
- 4.5.9. Supervised excavation will be required within the RPA of T47 to facilitate construction of a footpath. Works should be carried out using hand dig tools only within this area with any necessary root pruning to be undertaken by the project Arboriculturalist in accordance with section 7.2 of BS5837: 2012.
- 4.5.10. Building foundations are proposed within the RPA's of retained groups G51, G57 and woodland W36, and therefore will require specialised engineering methods, such as piling, to construct whilst minimising damage to the retained trees. Proposed works should be carried out in strict accordance with section 7.5 of BS5837: 2012.

4.6. Tree surgery works

- 4.6.1. Tree works that are recommended within the Tree Works Schedule (Appendix 4) are works required to facilitate development and include details or remedial works. Tree works stated in the Tree Data Schedule (Appendix 1) are of a general maintenance nature and can be carried out at any time as per recommendations.
- 4.6.2. Tree works required to facilitate the development will be carried out prior to the commencement of any onsite operations. This should allow sufficient space for approved construction to be carried out.
- 4.6.3. Any unforeseen tree works that become apparent during the construction process will require written consent from the Local Authority Tree Officer.

4.7. Protective fencing

- 4.7.1. Temporary protective fencing will need to be installed at the alignment indicated on the Tree Protection Plan in Appendix 4, prior to the commencement of any construction activities on site including the delivery of materials and site facilities.
- 4.7.2. Any fencing that is damaged so that it is no longer able to protect retained trees must be replaced/repaired immediately with appropriate fencing.
- 4.7.3. The required specification for protective fencing is illustrated in the Tree Protection Plan (Insert 1).
- 4.7.4. The 'in-ground' system involves driving vertical scaffold poles approximately 0.6m into the ground onto which are affixed horizontal scaffold poles and bracing struts. 2m high anti-climb weldmesh panels are then wired to the scaffold framework. The vertical scaffold poles should be at a maximum of 3m apart.
- 4.7.5. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to the tree roots when locating uprights.
- 4.7.6. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" shall be fixed to every 10m of protective fencing, as illustrated on the Tree Protection Plan (Insert 2).

4.8. Ground protection for pedestrians or light vehicles

- 4.8.1. The primary method of ground protection is the installation of a compressible layer (e.g. woodchip) over a geotextile fabric with side butting scaffold boards.
- 4.8.2. Ground protection measures whilst working the RPA must be capable of supporting the expected loads and avoid compaction of the soil.
- 4.8.3. The boarding will be left in place until the construction works are finished.
- 4.8.4. Scaffolding may first be erected with the uprights on spreader boards and the ground protection installed around the uprights.

4.9. Boundary treatments

- 4.9.1. Where fencing is to be installed within RPAs of retained trees, post holes will be excavated by hand and kept as narrow as possible. Trial holes will be dug using a manually operated soil auger in order to position post holes to avoid major roots.

- 4.9.2. Exploratory post holes will be dug before committing to positions. If any roots in excess of 25mm are encountered they are to remain intact and the post hole will be relocated to avoid them. The fencing system must permit such flexibility (i.e. where fixed panel widths are used, all post holes must be excavated before committing to the final location)
- 4.9.3. All post holes will be excavated by hand and kept as narrow as possible (maximum diameter 300mm).

4.10. Demolition and removal of surfaces in the RPA

4.10.1. During demolition, the following restrictions will apply:

- Where direct damage by falling masonry is likely, the tree should be protected by exterior grade plywood sheets constructed around the main stem.
- The main body of any mechanical excavator will operate outside the RPA.
- Where trees stand adjacent to structures to be removed, demolition should be undertaken inwards from within the footprint of the building e.g. (“top down, pull back”)
- When breaking masonry, a fine water spray will be used to minimise dust particles.
- Excessive dust particles on trees will be removed each day by spraying with water.
- Hard surfaces should be kept in place for as long as possible during construction works in order to prevent soil compaction in the RPA.
- During surface removal, the following restrictions will apply:
 - Only hand operated tools will be used to lift existing surfaces and sub-base. No mechanical excavators are to be used.
 - No excavation below the existing sub-base will occur.
 - All surface removal within the RPA will be supervised by the Arboricultural Consultant or the Local Authority Tree Officer.

4.11. Temporary site cabins

- 4.11.1. All storage facilities and deliveries will make use of existing hard surfaces to avoid unnecessary compaction within RPAs. The locations will be agreed in writing with the LPA prior to delivery and will remain in the agreed locations unless approved by the LPA.
- 4.11.2. If storage facilities require siting within RPAs, every effort will be made to ensure that any damage to aerial parts of retained trees is avoided and that appropriate footings are used to avoid root damage or compaction of the soil.

4.12. Utilities

- 4.12.1. At the time of writing Urban Green have not been made aware of any new utilities or service runs that will be associated with the development. Information regarding the layout of new utilities and drainage and final site levels should be submitted to the Arboricultural Consultant so that the impact of these on the retained trees can be assessed.

4.13. Recommendations

- 4.13.1. An Arboricultural Method Statement (AMS) will be required to provide solutions and working methods so that the impacts identified do not have a detrimental effect on retained trees.
- 4.13.2. All operations that could affect trees on and adjacent to the site must be considered as part of the project management of the Proposed Development. It is therefore recommended that an Arboricultural Consultant is appointed as part of the design and management team to advise on pre-development issues and supervise on-site operations.
- 4.13.3. The Arboricultural Consultant may also have an advisory role in the preparation of site including tree surgery works and the protection of trees during demolition processes.
- 4.13.4. The Arboricultural Consultant shall be responsible for inspecting all protective fencing prior to the commencement of all onsite activity.

Appendix 1 - Tree Data Schedule

The following pages contain information gathered during the site survey. The reader should refer to Appendices 2 and 3 in order to correctly interpret the tree data.

Reference T= Tree G = Group H = Hedge W = Woodland	Age & Species	Height (m)	Crown Ht (m)	DBH (mm)	Crown Spread (m)			Notes	Recommendations		Physiological Condition	Life Expectancy (yrs)	RPA Radius
					N	W	E		Priority	Inspect Freq (yrs)			
G1	Early-Mature Mixed Species	av 4	av 0.5	av 300	av 2	2	2	1: Group consisting of onsite hawthorn hedgerow and offsite lawson cypress. 2: Ivy clad stems. 3: Hedgerow previously layered. 4: Acceptable condition at present.	No action required.	Good	40+ B1.2	3.60	
	n/a	3	Good										
T2	Semi-Mature Maple Acer sop	4.5	2.5	250	2	2	2	1: Offsite with restricted access and limited inspection. 2: Not pruned to any extent.	No action required.	Good	40+ B1	3.00	
	n/a	3	Good										
T3	Early-Mature Silver Birch Betula pendula	9	1.5	380	5	6	5	1: Offsite. 2: Canopy to south overhangs into the site and could be pruned if required. 3: Not pruned to any extent.	No action required.	Good	40+ B1.2	4.56	
	n/a	3	Good										
H4	Early-Mature Hawthorn Crataegus monogyna	av 1.5	0.3	140	0.5	0.5	0.5	1: Regularly clipped field boundary hedgerow.	No action required.	Good	40+ B2	1.68	
	n/a	3	Good										
T5	Mature Sycamore Acer pseudoplatanus	16	5	1000	6	7	6	1: Offsite with restricted access and limited inspection. 2: Canopy to south overhangs into the site currently with 5m ground clearance. 3: Pruned in the past to remove low hanging lateral branches and reduce height and spread, exhibiting good closure. 4: Included bark union of codominant stems with no signs of failure.	Monitor condition.	Fair	10-20 B2	12.00	
	Moderate	1	Fair										
H6	Early-Mature Hawthorn Crataegus monogyna	av 1.5	0.3	140	0.5	0.5	0.5	1: Regularly clipped field boundary hedgerow.	No action required.	Good	40+ B2	1.68	
	n/a	3	Good										

Reference T= Tree G = Group H = Hedge W = Woodland	Age & Species	Height (m)	Crown Ht (m)	DBH (mm)	Crown Spread (m)			Notes	Recommendations		Physiological Condition	Life Expectancy (yrs)	RPA Radius
					N	W	E		Priority	Inspect Freq (yrs)			
H7	Early-Mature Hawthorn <i>Crataegus monogyna</i>	av 1.5	0.3	140	0.5	0.5	0.5	1: Regularly clipped field boundary hedgerow.	No action required.	Good	40+	B2	1.68
									n/a	3	Good		
H8	Mature Hawthorn <i>Crataegus monogyna</i>	av 3	0.3	270	1	1	1	1: Previously layered hedgerow with elder and ash. 2: Regularly flailed.	No action required.	Good	40+	B2	3.24
									n/a	3	Fair		
T9	Mature Hawthorn <i>Crataegus monogyna</i>	7	4	560	6	7	6	1: Trifurcated stem with historically failed included bark unions. 2: Codominant stems growing laterally. 3: Acceptable condition due to current land use.	Monitor condition.	Good	10-20	C1	6.72
									Low	3	Poor		
T10	Semi-Mature Ash <i>Fraxinus excelsior</i>	7	2	150	2.5	2.5	2.5	1: Natural colonisation. 2: Acceptable condition at present.	No action required.	Good	40+	B1	1.80
									n/a	3	Good		
T11	Semi-Mature Ash <i>Fraxinus excelsior</i>	6	2	150	3	3	2	1: Natural colonisation. 2: Acceptable condition at present.	No action required.	Good	40+	B1	1.80
									n/a	3	Good		
G12	Semi-Mature Mixed Species	av 7	av 1	av 280	3	3	4 each	1: Natural colonisation growing within dilapidated yard. 2: Some trees previously felled exhibiting regrowth. 3: Ash, elder and hawthorn.	No action required.	Good	20-40	C1	3.36
									n/a	3	Fair		