

# **South West Milton Keynes**

## **Updated Arboricultural Impact Assessment**

Barton Hyett Associates

JUNE 2020



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## ARBORICULTURAL SURVEY AND IMPACT ASSESSMENT

ON BEHALF OF

THE SWMK CONSORTIUM  
COMPRISING HALLAM LAND MANAGEMENT, WILLIAM DAVIS LTD, TAYLOR  
WIMPEY, CONNOLLY HOMES AND BELLCROSS HOMES

FOR

PROPOSED MIXED USE DEVELOPMENT

AT

LAND AT SOUTH WEST MILTON KEYNES

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Reference: C.2750

## Validation statement for LPA application registration

- 1.1 This report is submitted to Aylesbury Vale District Council to accompany an outline planning application. The report contains arboricultural information relating to the proposed development on Land at South West Milton Keynes.

For local planning authority (LPA) validation purposes, this report contains the following:

- A full tree survey compliant with the requirements of BS5837:2012 '*Trees in relation to design, demolition and construction – recommendations*' undertaken by a competent and qualified arboriculturist.
- A suitably scaled plan with a north point and the tree survey information.
- An assessment of the impacts of the proposed development on the existing trees. This includes recommendations of which trees should be removed/retained.

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## REVISIONS:

Date	Rev	Description of revision	Initials
18.02.2019	-	First issue.	RHY
01.05.2020	Rev A	Extension to the site area.	IH
08.06.2020	Rev B	Revised Masterplan issued.	IH

## 2. INTRODUCTION

- 2.1 Barton Hyett Associates have been instructed by CSA Environmental on behalf of The SWMK Consortium comprising Hallam Land Management, William Davis Ltd, Taylor Wimpey, Connolly Homes and Bellcross Homes to inspect the trees that could affect, or be affected by, the development proposal on land east of Land at South West Milton Keynes; hereafter referred to as 'the site'. This report, in compliance with BS5837:2012 '*Trees in relation to design, demolition and construction - recommendations*' is required to accompany the submission of an outline planning application for mixed use development.
- 2.2 The scope of the instruction was to visit the site and to survey relevant trees, hedges and shrub masses in accordance with BS5837:2012 and to prepare the following information:
- Tree survey summary
  - Schedule of tree survey data
  - Tree survey and constraints plan
- 2.3 With reference to the above information and BS5837:2012, the instruction also extended to an assessment of the impact of the proposed development on the site's arboricultural resource and to produce the following:
- Arboricultural impact assessment
  - Indicative tree retention and removal plan
- 2.4 For the purposes of carrying out the assessment the following information has been provided:
- Topographical Survey - reference: Topo Survey 18 Oct 06
  - Illustrative Masterplan - CSA - reference: 4857\_112\_E\_DAS – May 01- Rev G
  - Highway Access - Mouchel – DO16 Rev B

WSP UK Ltd - D013 Rev C, D014 Rev C

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### **3. REPORT LIMITATIONS**

- 3.1 The tree survey was undertaken from ground level and observations have been made solely from visual inspections for the purposes of assessment in terms relevant to planning and development. Only binoculars, mallet and a probe have been used to aid tree assessment. No invasive or non-invasive internal decay detection devices have been used in assessing tree condition.
- 3.2 The recommendations and conclusions in this report relate only to the conditions found on this site at the time of the site visit and inspection. The recommendations contained within this report are valid for a period of 12 months from the date of this report.
- 3.3 Any significant alteration to the site that may affect the trees present, for instance changes in ground level, tree works, extreme weather events, hydrological changes etc,) may invalidate the survey findings and could necessitate a re-assessment of the trees.
- 3.4 This report is prepared for planning purposes only and does not evaluate the degree of risk posed by trees.
- 3.5 Trees are living organisms and self-supporting dynamic structures. Their physiological and structural condition can change rapidly in response to a wide range of biotic/abiotic factors. They have the potential to fail structurally, without prior manifestation of any reasonably observable symptoms. It is therefore not possible to categorically state that any tree is 'safe'.
- 3.6 Any management recommendations set out within this report are of an advisory and preliminary nature only and relate to trees within the context of current site use. Any physical alterations to site conditions subsequent to the date of the site survey will have the potential to change/invalidate the findings and recommendations of this report.



## 4. DESCRIPTION OF SITE AND TREES

4.1 The site is located at the south western edge of Bletchley, a constituent town of Milton Keynes.

- Nearest post code: MK3 5LA
- Central grid reference: SP 83854 32901



*Photo 1: aerial photo of the site with approximate boundary shown in blue. (Source: Bing Maps).*

### Site description

- 4.2 The site is located to the south-west of Milton Keynes at the edge of Bletchley town. The site is rural in character, with residential dwellings beyond to the east. The Windmill Hill Golf Centre and Snelshall West industrial units are located to the north. To the south and east are mixed use agricultural fields.
- 4.3 There are various points of access to the site with some via the various gates off Whaddon Road, and some off the bridleway which bisects the site. The topography of the site slopes gently from north to south.
- 4.4 The arboricultural resource for the site is typical of an agricultural setting with established field edge hedgerows interspersed with semi-mature to mature trees and some larger tree groups (small woodlands) across the site.
- 4.5 The north of the site is bound by Standing Way (A421) and immediately to the east of the site is an agricultural field, beyond which lies the existing settlement edge of Bletchley. To the south is the disused railway track known as the Varsity Line which historically linked Oxford and Cambridge, and to the west is the Whaddon Road.

## 5. STATUTORY PROTECTION

### **Statutory tree protection**

- 5.1 The Site is not located within a Conservation Area and the vast majority of the trees within the site are not protected by a Tree Preservation Order, save for some of the trees within the parts of the site that fall within Milton Keynes Council.
- 5.2 The reference of the relevant Order is PS/540/15/16 which was served and confirmed in 1970 in response to the Tattenhoe development to the north of the site. On review of this Order the large region indicated within the Order was discovered to be a 'Group' designation and therefore only protects trees that were present at the time the Order was served. The size and estimated age of the trees within the redline boundary, that also fall within the 'Group' designation of the Order, means that they are not believed to be protected by the Order.
- 5.3 The following information is provided for advisory purposes.
- 5.4 Notwithstanding specific exemptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of protected trees or woodlands without the prior written consent of the LPA.
- 5.5 Penalties for contravention of a TPO tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £20,000 if convicted in a Magistrates' Court, or an unlimited fine if the matter is determined by the Crown Court.
- 5.6 On many non-residential sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.
- 5.7 Any proposed tree works that are planned to be carried out on site must be carried out in accordance with the statutory controls outlined.

### **Statutory Wildlife Protection**

- 5.8 Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside of the scope for this report.
- 5.9 Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for protected species such as bats in addition to birds and small mammals. In some instances



specialist ecological advice may be required. This may result in tree works being carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the site manager, owner or consulting arboriculturist should be informed and appropriate action taken as recommended by the appointed Ecologist or the relevant Statutory Nature Conservation Organisation (SNCO): Natural England, Scottish Natural Heritage or Natural Resources Wales.

- 5.10 It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. This time period only provides an indication of likely nesting times and as such diligence is required when undertaking tree works at *all* times.
- 5.11 Irrespective of the time of year, and other than any actions approved under General Licence, it is an offence to intentionally kill, injure or take any wild bird or to intentionally take, damage or destroy the nest or eggs of any wild bird. Ideally, tree operations should be avoided during the likely bird nesting period. However, any tree works should always only be carried out following a preliminary visual check of the vegetation.
- 5.12 For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in England and Wales.
- 5.13 Any proposed tree works that are planned to be carried out on site must be carried out in accordance with any relevant statutory controls, outlined above.

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## 6. ARBORICULTURAL SURVEY

### Site visit

- 6.1 The survey was undertaken by Richard Hyett, MArborA, MICFor and Ian Howell, BA (Hons), Cert Arb L4 (ABC), who visited the site between the 13<sup>th</sup> and 14<sup>th</sup> of November 2018. With an additional land parcel to the east surveyed on the 14<sup>th</sup> April 2020. The weather at the time of the visits was slightly overcast; these conditions in no way hindered the ability to view the trees. All observations were made from ground level (aided by the Visual Tree Assessment method – Mattheck and Breloer, 1994<sup>1</sup>) and all dimensions were measured unless otherwise stated as estimated in the survey schedules.

### Methodology

- 6.2 The survey was undertaken in accordance with BS5837:2012 and the methodology is set out within **APPENDIX 1** of this report.
- 6.3 The tree survey findings are recorded in the tree survey schedule at **APPENDIX 1** of this report.
- 6.4 Within the tree survey schedule, each surveyed tree (T), group (G) or hedgerow (H) on or adjacent to the site is given a reference number which refers to its position on the tree survey and constraints plan which can be found at **APPENDIX 2** of this report.

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<sup>1</sup> The Body Language of Trees: A Handbook for Failure Analysis (Research for Amenity Trees)

## 7. TREE SURVEY FINDINGS

7.1 A summary of the tree survey quality assessment findings that are relevant to the current proposals are shown in table form below:

	Total	A - High quality trees whose retention is most desirable.	B - Moderate quality trees whose retention is desirable.	C - Low quality trees which could be retained but should not significantly constrain the proposal.	U - Very poor quality trees that should be removed unless they have high conservation value.
Trees	91	4	55	32	-
Groups	33	1	23	8	1
Hedgerows	25	-	22	3	-
Total	149	5	100	43	1

7.2 The above table demonstrates that the arboricultural resource of the site is comprised of 149 items that were identified and surveyed. The greater majority of this arboricultural resource is made up of individual trees, with a smaller number of tree groups and hedgerows.

7.3 The majority of individual trees (60%) were assessed as being of moderate-quality (Category B), with an estimated life expectancy of at least 20 years. A smaller proportion of the trees (35%) are of low-quality (Category C) with an estimated life expectancy of at least 10 years. Three trees (5%) of the individual trees onsite are of high-quality (Category A) with an estimated life expectancy of at least 40 years. No trees were assigned to Category U (very poor quality, unsuitable for retention in the current site context).

7.4 The majority of tree groups (70%) were also assessed as being of moderate-quality (Category B). A single tree group is of high-quality (Category A) with an estimated life expectancy of at least 40 years. The remainder of the groups are low-quality.

7.5 Twenty-five hedgerows were identified with the vast majority (88%) being of moderate-quality (Category B). Three hedgerows were assigned to Category C.

7.6 The key findings of the survey are as follows:

- No veteran or ancient trees were identified during the survey;
- A number of significant and notable trees and groups (Category A) were noted during the survey;
- Checks undertaken of the relevant records held on the UK Governments MAGIC website have revealed there are no areas of Ancient or Ancient Semi-Natural Woodland (ASNW) present within, or adjacent to the site;

7.7 Select photographs of the site are shown on the following pages:



*Photoview 1: looking south at G8, an outgrown hedgerow with some significant trees overhanging the site.*



*Photoview 2: Looking north at T68, a Category A1 hybrid black poplar tree.*





*Photoview 3: A general image of the site, illustrating the typical outgrown field hedgerows with common ash interspersed.*



*Photoview 4: looking east along the bridleway that bisects the site. An off-site Category A, English oak is to the left of the image (T71).*



## **8. IDENTIFICATION OF PRELIMINARY TREE CONSTRAINTS**

- 8.1 In accordance with BS5837:2012, below ground constraints, or root protection areas (RPAs), for the surveyed trees have been plotted onto the tree survey plan for the site. These are represented as a circle centred on the base of each tree stem with a radius of 12 times stem diameter measured at 1.5m above ground level.
- 8.2 With reference to BS5837:2012, a root protection area (RPA) is defined as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure should be treated as a priority”. “The default position [when considering design layout in relation to RPAs] should be that structures are located outside the RPAs of trees to be retained”.
- 8.3 BS5837:2012 states (4.6.2) that, “where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced.” The BS goes on to state that, “modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution,” and that any deviation from the original circular plot should take into account:
- morphology and disposition of roots
  - topography and drainage
  - soil type and structure
  - the likely tolerance of the tree to root damage/disturbance
- 8.4 In this instance, the default circular RPAs have been used throughout and no adjustments made.
- 8.5 Root systems can be damaged in a number of ways as follows:
- Severance of a root will destroy all parts of the root beyond that point. The larger the root severed, the greater the impact on the tree. If roots are damaged close to the trunk, the anchorage and stability of the tree can be affected
  - The root bark protects the root from decay and is also essential for further root growth. If damage to the bark extends around the whole circumference, the root beyond that point will be killed
  - Soil compaction, which may occur from storage of material or passage of heavy equipment over the root area, can restrict and even prevent gaseous diffusion

through the soil, and thereby asphyxiate the roots. The roots must have oxygen for survival, growth and effective functioning.

- Lowering the soil level will strip out the mass of roots near the surface
- Raising soil levels will have the same effect as soil compaction
- Incorrect selection and application of herbicide
- Spillage of oils or other harmful materials

8.6 Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments; usually post occupancy. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

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## 9. GENERAL GUIDANCE NOTES FOR DEVELOPMENT

- 9.1 These notes are provided as a guide to the design team. They represent the professional opinion of the arboriculturist, on which trees should be ideally retained given their quality and condition, and which may be acceptable to remove.
- 9.2 The Tree Survey and Constraints Plan provided at **APPENDIX 2** shows the Root Protection Areas (RPAs) prescribed by the guidance within BS5837 paragraph 4.6.2. The RPA represents the minimum soil volume required to sustain a tree.
- 9.3 For proposed residential developments, consideration must be given to future tree growth and orientation, i.e. adverse shading and blocked views from windows raise concerns for incoming residents, which may lead to pressure to fell or remove trees in the future. Wherever possible it is advisable to arrange fenestration away from tree canopies to lessen the conflict, or increase window size to accommodate ambient light.
- 9.4 A hierarchical approach is adopted in order to achieve optimum use of the Site and location of built structures. This is set out below:

### Avoid

- 9.5 The starting point of site layout design should be to avoid the RPA of retained trees and provide suitable clearance from above ground constraints [tree canopies]. Where possible building lines should be at least 2m outside the RPA to provide working space for construction. However, protection measures can be taken if such clearance is not achievable.

### Mitigate

- 9.6 Where intrusion within the RPA is unavoidable then its impact on the tree can be mitigated by specialist measures:
- 9.7 Foundations that avoid trenching e.g. screw piles, suspended floor slabs or casting at ground level for lightweight structures such as bin and cycle stores.
- 9.8 Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist. Cellular confinement systems that enable hard surfaces to be built above existing soil levels are acceptable methods subject to site-specific soil conditions.

- 9.9 Service runs that cannot be routed outside the RPA(s) can be installed by, for example, thrust boring, directional drilling, air excavation or hand digging. These operations often require supervision by the project arboriculturist.

Compensate

- 9.10 Replacement planting can ensure the continuity of tree cover where tree removal is unavoidable or desirable. Off-site provision may be considered in some circumstances but this will require negotiation with the LPA.

Opportunities

- 9.11 Opportunities exist for the establishment of significant new tree planting as part of a scheme of landscape design for the site. Considered and appropriate new tree planting will assist in delivering an overall enhancement to the arboricultural resource associated to the site. This is particularly relevant on the margins, around existing trees or tree groups, or within areas of open space.

## **11. DESCRIPTION OF PROPOSED DEVELOPMENT**

- 11.1 Outline planning consent is being sought for a mixed use development scheme.
- 11.2 The indicative layout is shown on the indicative tree retention and removal plan at **APPENDIX 3**.



## 12. ARBORICULTURAL IMPACT ASSESSMENT (AIA)

12.1 This assessment considers the effect of the proposed site access (i.e. the non-reserved matters). It also considers the potential impacts of the proposed development as indicated on the Illustrative Masterplan. However, a further assessment of the reserved matters details will be required at the detailed planning stages.

12.2 In order to implement the proposed vehicle access to the site only a small number of arboricultural features are expected to be removed. The trees and hedgerows that will require removal are shown on the indicative tree retention and removal plan at **APPENDIX 3** (Insets 1 to 3).

### Buckingham road roundabout

12.3 To accommodate the new highway roundabout junction from the Buckingham Road (B4034) in the north-east it will be necessary to remove a single tree, T49 (Horse chestnut, Category B, moderate-quality) and circa 100m of hedgerow from H7 and H11 (Both mixed species, Category B, moderate-quality).

### Western access/egress

12.4 To accommodate the new highway access and egress point from Whaddon Road in the west, it will be necessary to remove a single tree, T62 (Grey poplar, Category C, low-quality) and a circa 300m section of hedgerow H9 (Mixed species, Category B, moderate-quality). This removal also accommodates the visibility splay requirements for the new access.

### Northern highway access only

12.5 To accommodate the new highway access point from Standing Way in the north it will be necessary to remove an approximately 25m wide section of G14 (Mixed species, Category B, moderate-quality). This is to allow for the carriageway construction and suitable clearance for its safe use.

12.6 Given the limited amount of arboricultural items to be removed and in the context of the anticipated landscape proposals for the wider site (that can be delivered as part of the detailed design and implementation) this impact is considered acceptable from an Arboricultural perspective.

### Non-reserved matters

12.7 The Illustrative Masterplan indicates that within the interior of the site it will likely be necessary to remove a number of hedgerows and trees. This removal is required to accommodate the development parcels, the internal highway network, the internal footpath network and to allow

suitable landscape areas to be provided. The trees and hedgerows that will potentially require removal are shown on the indicative tree retention and removal plan at **APPENDIX 3**. The majority of arboricultural features to be removed, or partially removed, are moderate-quality (Category B). However, the proposed internal road network is likely to require the partial removal of a section of G11 (Mixed species, Category A, high-quality).

12.8 In summary the Illustrative Masterplan indicates the following tree and hedgerow removal will likely be required:

- 557m of hedgerow (mainly Category B, moderate-quality)
- 25m section of tree group, G11 (Category A, high-quality)
- 20m of tree groups, (Category B, moderate-quality)
- 1 tree, T7 (Category C, low-quality)
- 2 trees, T50 and T51 (Category B, moderate-quality).

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### 13. RECOMMENDATIONS AND CONCLUSION

- 13.1 Recommendations on the arboricultural constraints and opportunities of the Site are provided below.

#### Constraints

- 13.2 Confirmed constraints to development at the site have been identified as the presence of:

- Notable, high-quality, individual trees with good future potential
- Notable tree groups of prominence within, and adjacent to, the site

- 13.3 In summary, due to the peripheral, field boundary, location of the identified trees there is minimal arboricultural constraint to development. However, the retention and protection (both from damage during the construction process and also from post development pressure to prune or fell) of trees on the site will serve to provide a level of maturity and provide visual amenity within the proposed development.

#### Opportunities

- 13.4 Opportunities exist for the establishment of significant new tree planting as part of a scheme of landscape design for the site. New tree planting could assist in delivering an overall enhancement in the arboricultural resource of the site.

#### Arboricultural impacts

- 13.5 Arboricultural impacts have been identified in the form of hedgerow and tree removal in order to facilitate the construction of the proposed highway accesses. Further tree and hedgerow removals are anticipated as part of the reserved matter elements of the proposed development. The Illustrative Masterplan indicates the site can deliver a significant amount of new tree and hedgerow planting, the details of which can be secured at the reserved matters planning stages. The Illustrative Masterplan also indicates that suitable buffers to retained trees and hedgerows can be provided in order to limit impacts upon them.

#### Further recommendations

- 13.6 The following is recommended to inform the next stages of the design/planning process of the proposed development, such that suitable arboricultural impact avoidance, mitigation and compensation measures may be adopted:
- Finalised retention and removal plan, along with the preparation of a detailed tree protection plan for non-reserved matters (highway access)

- 
- Detailed Arboricultural Impact Assessment in line with BS 5837:2012 at the detailed design stage.

Together with:

- A suitable Tree Protection Plan and Arboricultural Method Statement for the wider site once the design is finalised at the advanced planning stage

#### Conclusion

- 13.7 In conclusion, the site contains a large number of moderate-quality trees along with some high-quality trees and groups. Due to their peripheral location, and subject to the advice provided within this report, it should be possible to retain the majority of trees as part of the proposed development. Given the scale of the site, location of the trees, no overriding arboricultural constraints that would otherwise prevent development have been identified. The Illustrative Masterplan indicates that some arboricultural impacts will occur but also that the proposed development can provide opportunities for significant new tree planting as well as appropriate buffers to retained trees.

## APPENDIX 1

### TREE SURVEY METHODOLOGY AND SCHEDULE

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## BS5837:2012 TREE SURVEY SCHEDULE

### LAND EAST OF WHADDON ROAD

PROJECT NO: C.2750

SURVEYOR: IAN HOWELL and RICHARD HYETT

DATE: NOVEMBER 2018 / APRIL 2020

#### INDIVIDUAL TREES

Ref	Species	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m <sup>2</sup>	TPO
T1	Common ash	11.0	1	#	350	4.5-4-4-4	2.0	2	E	SM	None	Tree within field edge boundary, not on topo. Ivy throughout lower canopy	Good	Good	40+	<b>B1</b>	4.32	62	NO
T2	Common ash	13.0	1	#	500	6.5-8-8-7	3.0	2	S	M	None	Tree within field edge boundary, not on topo. Failed limb in situ at base of tree. Some decline in the upper canopy and over extended lateral limb to the east.	Good	Fair	20+	<b>B3</b>	6.0	113	NO
T3	Common ash	7.0	1	#	240	4-4-4-4	3.0	2	S	SM	None	Tree within field edge boundary, not on topo.	Good	Good	40+	<b>B1</b>	2.9	26	NO
T4	Common ash	11.0	2	#	450	5-7-5-7	3.0	2	E	SM	None	Tree within field edge hedgerow	Good	Good	40+	<b>B2</b>	5.4	92	NO
T5	Common ash	16.0	1	#	850	6-6.5-6.5-6.5	3.0	2	W	M	None	Tree within field edge boundary, not on topo. Cavity at base and mid canopy.	Good	Fair	20+	<b>B3</b>	10.2	327	NO
T6	Common ash	14.0	1	-	400	5-4.5-4.5-5	2.5	2	S	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	4.8	72	NO
T7	Common ash	9.0	1	#	400	3-3-4-7	2.0	2	N	LM	None	Located at the edge of the ditch. Lost the apically dominant stem.	Fair	Poor	10+	<b>C3</b>	4.8	72	NO
T8	Common ash	14.0	1	#	300	3.5-4-4.5-3	4.0	3	E	SM	None	Tree located at the edge of the ditch	Good	Good	40+	<b>B1</b>	3.6	41	NO
T9	Common ash	10.0	2	#	450	5.5-4-5-5.5	2.0	1	E	M	None	Some dysfunction in the southern stem. Prolific regrowth from ground level	Good	Fair	20+	<b>C1</b>	5.4	92	NO
T10	Common ash	12.5	2	#	450	5.5-6.8-3.5-3	2.0	2	N	M	None	Located at the edge of the ditch. Lost the apically dominant stem. Ivy throughout canopy	Fair	Fair	10+	<b>C1</b>	5.4	92	NO

## BS5837:2012 TREE SURVEY SCHEDULE

### LAND EAST OF WHADDON ROAD

PROJECT NO: C.2750

SURVEYOR: IAN HOWELL and RICHARD HYETT

DATE: NOVEMBER 2018 / APRIL 2020

Ref	Species	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m <sup>2</sup>	TPO
T11	Common ash	14.0	1	#	600	5-4.5-6.5-4.5	2.0	3	E	LM	None	Located at the edge of the ditch. Lost the apically dominant stem. Hollowing at base with Inonotus Hispidus fungal bracket at 3m.	Fair	Fair	20+	<b>B3</b>	7.2	163	NO
T12	Common ash	8.0	2	#	260	4-4-4-4	2.0	2	R	SM	None	Tree within field hedgerow , not on topo.	Good	Fair	40+	<b>B1</b>	3.1	31	NO
T13	Common ash	8.0	2	#	260	4-4-4-4	2.0	2	S	SM	None	Tree within field hedgerow , not on topo.	Good	Fair	40+	<b>B1</b>	3.1	31	NO
T14	Common ash	8.5	2	#	180	4-4-4-4	2.0	2	S	SM	None	Tree within field hedgerow , not on topo.	Good	Fair	40+	<b>C1</b>	2.2	15	NO
T15	Common ash	10.0	4	#	370	4-4-4.5-4	2.0	2	N	SM	None	Tree within field hedgerow , not on topo. Multi stemmed from ground level	Good	Fair	20+	<b>C1</b>	4.4	62	NO
T16	Common ash	6.5	1	#	230	3-3.5-3-3.5	1.5	1	E	SM	None	Tree within field hedgerow , not on topo. Cankering on main stem	Fair	Fair	20+	<b>C1</b>	2.8	24	NO
T17	Poplar	13.0	1	#	800	3-4-6-5	2.0	3.5	E	M	None	Decline in the upper canopy	Fair	Fair	20+	<b>C1</b>	9.6	290	NO
T18	Poplar	18.0	1	#	800	5-5-5-7	5.0	4	E	LM	None	Decline in the upper canopy with cavities on structural limbs	Fair	Fair	20+	<b>C3</b>	9.6	290	NO
T19	Common ash	10.5	1	#	400	5-3-3.5-5	2.0	2	W	M	None	Suppressed by neighbouring trees	Good	Fair	40+	<b>B1</b>	4.8	72	NO
T20	Common ash	6.0	1	#	290	4-4.5-4-0.5	2.5	2	S	SM	None	Asymmetric canopy due to suppression from neighbouring tree	Good	Fair	20+	<b>C1</b>	3.5	38	NO
T21	Common ash	12.0	1	#	400	3.5-4-5-4.5	2.5	2	S	M	None	Tree within field hedgerow	Good	Good	40+	<b>B1</b>	4.8	72	NO
T22	Common ash	11.0	1	#	400	4-5.5-5-3.5	3.0	2	N	M	None	Tree within field hedgerow , Inonotus Hispidus fungal brackets on main stem	Fair	Fair	20+	<b>C3</b>	4.8	72	NO
T23	Common ash	16.0	1	#	800	3-5-6-5	2.0	2	N	LM	None	Tree within field hedgerow. Decline throughout canopy	Fair	Fair	20+	<b>C3</b>	9.6	290	NO

## BS5837:2012 TREE SURVEY SCHEDULE

### LAND EAST OF WHADDON ROAD

PROJECT NO: C.2750

SURVEYOR: IAN HOWELL and RICHARD HYETT

DATE: NOVEMBER 2018 / APRIL 2020

Ref	Species	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m <sup>2</sup>	TPO
T24	Common ash	12.0	1	#	380	4-4-2-3.5	2.5	2	E	M	None	Tree within field hedgerow. Decline throughout canopy. Cavities with good habitat potential.	Fair	Fair	20+	<b>C3</b>	4.5	65	NO
T25	Common ash	17.0	1	#	500	6-6-5-5.5	3.0	3	E	M	None	Tree within field hedgerow. Some Inonotus Hispidus fungal brackets on stems	Good	Fair	40+	<b>B1</b>	6.0	113	NO
T26	Common ash	14.5	1	#	450	6.5-5.5-5-5.5	2.0	2	E	M	None	Tree within field hedgerow , dense ivy throughout lower canopy. Partially failed limb in situ on the hedgerow	Good	Fair	40+	<b>B1</b>	5.4	92	NO
T27	Common ash	16.0	1	#	400	6.5-6-6.5-6	2.0	3	N	M	None	Tree within field hedgerow	Good	Good	40+	<b>B1</b>	4.8	72	NO
T28	Common ash	12.0	1	#	500	5.5-6-6-4	2.0	2	N	M	None	Tree within field hedgerow, dense ivy throughout lower canopy, some decline throughout canopy	Fair	Good	20+	<b>C1</b>	6.0	113	NO
T29	Field maple	7.0	1	#	280	4-4-4-4	2.5	1	N	M	None	Tree within field hedgerow	Good	Good	40+	<b>B1</b>	3.3	35	NO
T30	Common ash	12.0	2	#	440	6-5-4-5.5	3.0	2	S	M	None	Tree within field hedgerow	Good	Good	40+	<b>B1</b>	5.3	88	NO
T31	Common ash	9.0	1	#	250	4-4-4-4	2.0	2	E	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	3.0	28	NO
T32	Common ash	7.0	1	#	180	3.5-3.5-3.5-3.5	3.0	2	N	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	2.2	15	NO
T33	Common ash	10.0	1	#	430	2-3.5-4.5-4	3.0	2	S	M	None	Tree within field hedgerow, not on topo. Failed apically dominant stem.	Fair	Fair	20+	<b>C3</b>	5.2	84	NO
T34	Common ash	12.0	1	#	420	4-4-3-2	2.5	2.5	S	M	None	Tree within field hedgerow, not on topo. Decline throughout canopy, cavities on structural limbs.	Fair	Fair	20+	<b>C3</b>	5.0	80	NO
T35	Common ash	13.0	2	#	280	5-4.5-4-4	3.0	3	S	SM	None	Tree within field hedgerow, not on topo. Forks close to ground level	Good	Fair	20+	<b>C1</b>	3.3	35	NO

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T36	Common ash	11.0	7	#	400	5.5-5-5-4	3.0	2	E	M	None	Tree within field hedgerow, not on topo. Of lapsed coppice form	Good	Good	40+	<b>B1</b>	4.8	72	NO
T37	Common ash	9.0	1	#	280	4.5-4.5-4.5-4.5	3.0	1.5	N	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	3.3	35	NO
T38	Common ash	12.0	2	#	400	5.5-5-5-4.5	3.0	3	N	M	None	Tree within field hedgerow, not on topo.	Good	Good	20+	<b>B1</b>	4.8	72	NO
T39	Common ash	11.0	3	#	290	4-4-4-4	3.0	2	S	SM	None	Tree within field hedgerow, not on topo.	Good	Fair	40+	<b>B1</b>	3.5	38	NO
T40	Common ash	11.0	1	#	350	4-4-4-4	3.0	3	S	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	4.2	55	NO
T41	Common ash	9.0	1	#	280	3.5-3.5-3.5-3.5	2.0	2	E	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	3.3	35	NO
T42	Common ash	11.0	1	#	400	5-5-4-4	2.0	2	S	M	None	Tree within field hedgerow.	Good	Fair	40+	<b>B1</b>	4.8	72	NO
T43	Common ash	9.0	3	#	270	4-4-4-4	2.0	2	N	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	3.2	33	NO
T44	Common ash	11.0	2	#	310	5-4-5-5	2.0	2	S	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	3.7	43	NO
T45	Common ash	12.0	3	#	350	5.5-4.5-5-5	3.0	3	S	M	None	Tree within field hedgerow, not on topo. Lapsed coppice form	Good	Fair	10+	<b>C1</b>	4.2	55	NO
T46	Common ash	12.0	1	#	330	5-5-5-5	3.0	3	S	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	3.9	49	NO
T47	Common ash	12.0	2	#	340	5.5-4-4-4	2.0	3	N	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	4.1	52	NO
T48	Common ash	12.0	1	#	400	6-4-4.5-5	3.0	3	N	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	<b>B1</b>	4.8	72	NO
T49	Horse chestnut	11.0	1	#	360	4-5-5-5.5	2.0	2	E	SM	None	Tree within field hedgerow.	Good	Good	40+	<b>B1</b>	4.3	59	NO
T50	Horse chestnut	11.0	1	#	410	6-6-6-6	2.0	2	S	SM	None	Tree within field hedgerow.	Good	Good	40+	<b>B1</b>	4.9	76	NO
T51	Horse chestnut	10.0	1	#	410	6-6-6-6	2.0	2	N	SM	None	Tree within field hedgerow.	Good	Good	40+	<b>B1</b>	4.9	76	NO

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DATE: NOVEMBER 2018 / APRIL 2020

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T52	Horse chestnut	13.0	1	#	520	6-6.5-6-6.5	3.0	2	W	M	None	Tree within field hedgerow.	Good	Good	40+	B1	6.2	122	NO
T53	Common ash	12.0	1	#	310	4-6-6-3	3.0	3	E	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	3.7	43	NO
T54	Common ash	13.0	1	#	550	6-6-8-8	2.0	2	N	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	6.6	137	NO
T55	Common ash	12.0	1	#	600	6-8-4-2	3.0	2	E	LM	None	Decline throughout canopy, Inonotus Hispidus brackets on structural limbs, requires remedial works as is overhanging the bridle way	Fair	Fair	20+	C1	7.2	163	NO
T56	Common ash	13.0	1	#	250	2-3-4-3	1.5	1	S	SM	None	Sparse canopy to the north	Fair	Fair	20+	C1	3.0	28	NO
T57	Field maple	3.0	1	#	350	4-4-4-4	3.0	2.5	S	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	4.2	55	NO
T58	Common ash	11.0	1	#	400	7-6-6-6	3.0	3	E	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	4.8	72	NO
T59	Common ash	11.0	4	#	330	5-2-4-4	3.0	2	S	SM	None	Tree within field hedgerow, not on topo. Many co dominant stems at ground level	Good	Fair	20+	C1	3.9	49	NO
T60	Common ash	10.0	1	#	250	5-5-5-5	2.0	2	S	SM	None	Possibly off site , not on topo.	Good	Good	40+	B1	3.0	28	NO
T61	Crack willow	14.0	9	#	450	7-7-5-7	2.0	1	N	M	None	not on topo. Low pollard with lapsed re growth	Fair	Fair	20+	C1	5.4	92	NO
T62	Grey poplar	12.0	1	#	350	6-5-4-6	2.0	2	N	SM	None	Tree within field hedgerow, not on topo.	Good	Fair	40+	C1	4.2	55	NO
T63	Common ash	19.0	1	#	600	6-6.5-6-7	3.0	3	W	M	None	Tree within field hedgerow, not on topo. Dense ivy throughout lower canopy	Good	Good	40+	B1	7.2	163	NO
T64	Common ash	14.0	1	#	300	5-5-5.5-5.5	2.5	2	N	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	3.6	41	NO
T65	Common ash	13.0	1	#	320	4-6-6-5	3.0	2	N	SM	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	3.8	46	NO



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T66	English oak	12.0	1	#	680	7-7-7-7	2.0	2	N	M	None	Tree within field hedgerow, not on topo. Good specimen	Good	Good	40+	A1	8.2	209	NO
T67	Common ash	8.0	1	#	350	4-3-3-3	3.0	2	E	M	None	Tree within field hedgerow, not on topo. Has lost its apically dominant stem. Hollowing at the wound provides good habitat potential.	Fair	Fair	20+	C3	4.2	55	NO
T68	Hybrid black poplar	19.0	1	#	700	7-7.5-6.5-6.5	3.0	3	S	M	None	Tree within field hedgerow, not on topo. Good specimen, some historic branch tear outs in upper canopy	Good	Good	40+	A1	8.4	222	NO
T69	Common ash	14.0	1	#	680	6-6.5-5-5.5	2.5	2	N	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	8.2	209	NO
T70	Common ash	19.0	1	#	380	6-5-5.5-5.5	3.0	2	E	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	4.5	65	NO
T71	English oak	15.0	1	#	900	8-8-8-8	3.0	3	E	M	None	Off site tree, not on topo. Good specimen tree with a large stem diameter	Good	Good	40+	A3	10.8	366	NO
T72	Common ash	12.0	1	#	350	5-5-5.5-5.5	3.0	2	S	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	4.2	55	NO
T73	Common ash	11.0	1	#	400	6-5-6-5	2.0	2	S	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B1	4.8	72	NO
T74	Common ash	11.0	1	#	320	5.5-5.5-4-3	2.0	2	W	M	None	Tree within field hedgerow, not on topo. Tree has lost its apically dominant stem.	Good	Fair	20+	C1	3.8	46	NO
T75	Common ash	16.0	1	#	600	11.5-9.0-10.0-11.5	3.5	3	W	M	None	Located on the fenceline adjacent to the derelict building. Not on topo	Good	Good	40+	B1	7.2	163	NO
T76	Leyland Cypress	6.0	1	#	200	3.0-3.0-3.0-3.0	0.5	0.5	N/a	SM	None	Establishing evergreen screening tree. Not on topo	Good	Good	40+	C1	2.4	18	NO
T77	Goat willow	6.0	3	#	140	3.0-3.0-3.0-3.0	0.5	0.5	N/a	Y	None	Establishing tree. Not on topo	Good	Fair	40+	C1	1.7	9	NO

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T78	English oak	13.0	1	#	500	6.0-6.0-6.0-6.0	3.0	4	N	EM	None	Tree located within a formalised grassed strip at the field edge. Not on topo	Good	Good	40+	B1	6.0	113	NO
T79	English oak	14.0	1	#	780	8.0-8.0-8.0-8.0	4.0	4	N/a	M	None	Located close to the boundary fence, crown reduced within past 3 years. Not on topo	Good	Good	40+	B1	9.4	275	No
T80	Common ash	14.0	1	-	450	8.0-8.0-8.0-8.0	4.0	5	N/a	EM	None	Located close to the boundary fence, crown reduced within past 3 years. Not on topo	Good	Good	40+	B1	5.4	92	No
T81	Crack willow	8.0	1	#	750	5.0-5.0-5.0-5.0	1.0	0.5	N/a	M	None	Pollarded at 5m in the past 3 years, has 3-4m regrowth present. No access to base of tree. Not on topo	Good	Fair	40+	C1	9.0	255	No
T82	English oak	11.0	1	#	800	6.0-6.0-5.0-5.0	6.0	3	N/a	M	None	Heavily topped/Pollarded at 8m. Located on the fenceline. Not on topo	Fair	Poor	10+	C1	9.6	290	No
T83	Common ash	14.0	2	#	570	8.0-7.0-7.0-8.0	3.0	2	W	M	None	Located within the low level hedgerow. Not on topo	Good	Good	40+	B1	6.8	147	No
T84	Common ash	17.0	1	#	480	6.0-7.0-5.0-6.0	4.0	5	N/a	SM	None	Located within the low level hedgerow. Topped at 9m with 7-8m regrowth. Not on topo	Good	Good	40+	C1	5.8	104	No
T85	Crack willow	17.0	2	#	860	9.0-9.0-9.0-9.0	1.0	1	N/a	M	None	Twin stemmed from ground level with one co dominant stem having collapsed into the field. Not on topo	Good	Fair	20+	C1	10.3	335	No
T86	Common ash	12.0	1	#	650	5.0-5.0-6.0-5.0	4.0	4	W	M	None	Offsite tree located within the neighbouring garden. Heavily topped with 4m regrowth. Not on topo.	Fair	Fair	20+	C1	7.8	191	No

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T87	Common ash	18.0	1	#	780	10.0-10.0-9.0-9.0	7.0	7	S	M	None	Located within the hedgerow, some small diameter deadwood throughout canopy and indications of reduced vitality. Not on topo	Fair	Fair	20+	C1	9.4	275	No
T88	Common ash	12.0	1	#	650	6.0-6.0-7.0-8.0	2.0	2	S	M	None	Tree located close to the boundary fence, of good form and condition. Not on topo.	Good	Good	40+	B1	7.8	191	No
T89	English oak	13.0	1	#	700	10.5-11.0-10.0-10.0	3.0	2.5	N/a	EM	None	Prominent tree. Within a neighbouring garden and overhanging the site by up to 10m. Not on topo	Good	Good	40+	A1	8.4	222	No
T90	Contorted willow	8.0	1	#	300	5.0-4.0-4.0-4.0	2.0	1.5	N/a	EM	None	Offsite tree of good form and condition. Not on topo	Good	Good	20+	B1	3.6	41	No
T91	English oak	16.0	1	#	550	5.0-5.0-7.0-7.0	4.0	4	E	EM	None	Overhanging the site by up to 6m. Tree of good form and condition. Not on topo	Good	Good	40+	B1	6.6	137	No

### GROUPS OF TREES

Ref	Species	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	TPO
G1	Grey poplar	12-14	3	#	400	4.5	2.0	SM	None	Off site group on bridle way side of the hedgerow	Good	Good	40+	B2	4.8	NO
G2	Common ash, Field maple	6-12	6	#	300	4	2.0	SM	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	3.6	NO
G3	Common ash	11-13	9	#	300	4	3.0	SM	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	3.6	NO
G4	Field maple, common ash	11-12	7	#	300	4	2.5	SM	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	3.6	NO

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G5	Common ash, field maple	8-12	9	#	300	4	2.0	SM	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	3.6	NO
G6	Common ash	10-13	8	#	350	4	3.0	SM	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	4.2	NO
G7	Goat willow	13	2	#	380	4.5	3.0	M	None	Tree within field hedgerow, not on topo.	Good	Good	40+	B2	4.5	NO
G8	Blackthorn, hawthorn, common ash	6-12	150+	#	200	5	3.0	SM	None	Off site group of maturing trees above an outgrown hedgerow	Good	Good	40+	B2	2.4	NO
G9	Common ash	11-18	7	#	500	6.5	3.0	M	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	6.0	NO
G10	Common ash, field maple, hawthorn, blackthorn,	6-15	100+	#	400	6	3.0	M	None	Linear group of mature ash with an understorey of hawthorn, maple and blackthorn	Good	Good	40+	B2	4.8	NO
G11	English oak, common ash, hawthorn	6-15	100+	#	600	7	3.0	M	None	Linear group of mature trees with an understorey of hawthorn.	Good	Good	40+	A2	7.2	NO
G12	Common ash, horse chestnut	8-13	12	#	350	5.5	3.0	SM	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	4.2	NO
G13	Poplar	18-20	6	#	400	7	2.0	SM	None	Group of tall and slender stems. Likely lapsed re growth from historic stumps	Fair	Fair	20+	C2	4.8	NO
G14	English oak, common ash, poplar, sycamore	12-20	250+	#	500	7	3.0	M	None	Large group (or small woodland area), many mature trees with a Hawthorn understorey at the field edge	Good	Good	40+	B2	6.0	NO
G15	Common ash	10-15	7	#	300	6	3.0	SM	None	Group adjacent to the derelict buildings	Good	Good	40+	B2	3.6	NO
G16	Leylandii	16-17	2	#	320	4	0.5	M	None	not on topo. Outgrown screening trees. Possibly off site	Good	Fair	20+	C2	3.8	NO

# BS5837:2012 TREE SURVEY SCHEDULE

## LAND EAST OF WHADDON ROAD

PROJECT NO: C.2750

SURVEYOR: IAN HOWELL and RICHARD HYETT

DATE: NOVEMBER 2018 / APRIL 2020

Ref	Species	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	TPO
G17	Leylandii	16-17	2	#	350	4.5	0.5	M	None	not on topo. Outgrown screening trees	Good	Good	20+	C2	4.2	NO
G18	Hybrid poplar	18-20	4	#	550	7	3.0	M	None	Off site trees. not on topo. Lapsed pollards. Poor attachment points at historic cut points	Good	Fair	20+	C2	6.6	NO
G19	Cypress, spruce	6-8	20	#	200	3	1.0	SM	None	Off site trees. not on topo. Evergreen screening trees	Good	Good	40+	B2	2.4	NO
G20	Common ash, English oak, common lime	12-18	20	#	800	7	3.0	M	None	Off site trees, not on topo. Mature linear group parallel to the bridle way.	Good	Good	40+	B2	9.6	NO
G21	Common ash, field maple	11-12	3	#	350	5	3.0	M	None	Trees within field hedgerow, not on topo.	Good	Good	40+	B2	4.2	NO
G22	Grey poplar	20-21	3	#	550	10	4.0	M	None	Not on topo, adjacent to the footpath	Good	Good	40+	B2	6.6	NO
G23	Common ash, field maple,	8-17	150+	#	300	5	3.0	SM	None	Not on topo. Densely planted group forming the highway verge and incorporating a small woodland area to the west	Good	Good	40+	B2	3.6	NO
G24	Common ash, oak, poplar, yew	4-15	100+	#	250	4	1.0	SM	None	Densely spaced group with yew at the highway edge	Good	Good	40+	B2	3.0	NO
G25	Common ash, alder, goat willow	13-15	18	-	500	7	1.0	SM	None	Linear group forming a largely cohesive canopy within the adjacent property. Not on topo	Good	Good	40+	B2	6.0	
G26	Lawson cypress, laurel	6-8	12	#	200	3.5	0.5	SM	None	Offsite group of unmaintained evergreen screening trees. Not on topo	Good	Good	40+	C2	2.4	
G27	Hazel, silver birch, common ash, cherry	5-10	15	-	200	3	1.0	SM	None	Establishing group forming valuable screening for the neighbouring properties. Not on topo	Good	Good	40+	C2	2.4	

## BS5837:2012 TREE SURVEY SCHEDULE

### LAND EAST OF WHADDON ROAD

PROJECT NO: C.2750

SURVEYOR: IAN HOWELL and RICHARD HYETT

DATE: NOVEMBER 2018 / APRIL 2020

Ref	Species	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	TPO
G28	English elm	3-8	20	-	200	2	1.0	Y	None	Elm group, many of which have succumbed to DED. some shrubs have been planted in the understorey. Not on topo.	Poor	Poor	<10	<b>U</b>	2.4	
G29	English elm, hawthorn	4-8	10	#	200	3	1.0	SM	None	Mixed elm and hawthorn. Elm are likely to succumb to DED but are for the most part healthy at present.	Fair	Fair	<10	<b>C2</b>	2.4	
G30	English elm, hawthorn	4-8	8	#	200	3	1.0	SM	None	Mixed elm and hawthorn. Elm are likely to succumb to DED but are for the most part healthy at present. Not on topo	Fair	Fair	<10	<b>C2</b>	2.4	
G31	Hawthorn	5-6	6	#	250	3	1.5	EM	None	Linear group located close to the boundary fence and forming a cohesive canopy. Not on topo	Good	Good	40+	<b>B2</b>	3.0	
G32	Common ash, hawthorn, wild cherry, field maple	5-16	1000	#	400	5	0.5	EM	None	Hedgerow planting at the field edge (unmaintained) with establishing ash set back from the field edge.. Not on topo	Good	Good	40+	<b>B2</b>	4.8	
G33	Blackthorn, hawthorn, common ash	6-12	150+	#	200	5	3.0	SM	None	Off-site group of maturing trees above an outgrown hedgerow. Not on topo	Good	Good	40+	<b>B2</b>	2.4	



**HEDGES**

Ref	Species	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
H1	Blackthorn, hawthorn, elm	3.8	3.0	80	0.5	SM	Dense hedgerow creating a good shelter belt from the bridle way.	Good	Fair	20+	<b>B2</b>	1.0
H2	Hawthorn, blackthorn, elder	3.0	2.0	90	0.5	SM	Well maintained boundary hedge, elm interspersed along its length	Good	Good	40+	<b>B2</b>	1.1
H3	Hawthorn, blackthorn	2.0	1.5	80	0.2	SM	Very patchy hedgerow dissected by large gaps along its length	Fair	Fair	20+	<b>C2</b>	1.0
H4	Hawthorn, blackthorn	2.5	2.0	80	0.2	M	Dense isolated section of hedgerow.	Good	Good	40+	<b>B2</b>	1.0
H5	Hawthorn, blackthorn	2.0	1.5	80	0.2	SM	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H6	Hawthorn, field maple, elder	2.5	1.5	80	0.2	M	Well maintained boundary hedge with some evidence of hedge laying having been carried out	Good	Good	40+	<b>B2</b>	1.0
H7	Field maple, hawthorn	2.0	1.5	80	0.2	M	Well maintained boundary hedge with evidence of laying being carried out in the past	Good	Good	40+	<b>B2</b>	1.0
H8	Field maple, hawthorn, blackthorn, elm	3.0	2.0	80	0.2	M	Field edge boundary hedgerow, becoming outgrown.	Good	Good	40+	<b>B2</b>	1.0
H9	Hawthorn, field maple, blackthorn	1.5	1.0	80	0.2	SM	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H10	Hawthorn, field maple, blackthorn	5.0	3.0	90	0.5	SM	Outgrown hedgerow	Good	Good	40+	<b>B2</b>	1.1
H11	Hawthorn, elm, blackthorn	3.0	2.0	80	0.2	M	Dense well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H12	Blackthorn, hawthorn, elm	3.0	1.5	80	0.2	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H13	Hawthorn, blackthorn, ash	5.0	3.0	100	0.5	M	Outgrown hedgerow	Good	Good	40+	<b>B2</b>	1.3
H14	Hawthorn, blackthorn	2.0	1.0	80	0.0	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0

## BS5837:2012 TREE SURVEY SCHEDULE

### LAND EAST OF WHADDON ROAD

PROJECT NO: C.2750

SURVEYOR: IAN HOWELL and RICHARD HYETT

DATE: NOVEMBER 2018 / APRIL 2020

Ref	Species	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
H15	Hawthorn, blackthorn	3.0	1.5	80	0.2	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H16	Hawthorn, black thorn	3.0	2.0	80	0.5	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H17	Blackthorn, field maple, common ash	3-5	3.0	80	0.2	M	Outgrown hedgerow	Good	Good	40+	<b>B2</b>	1.0
H18	Hawthorn, blackthorn	2.5	1.5	80	0.2	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H19	Hawthorn, blackthorn	2.0	1.5	80	0.2	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H20	Hawthorn, blackthorn	2.0	1.5	80	0.2	M	Off site well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H21	Blackthorn, hawthorn	2.0	1.5	80	0.2	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H22	Blackthorn, hawthorn	2.0	1.5	80	0.2	M	Well maintained boundary hedge	Good	Good	40+	<b>B2</b>	1.0
H23	Blackthorn, hawthorn, elder	3.0	3.0	150	0.5	EM	Unmaintained hedgerow	Good	Fair	40+	<b>B2</b>	1.8
H24	Hawthorn	3.0	3.0	150	0.5	EM	Hedgerow spanning the boundary. Creates valuable screening	Good	Good	40+	<b>C2</b>	1.8
H25	Hawthorn, elm	2.0	1.0	100	0.5	EM	Maintained boundary hedgerow providing valuable screening	Good	Fair	20+	<b>C2</b>	1.3



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## **METHODOLOGY**

### **TREE SURVEY:**

- The tree survey was carried out with reference to the methodology set out in BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (eg avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups/woodlands were also surveyed as individuals
- The full tree survey findings are recorded in the following tree survey schedule.
- Within the tree survey schedule, each surveyed TREE (T), GROUP (G), HEDGEROW (H), WOODLAND (W) or SHRUB MASS on or adjacent to the site is given a reference number which refers to its position on the tree survey and constraints plan.
- TREE SPECIES are listed by common name.

The **DIMENSIONS** taken are:

- **STEM-No.** Indicates the number of main stems (i.e. whether the trunk divides at or below 1.5m; (Used in the calculation of RPA.) "m-s" = Multi-stemmed.
- **DIAMETER** (in millimetres), obtained from the girth measured at approx.1.5m. For trees with 2 to 5 sub-stems, a notional figure is derived from the sum of their cross-sectional areas. For multi-stemmed trees the notional diameter may be estimated on the basis of the average stem size x the number of stems. (A notional diameter may be estimated where measurement is not possible.)
- **HEIGHT**, are measured in metres. They are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- The **CROWN SPREAD** are taken at the four cardinal points to derive an accurate representation of the tree crown. They are recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over 10m.
- **CROWN CLEARANCES** are expressed both as existing height above ground level of first significant branch along with its direction of growth (eg 2.5m-N), and also in terms of the overall canopy. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- **ESTIMATES.** Where any measurement has had to be estimated, due to inaccessibility for example, this is indicated by a "#" suffix to the measurement as shown in the tree survey schedule.

**LIFE STAGE** is defined as follows:

- Y** Young: normally stake dependent, establishing trees. Should be growing fast, usually primarily increasing in height more than spread, but as yet making limited impact upon the landscape.
  - SM** Semi-mature: Established young trees, normally of good vigour and still increasing in height, but beginning to spread laterally. Beginning to make an impact upon the local landscape & environment. Semi-Mature (still capable of being transplanted without preparation, up to 30cm girth and not yet sexually mature).
  - EM** Early-mature: Not yet having reached 75% of expected mature size. Established young trees, normally of good vigour and still increasing in height, but beginning to spread laterally. Beginning to make an impact upon the local landscape & environment.
  - M** Mature: Well-established trees, still growing with some vigour, but tending to fill out and increase spread. Bark may be beginning to crack & fissure. In the middle half of their safe, useful life expectancies.
  - OM** Over -Mature: In full maturity but possibly beyond mature and in a state of natural decline). Still retaining some vigour but any growth is slowing.
-

**PHYSIOLOGICAL CONDITION (HEALTH & VITALITY):** Essentially a snapshot of the general health of the tree based upon its general appearance, its apparent vigour and the presence or absence of symptoms associated with poor health, physiological stress etc. (Fungal infections may be recorded here but decay giving rise to structural weakness would be recorded under 'Structural Condition' – see next parameter):

Good	no significant health issues.
Fair	indications of slight stress or minor disease (e.g. the presence of minor dieback/deadwood or of epicormic shoot growth)
Poor	Significant stress or disease noted; larger areas of dieback than above
Dead	(or Moribund)

**STRUCTURAL CONDITION:** Defects affecting the structural stability of the tree, including decay, significant dead wood, root-plate instability or significant damage to structural roots, weak forks (e.g. those where bark is included between the members) etc. etc. Classified as:

Good	No obvious structural defects: basically sound
Fair	Minor, potential or incipient defects
Poor	Significant defect(s) likely to lead to actual failure in the medium to long-term
Dead	(or Moribund)

**REMAINING USEFUL LIFE EXPECTANCY:** An estimate of the length of time in years that a tree might be expected to continue to make a useful contribution to the locality at an acceptable level of risk (based on an assumption of continued routine maintenance)

- less than 10 years
- 10+ years
- 20+ years
- 40+ years

**QUALITY CATEGORY:** Trees are classed as category U, A, B or C, based on criteria given in BS5837:2012; summary definitions as follow (see BS5837 for further details). Categories A, B and C are further characterised by the use of sub-categories, which attempt to identify what aspect of the tree is the main source of its perceived value:

(1) arboricultural qualities (2) landscape qualities and (3) cultural, historic or ecological/conservation qualities. Examples of these qualities for each of the three categories are given below, although these are indicative only.

Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

- U **UNSUITABLE:** Trees likely to prove to be unsuitable for retention for longer than 10 years should any significant increase in site usage arise as a result of development.  
Dead or moribund trees; those at risk of collapse or in terminal decline; trees that will be left unstable by other essential works such as the removal of nearby category U trees; trees infected by pathogens that could materially affect other trees; low quality trees that are suppressing better specimens  
(Category U trees may have conservation values that it might be desirable to preserve. It may also include trees that should be removed irrespective of any development proposals.)
- A **HIGH QUALITY:** Trees or groups whose retention should be given a particularly high priority within the design process. Normally with an expected useful life expectancy of at least 40 years.

- 
1. Notably fine specimens; rare or unusual specimens; essential component trees within groups, semi-formal or formal plantings (e.g. dominant trees within an avenue etc.)
  2. Trees, groups or woodlands of particular visual importance as landscape features.
  3. Trees, groups or woodlands of particular significance by virtue of their conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture.)
- B MODERATE QUALITY: Trees or groups of some importance with a likely useful life expectancy in excess of 20 years. Their retention would be highly desirable; selective removal of certain individuals may be acceptable, but only after full consideration of all alternative courses of action.
1. Fair quality but not exceptional; good specimens showing some impairment (e.g. remediable defects, minor storm damage or poor past management.)
  2. Acceptable trees situated such as to have little visual impact within the wider locality. Also numbers of trees, perhaps in groups or woodlands, whose value as landscape features is greater collectively than would warrant as individuals (such that the selective removal of an individual would not impact greatly upon the trees' overall, collective value).
  3. Trees, groups or woodlands with clearly identifiable conservation or other cultural benefits.
- C MINOR VALUE: Trees or groups of rather low quality, although potentially capable of retention for at least approx. 10 years. Also small trees below 15cm diam. Potentially retainable, but not of sufficient value to be regarded as a significant planning constraint.
1. Unremarkable trees of very limited merit or of significantly impaired condition.
  2. Trees offering only low or short-term landscape benefits; also secondary specimens within groups or woodlands whose loss would not significantly diminish their landscape value.
  3. Trees with extremely limited conservation or other cultural benefit.
-

## APPENDIX 2

### TREE SURVEY AND CONSTRAINTS PLAN

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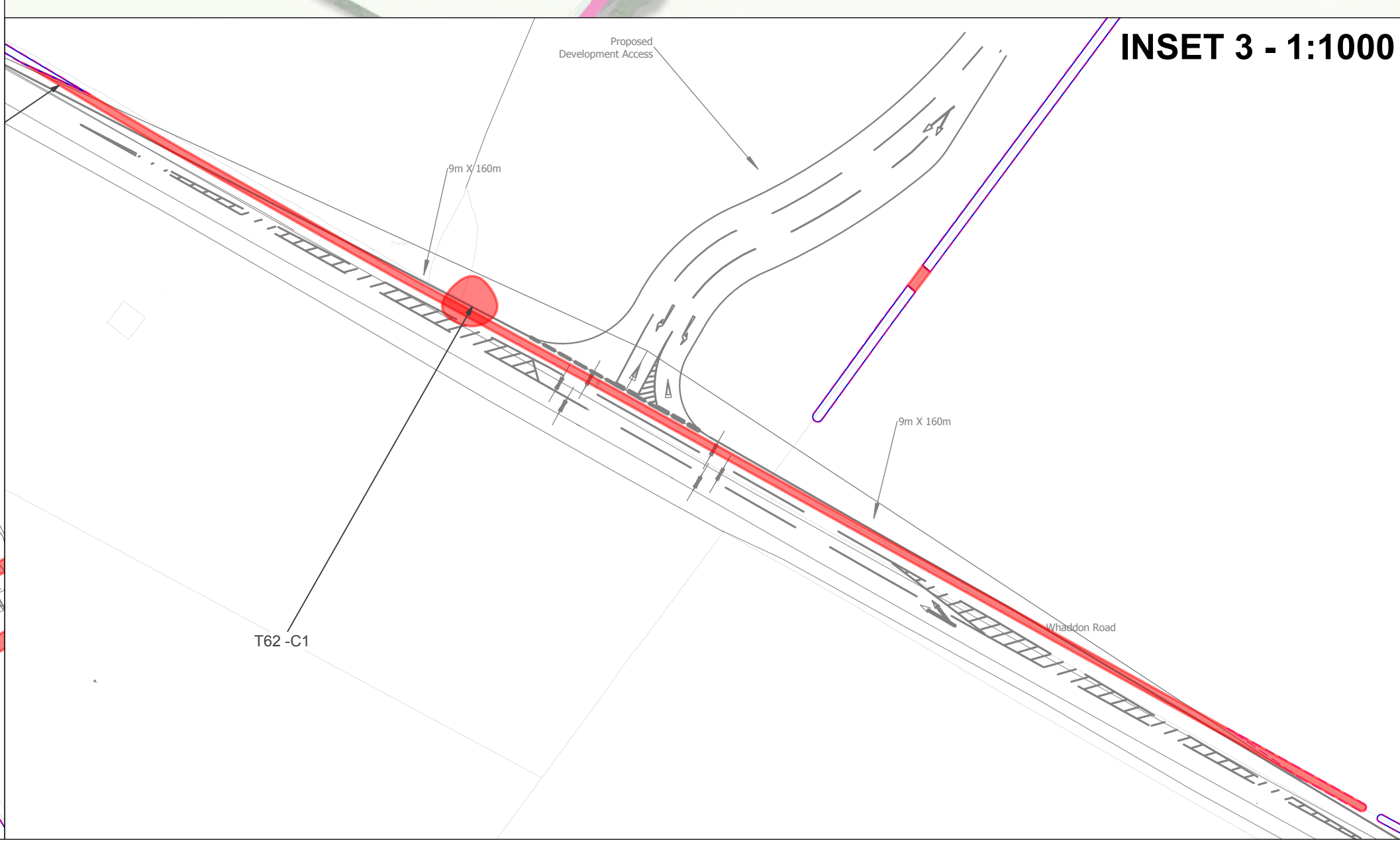
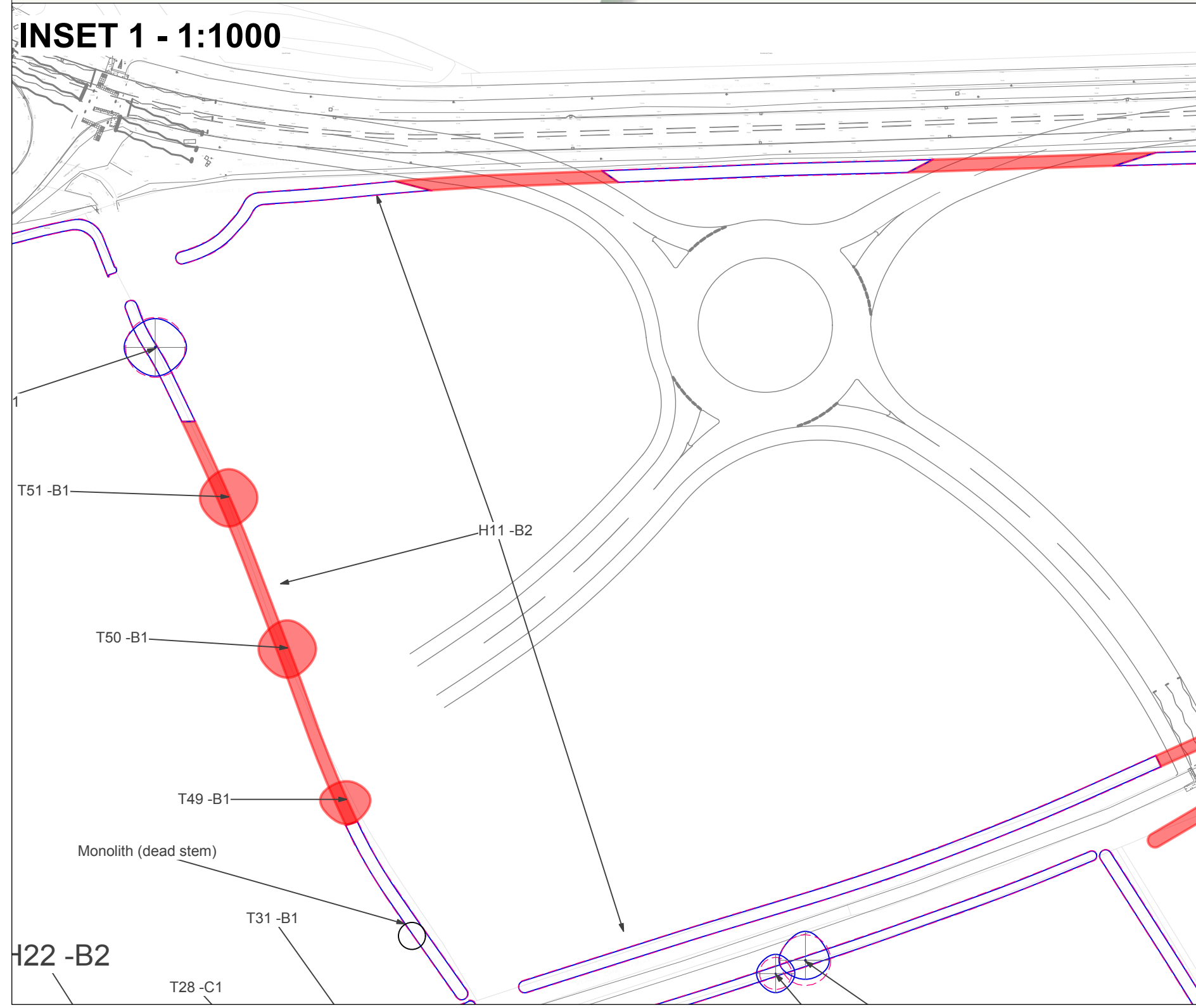
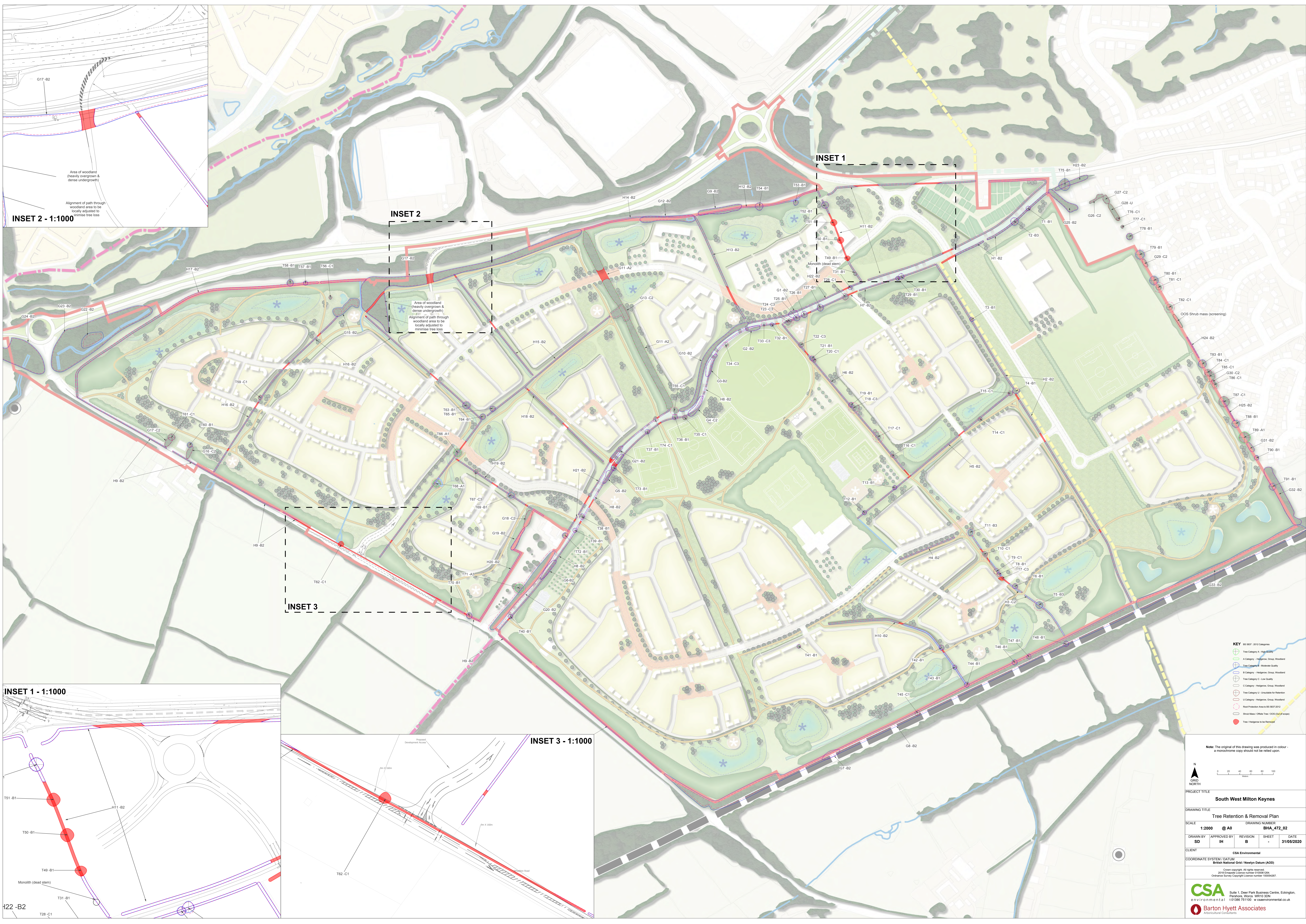




## APPENDIX 3

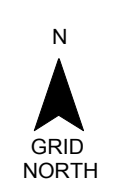
### INDICATIVE TREE RETENTION AND REMOVAL PLAN





- KEY** BS 5837: 2012 Categories
- Tree Category A - High Quality
  - A Category - Hedgerow, Group, Woodland
  - Tree Category B - Moderate Quality
  - B Category - Hedgerow, Group, Woodland
  - Tree Category C - Low Quality
  - C Category - Hedgerow, Group, Woodland
  - Tree Category U - Unsuitable for Retention
  - U Category - Hedgerow, Group, Woodland
  - Road Protection Area to BS 5837:2012
  - Shrub Mass / Other Tree / ODS (Out of scope)
  - Tree / Hedgerow to be Removed

Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.



PROJECT TITLE				
South West Milton Keynes				
DRAWING TITLE				
Tree Retention & Removal Plan				
SCALE		DRAWING NUMBER		
1:2000		BHA_472_02		
DRAWN BY	APPROVED BY	REVISION	SHEET	DATE
SD	IH	B	-	31/05/2020
CLIENT				
CSA Environmental				
COORDINATE SYSTEM / DATUM				
British National Grid / Newlyn Datum (ADD)				
CSA Environmental				
Suite 1, Deer Park Business Centre, Eddington, Peterborough, Northamptonshire, NN16 9JN				
101386 751100 w csasiteenvironmental.co.uk				
Barton Hyett Associates				
Arboricultural Consultants				