ARBORICULTURAL CONSULTANTS

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ARBORICULTURAL SURVEY, IMPACT ASSESSMENT AND PROTECTION PLAN

For:

RESIDENTIAL DEVELOPMENT AND ASSOICATED INFRASTRUCTURE

At:

MANOR FARM, MONKLAND, LEOMINSTER

MHP ref: 21345 MANOR FARM, MONKLAND, LEOMINSTER_TS AIA TPP_V1

CONTENTS:

Issue record

Date	Version	Notes	Checked by
22.06.2022	V1	Initial issue	MR

1 INTRODUCTION

1.1 Background

1.1.1 An application for planning permission is to be submitted for proposed redevelopment of redundant farm buildings to create six dwellings on land at Manor Farm, Monkland, Leominster; hereafter referred to as 'the site'.

1.1.2 Detailed comments from Herefordshire Council in response to pre application advice request (App no 212858/CE) have been received. The comments make the following reference to trees and hedgerows:

"*If any impacts, loss or works to existing trees or hedgerows is proposed (on or offsite) these should be included within the detailed ecological assessments and surveys. A full BS5837:2012 tree and hedgerow impact assessment should be completed and plan showing interaction of development on these features supplied. As appropriate a detailed root protection plan and methodology should be supplied (for Hedgerows a minimum area of 2m from base of any woody hedgerow shrub should be used"*

1.2 Site details

1.2.1 For location purposes, the site can be located using the following grid reference:

- SO 46054 57621

1.3 Instruction and scope

1.3.1 I am instructed by Callow Developments Ltd to visit the site and to carry out an assessment of arboricultural features in accordance with British Standards (BS) 5837:2012 'Trees in Relation to Design Demolition and Construction – Recommendations'.

1.3.2 I am to prepare the following information in relation to the proposals:

- Tree survey in accordance with BS5837:2012
- Arboricultural Impacts Assessment
- Tree Protection Plan.

2 GENERAL

2.1 Statutory tree protection and other designations

2.1.1 I have carried out the following desk-based tree-related constraints checks in relation to the site.

	General summary information	Relevant to site?
Conservation Area[1]	• All trees with a trunk diameter greater than 75mm at 1.5m height are protected in the same way as for TPO (see below). • Six weeks' notice must be given to the Local Planning Authority (LPA) prior to carrying out any tree works so that possible requirement for TPO can be assessed.	No
Tree Preservation Order (TPO)[2]	• It is an offence to cut down, uproot, top or lop, wilfully damage or wilfully destroy relevant trees or woodlands. • Formal permission must be applied for (and granted) by the LPA before carrying out tree works. • Penalties of up to £20K (Magistrates Court) or unlimited fine (Crown Court).	No
Note: specific exceptions and exemptions do apply in relation to the summary information above. Where relevant these are highlighted in the following paragraphs.		

2.2 Limitations

2.2.1 In some instances, I have been unable to access or clearly observe the trunks of trees as they are offsite. Where this is the case, I have made my best endeavours to accurately estimate dimensions and tree condition.

2.2.2 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. As such, the findings and recommendations of my tree survey are limited to 24 months from the date of my site visit.

2.3 Wildlife informative

2.3.1 Tree works should not be carried out until a reasonably detailed inspection of relevant trees

[1] Conservation areas – Herefordshire Council Accessed 17.01.2022.
[2] Administrative map – Herefordshire Council Accessed 17.01.2022.

has been carried out to determine if bat roosts and/or bird nests are present.

2.3.2 It is a criminal offence to intentionally damage/destroy the nest of any wild bird while it is in use or being built. Similarly it is an offence to intentionally/recklessly disturb roosting bats or to damage or destroy a bat roost.

2.3.3 The Arboricultural Association publishes useful advice in relation to trees and nesting birds[3]. Helpful advice with regards to bats and tree work is published by the UK Government[4], the Arboricultural Association[5] and The Bat Conservation Trust[6].

[3] https://www.trees.org.uk/Help-Advice/Public/When-is-the-bird-nest-season
[4] https://www.gov.uk/guidance/bats-protection-surveys-and-licences
[5] https://www.trees.org.uk/Help-Advice/Public/Bats-and-trees-Who-does-what-where
[6] https://www.bats.org.uk/about-bats/where-do-bats-live/bat-roosts/roosts-in-trees

3 ARBORICULTURAL SURVEY

3.1 Site visit

3.1.1 I visited the site on 13.01.2022

3.2 Findings

3.2.1 My findings are set out within the survey schedule at **Appendix 1**.

3.2.2 The site is currently an open plot of land with of a range of largely redundant agricultural buildings. It is situated on the eastern edge of the village of Monkland.

3.2.3 Access is via a single track lane off the A44. Immediately to the north is All Saints' Church. An unnamed water course (a sluice) flows along the eastern boundary of the site in a south north direction until it joins the Moor Brook in the north-eastern corner of the site. To the south lies a grazed orchard, to the west is Manor Farm.

3.2.4 There are very few trees within the main body of the site. Along the eastern boundary there are several prominent trees alongside the sluice. A copse, predominantly of willow and ash, is located in the north-eastern corner of the site, between the sluice and the Mill Brook.

4 TREE CONSTRAINTS AND DESIGN ADVICE

4.1 Tree Quality Assessment

4.1.1 Surveyed trees are represented using colour coding to indicate their quality and thereby suitability for retention. The quality assessment is as follows:

Quality grade	Definition
A	Green: high quality with estimated remaining life expectancy of at least 40 years.
B	Blue: moderate quality with estimated remaining life expectancy of at least 20 years
C	Grey: low quality with estimated remaining life expectancy of at least 10 years
U	Red - unsuitable for retention. Cannot realistically be retained for longer than 10 years

4.2 Below Ground Constraints

4.2.1 In accordance with BS5837:2012, below ground constraints, or Root Protection Areas (RPAs), for the surveyed trees are plotted onto the Tree Survey and Constraints Plan. These are represented as a circle with a broken red line centred on the base of each tree stem with a radius of 12 times stem diameter (measured at 1.5m above ground level.

4.2.2 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*".

4.2.3 Root systems can be damaged in several ways:

- Root severance
- Soil compaction

- Contamination by spilled materials eg cement/diesel.

4.3 Above Ground Constraints

4.3.1 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, perceived fear of tree failure during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated future requests to fell or heavily prune retained and protected trees.

4.3.2 The above ground parts of trees can be damaged in several ways:

- Impact damage through contact with construction site plant
- Inappropriate pruning
- Other factors, for example, heat damage caused by bonfires.

5 ARBORICULTURAL IMPACT ASSESSMENT (AIA) & TREE PROTECTION PLAN (TPP)

5.1 Arboricultural Impact Assessment

5.1.1 A combined AIA and TPP is included at **Appendix 2**.

5.1.2 The plan shows the tree survey and constraints information in relation to the proposed layout and confirms that just one low quality existing tree must be removed.

5.1.3 With most of the remainder of the site being devoid of trees, the development of the site provides the opportunity to increase tree cover in the vicinity to enhance the rural character and overall tree canopy cover of the area.

5.2 Tree Protection Plan

5.2.1 The Tree Protection element of the plan demonstrates how retained trees can be effectively retained as part of the construction of the proposals.

5.2.2 Locations and specifications of tree protection barriers are provided.

5.2.3 Tree protection barriers must be put in place before any other work is carried out on site and remain in place for the duration of construction works.

6 CONCLUSION

6.1 Conclusion

6.1.1 I conclude that the development proposals are feasible from an arboricultural perspective, and that the proposal adheres to Herefordshire Council's pre application advice for the following key reasons:

- No significant trees shall be removed to facilitate the development.
- Tree protection measures can be put in place to ensure that construction works do not result in damage to the retained trees.
- The development presents an opportunity to enhance tree numbers and cover in the vicinity. New tree planting is proposed.

APPENDIX 1 – TREE SURVEY SCHEDULE

TREES

Ref	Common name	Height (m)	Est	Stem dia (mm)	Est	N	Est	E	Est	S	Est	W	Est	Estimated first branch height (m)	1st branch direction	Estimated canopy height (m)	Life stage	Special status	General observations & management recommendations	Struct. cond.	Phys. cond.	ULE	Quality grading	RPA radius (m)	RPA area (m2)	Protected status
T1	Sycamore	12	-	550	-	5	-	5	-	5	-	6	-	2	N	3	M	None	Growing against existing brick barn, ivy clad, low spreading secondary leader from base, S side.	Fair	Good	10+	C1	7	137	None
T2	Hazel	8	-	500	#	3	-	2	-	3	-	3	-	2	W	2	M	None	Old multi stemmed coppice stool.	Good	Good	20+	B1	6	113	None
T3	Ash	14	-	550	-	3	-	5	-	5	-	5	-	4	W	3	M	None	Adjacent sluice and footbridge. Fork at 1m, eroded root plate area on sluice side.	Fair	Fair	20+	B1	7	137	None
T4	Ash	11	-	500	-	2	-	3	-	2	-	3	-	5	S	5	M	None	Adjacent sluice and footbridge. Root plate area eroded on sluice side. Festooned in Ivy. In decline.	Poor	Fair	10+	C1	6	113	None
T5	Hawthorn	6	-	200	#	0	-	1	-	3	-	1	-	1	S	1	M	None	Leans to S, on sluice edge.	Fair	Good	10+	C1	2	18	None
T6	Hazel	6	-	500	#	2	-	2	-	2	-	2	-	1	N	2	M	None	Old coppice stool on sluice edge.	Good	Good	20+	B1	6	113	None
T7	Hawthorn	5	-	150	#	1	-	2	-	2	-	2	-	2	W	1	M	None	Multi stemmed, suppressed by T8.	Fair	Fair	10+	C1	2	10	None
T8	Sycamore	15	-	520	-	6	-	3	-	6	-	6	-	3	W	3	M	None	Multi stemmed, prominent tree.	Fair	Good	20+	B1	6	122	None
T9	Hawthorn	7	-	250	-	1	-	1	-	2	-	2	-	1	NE	1	EM	None	Ivy clad, upright form.	Fair	Fair	10+	C1	3	28	None
T10	Hawthorn	8	-	250	-	1	#	1	#	1	#	1	#	1	E	1	EM	None	Multi stemmed, ivy clad, upright form.	Fair	Poor	10+	C1	3	28	None
T11	Hawthorn	6	-	200	#	2	-	1	#	0	-	2	-	1	W	1	EM	None	Multi stemmed, narrow form, ivy clad.	Fair	Fair	10+	C1	2	18	None
T12	Field maple	9	-	350	-	1	-	3	-	3	-	2	#	3	S	2	OM	None	Off site. Twin stemmed, basal decay and wounding up to 1.5m on each stem.	Fair	Good	10+	C1	4	55	None
T13	Alder	14	-	500	#	5	-	5	#	5	-	5	#	5	W	4	M	None	Off site on eastern bank of sluice. Multi stemmed. Prominent tree.	Fair	Good	20+	B1	6	113	None
T14	Hazel	5	-	475	#	2	-	2	-	3	-	3	-	1	E	2	M	None	Old coppice stool on top of sluice bank.	Good	Good	20+	B1	6	102	None
T15	Sycamore	13	-	500	#	5	-	5	#	5	-	4	-	2	SW	3	M	None	Multi stemmed on sluice bank. Area of root plate eroded.	Fair	Fair	20+	B1	6	113	None
T16	Apple	8	-	350	-	4	-	4	-	2	-	3	-	2	N	2	OM	None	In decline. Approximately one third of canopy is dead. Mistletoe present.	Poor	Poor	10+	C1	4	55	None

GROUPS

Ref	Common names of woody species present	Estimated average trunk diameter at 1.5m (mm)	Estimated minimum & maximum heights (m)	Estimated average height (m)	Estimated average canopy height (m)	Life stage	Special status	General observations & management recommendations	Struct. cond.	Phys. cond.	ULE	Quality grading	RPA radius from canopy edge (m)	Protected status
G1	Willow, Hawthorn, Sycamore	300	12 & 8	10	3	M	None	Small group of trees adjacent to sluice and Mill Brook. Willow previously partially reduced.	Fair	Good	20+	B2	As shown on plan	None

WOODLANDS

Ref	Common names of woody species present	Estimated average trunk diameter at 1.5m (mm)	Estimated minimum & maximum heights (m)	Estimated average height (m)	Estimated average canopy height (m)	Life stage	Special status	General observations & management recommendations	Struct. cond.	Phys. cond.	ULE	Quality grading	RPA radius from canopy edge (m)	Protected status
W1	Ash, Willow	300	20 & 15	18	5	M	None	Copse of tall, closely planted willows and ash on eastern side of sluice.	Fair	Good	20+	B2	As shown on plan	None

HEDGEROWS

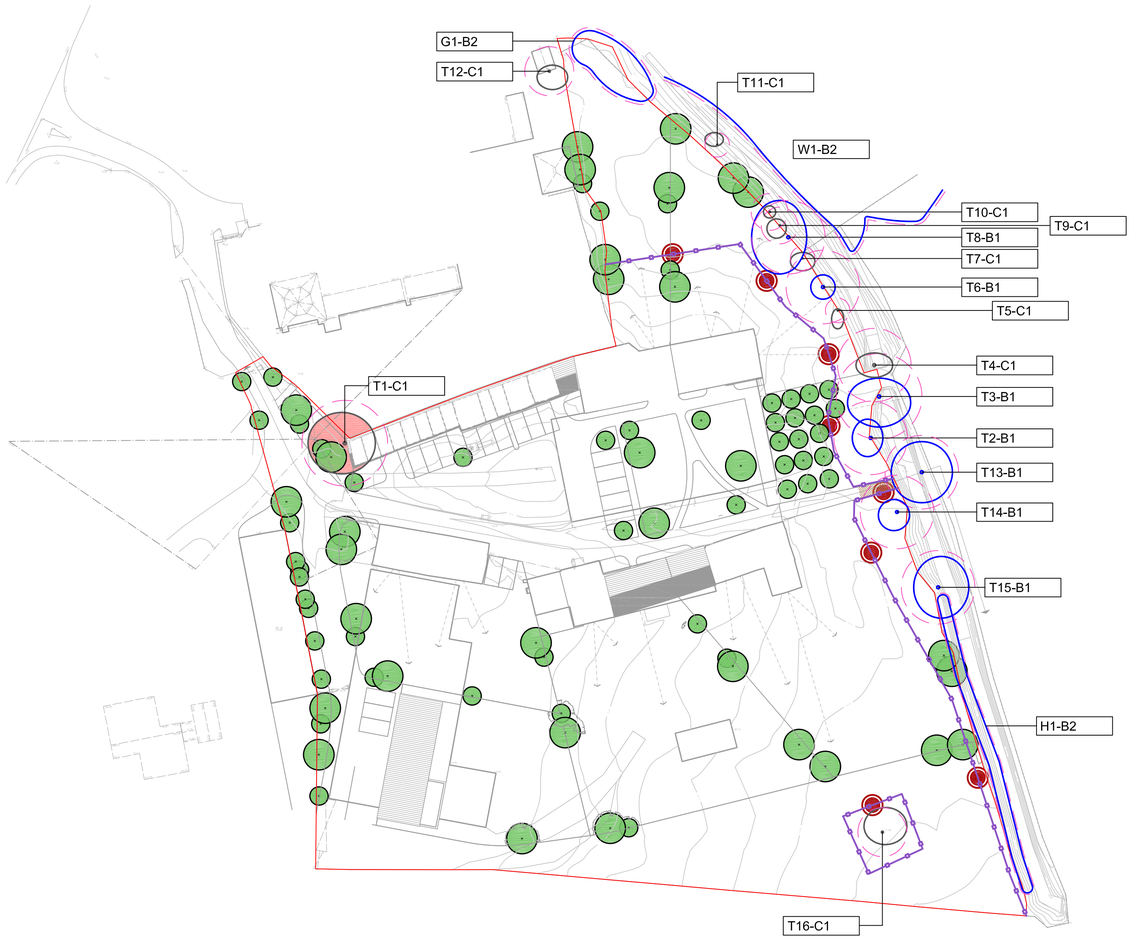
Ref	Common names of woody species present	Estimated minimum & maximum heights (m)	Estimated average height (m)	Estimated average trunk diameter (mm)	Estimated average lateral spread (m)	Estimated average canopy height (m)	Life stage	Special status	General observations & management recommendations	Struct. cond.	Phys. cond.	ULE	Quality grading	RPA radius from canopy edge (m)
H1	Hazel, Hawthorn, Sycamore	10 & 6	7	200	1.5	0	M	None	Prominent line of predominantly hazel (coppiced) and hawthorn along sluice edge. Regularly flailed on W side to create a dense screen.	Fair	Good	20+	B2	As shown on plan

KEY

Assessment criteria	Description
Reference number on plan	T: Tree, G: Group, W: Woodland, H: Hedgerow. This reference is recorded on the Tree Survey and Constraints Plan against the relevant survey item.
Common name (Scientific name)	Common names: normal type. Scientific names where required: italic type in brackets
Heights	Unit: metres (m). Recorded to the nearest half metre for heights upto 10m and to the nearest whole metre for heights above 10m.
Stem diameter	Unit: millimetres (mm). Rounded to the nearest 10mm. Single and multi-stemmed trees are measured at 1.5m above highest ground level or otherwise as in accordance with Annex C, BS5837:2012.
Estimates	Measured tree dimensions are identified by an '-' in the adjacent 'Estimate' column. Where dimensions have been estimated (offsite, or otherwise inaccessible survey items) this is clearly identified by a '#' in the adjacent 'Estimate' column.
Crown spread	Unit: metres (m). Directions refer to the four compass points (north, east, south, west). Dimensions are rounded-up to the nearest half metre for heights up to 10m and to the nearest whole metre for heights above 10m.
Estimated average lateral spread	Unit: metres (m). For hedgerows only. An estimate of the average width between branch tips.
Crown clearance height	Unit: metres (m). The existing height above ground level of: • First significant branch and the compass direction of its growth: North (N), North-east (NE), East (E) , South-east (SE) etc. • Canopy (height between branch tips and ground level).
Life stage	Y – young (stake dependent), SM - 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), M – Mature (anything else up to normal life expectancy for the species), OM – Over Mature (anything beyond mature and in natural decline), V – Veteran, A - Ancient (any tree displaying characteristics described by the Ancient Tree Forum and referenced by Natural England).
Special status	• None • Veteran: any tree judged to meet criteria as defined by the Ancient Tree Forum • Ancient: any tree judged to meet criteria as defined by the Ancient Tree Forum[1]
General observations and preliminary management recommendations	General observations are recorded in relation to a survey item's structural and/or physiological condition (eg the presence of any decay and physical defect) and /or any preliminary management recommendations that may be appropriate.
Structural condition	• Good: without any observable significant biomechnical structural weaknesses • Fair: with minor biomechanical structural flaws. Some remedial action may be required • Poor:with significant biomechanical weaknesses requiring intervention particularly where risk management is required.
Physiological condition	• Good: no indications of impaired physiological function and in optimum condition for age and species • Fair: with indicators of reduced vitality. Some intervention may be required • Poor: with significantly impaired physiological function for age and species
Remaining contribution	Useful life expectancy, or the length of time a tree's is estimated to be able to make a useful contribution, is expressed in years as: <10, 10+, 20+, 40+.
Quality grading	Assessed in accordance with Table 1, BS5837:2012. Colours relate to depiction on the Tree Constraints Plan. • Category A (Green) Trees of high quality with an estimated remaining life expectancy of 40 years • Category B (Blue) Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. • Category C (Grey) Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. • Category U (Red) Unsuitable for retention. Trees in such a poor condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Note - A, B and C trees are also given a sub-category of 1, 2 or 3 which reflects their arboricultural, landscape or cultural and conservation values respectively. Each subcategory has an equal weight, for example an A1 tree has the same retention priority as an A3 tree. More than one sub-category may be applied to a survey item as appropriate.
RPA radius	Root Protection Area (RPA): a layout design tool. Unit: metres (m). Radial distance from tree centre to define a circle that indicates on the Tree Survey Plan the minimum rooting area required to maintain tree's viability. Calculated in accordance with Annex D, BS5837:2012
RPA area	Unit: square metres (m^2). The area of the RPA radius circle described above. Applies only to individual trees.

[1] LONSDALE, D. (Ed). Ancient and other veteran trees: further guidance on management. The Tree Council. London. 2013.

APPENDIX 2 – ARBORICULTURAL IMPACT ASSESSMENT AND TREE PROTECTION PLAN



Key

- Vegetation to be removed / area pruned
- Proposed tree planting
- Tree protection fencing
- Signage 'Construction exclusion zone - No Access'
- Area of no-dig construction

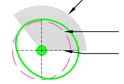
Quality and Suitability For Retention

- Category A - High quality and value (Highly desirable for retention)
- Category B - Moderate quality and value (Desirable for retention)
- Category C - Low quality and value (Optional for retention)
- Category U - Poor quality and value (Unsuitable for retention)

Root Protection Areas (RPA)

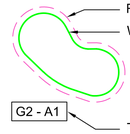
Root Protections Areas (RPA) indetified are in accordance with BS5837:2012. RPA's are shown as a pink dashed polyline

Tree Key



- Existing shade segment (where applicable)
- Root Protection Area (RPA)
- Tree / Group canopy extent (calculated using N,E,S,W cardinal points - not shown)
- Tree / Group Number ID and Quality

Group / Area / Woodland / Hedgerow Key



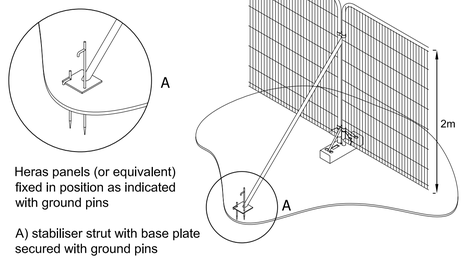
- Root Protection Area (RPA)
- Woodland, group or hedge
- Tree / Group Number ID

Tree number on plan	Common name	Quality grading	RPA radius (m)	Protected Status
T1	Sycamore	C1	7	None
T2	Hazel	B1	6	None
T3	Ash	B1	7	None
T4	Ash	C1	6	None
T5	Hawthorn	C1	2	None
T6	Hazel	B1	6	None
T7	Hawthorn	C1	2	None
T8	Sycamore	B1	6	None
T9	Hawthorn	C1	3	None
T10	Hawthorn	C1	3	None
T11	Hawthorn	C1	2	None
T12	Field maple	C1	4	None
T13	Alder	B1	6	None
T14	Hazel	B1	6	None
T15	Sycamore	B1	6	None
T16	Apple	C1	4	None
G1	Willow, Hawthorn, Sycamore	B2	As shown on plan	None
W1	Ash, Willow	B2	As shown on plan	None
H1	Hazel, Hawthorn, Sycamore	B2	As shown on plan	None

Scale

0 2 5 10 20 50

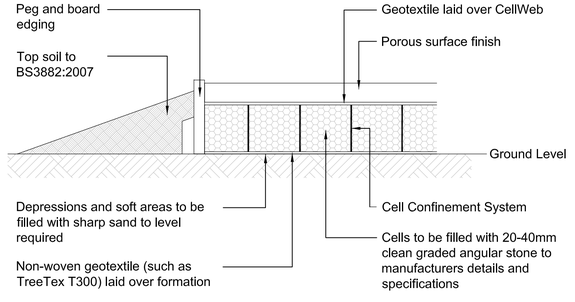
Protective Barrier



Heras panels (or equivalent) fixed in position as indicated with ground pins

A) stabiliser strut with base plate secured with ground pins

No-dig Illustrative Section



Notes

1) Survey Date 13th January 2022.

2) This drawing has been produced to be printed in colour. If you have been given this drawing in monochrome please request a colour version.

3) Do not scale directly from this drawing.

4) This drawing is to be read in conjunction with all other relevant MHP drawings and information supplied by other consultants.

Revisions:

Rev.	Date:	Drawn:	Checked:

Project: Manor Farm, Monkland, Leominster

Client: Callow Developments Limited

Title: Arboricultural Impact Assessment and Tree Protection Plan

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Status: FOR INFORMATION

Drawn By:	Checked By:	Date:	Scale @ A1:
GW	MR	31-05-22	1:500

Manor Farm, Monkland, Leominster

Arb Impact Assessment & Tree Protection Plan

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