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**Arboricultural Advice in accordance with
BS 5837:2012 Trees in relation to construction – Recommendations
Tree survey and Impact Assessment
29th November 2024**

Subject Property: Land Adjacent to Titus Cottage
Bradley Fold Road
Ainsworth
Bolton
BL2 5QR

Completed by: Hugh Wilson MSc BSc M.Arbor A.
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1 INTRODUCTION

1.1 Brief: We are instructed to carry out an arboricultural survey of a proposed development site: land adjacent to Titus Cottage, Bradley Fold Road, Ainsworth, Bolton BL2 5QR and to provide a tree survey and arboricultural impact assessment in accordance with BS5837:2012

Trees in relation to construction – Recommendations (hereafter BS5837).

1.2 Qualifications and experience: This report is based on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture and list the details in Appendix 2. Observations or comments on structural engineering and the law are made from an arboricultural perspective. Specialist professional advice should be sought to clarify such observations.

1.3 Documents and information provided: I was provided with copies of the following documents:

- Site Location plan (TRI-4483.dwg)
- Proposed site plan (Titus infill plot.dwg)

1.4 Scope of this report: This report includes an assessment of the trees in relation to potential development in order to:

1. Record principle attributes (species, height, crown spread and stem diameter).
2. Determine their quality and value.
3. Identify their remaining contribution and retention grading.
4. To identify the level of tree retention and removal and to illustrate on a tree retention and removal plan.
5. To appraise the impact of tree losses arising as a result of the proposals.
6. To appraise the impact of the proposals on the retention trees.

1.5 Purpose of the report: This report utilises the tree survey data to detail the arboricultural impact of the proposed layout.

1.6 Caveats: This report is only concerned with trees in relation to construction. It includes a detailed assessment based on the site visit and the documents provided, listed in 1.3 above. All my observations were from ground level without detailed investigations. Aerial tree inspection, invasive procedures and sub-soil investigations are outside the scope of the report. Should further assessment involving any of these be required it will be highlighted in the report.

2 BS5837:2012 - THE ITERATIVE PROCESS

2.1 Trees and the planning system – BS5837 Annex B

2.1.1 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications. Where trees are statutorily protected, it is important to contact the local planning authority and follow the appropriate procedures before undertaking any works that might affect the protected trees.

2.1.2 The nature and level of detail of information required to enable a local planning authority to properly consider the implications and effects of development proposals varies between stages and in relation to what is proposed. Table B.1 provides advice to both developers and local authorities on an appropriate amount of information. The term “minimum detail” is intended to reflect information that local authorities are expected to seek, whilst the term “additional information” identifies further details that might reasonably be sought, especially where any construction is proposed within the Root Protection Area (RPA)¹.

2.1.3 Table B.1 Delivery of tree-related information into the planning system

Stage of process	Minimum detail	Additional information
Pre-application	Tree Survey	Tree retention/removal plan (draft)
Planning application	Tree survey (in the absence of pre-application discussions) Tree retention/removal plan (finalised) Retained trees and RPAs shown on proposed layout Strategic hard and soft landscape design, including species and location of new tree planting Arboricultural impact assessment	Existing and proposed finished levels Tree protection plan Arboricultural method statement – heads of terms Details for all special engineering within the RPA and other relevant construction details
Reserved matters/planning conditions	Alignment of utility apparatus (including drainage), where outside the RPA or where installed using a trenchless method Dimensioned tree protection plan Arboricultural method statement – detailed Schedule of works to retained trees, e.g. access facilitation pruning Detailed hard and soft landscape design	Arboricultural site monitoring schedule Tree and landscape management plan Post-construction remedial works Landscape maintenance schedule

¹ Root Protection Area is 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 is treated as a priority.



2.1.4 In support of the application the following documents have been prepared:

- a. Tree survey compliant with BS 5837
- b. Arboricultural Impact Assessment
- c. Tree Protection Plan (including an arboricultural method statement).

3 THE TREE SURVEY

3.1 Tree survey methodology

3.1.1 A tree survey was carried out compliant with BS5837. The collected data is included below and the pertinent information is shown graphically on the Tree Constraints Plan (Appendix 1).

3.1.2 Trees are categorised in accordance with the cascade chart in Table 1 of BS5837:2012. The purpose of the categorisation process is to differentiate the quality and value of the existing tree stock so that informed decisions can be made on the retention or removal of trees.

3.1.3 The tree categories are summarised thus:

Category U: Trees unsuitable for retention that will be lost within the short term for reasons of physiology or structural integrity.

Category A: Trees of particularly high quality in arboricultural, landscape or cultural/conservation terms

Category B: Moderate quality trees downgraded from the high category because of significant defects, groups with a collective value through numbers rather than individual tree quality or trees with identifiable cultural or conservation values.

Category C: Trees with low value in arboricultural, landscape or cultural/conservation terms. Also includes young trees with a stem diameter of less than 150mm.

For trees in categories A – C subcategories 1, 2 & 3 are given to reflect arboricultural, landscape and cultural values respectively.

3.2 Findings of the survey

3.2.1 In the course of the tree survey we identified 7 individual trees, 2 tree groups and 1 hedge. Of these it was found that they fell into the following quality and value grades:

QV Category	Description	No. of trees	%	No. of groups	%	No of hedges	%
U	Trees lost in the short term (<10 years)	1	14.4	0	0	0	0
A	Trees of particularly high quality	0	0	0	0	0	0
B	Trees of moderate quality	3	42.8	0	0	0	0
C	Trees of low quality	3	42.8	2	100	1	100
		7	100	2	100	1	100

3.3 Tree Survey Schedule Explanatory Notes

- **ID no.:** Trees are recorded using a site-specific unique identification number. This identification number is used for all references throughout the report and associated plans
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated with a '?' after the name in order to avoid delay in the production of the report. The species listed for groups and hedges represent the main component and there may be other minor species not listed.
- **Estimated dimensions:** Estimated dimensions are *italicised*.
- **Height:** The height of the tree in metres.
- **Stem diameter(s):** This is measured at 1.5m above ground level and recorded in millimetres. Trees with low crowns are measured just above the root flare. For trees with multiple stems see 3.2.2 in main text. For groups the stem diameter for 80 percentile member is recorded
- **NSWE:** The branch spread is measured in metres at the four cardinal points of the compass to derive an accurate representation of the crown.
- **Ht 1st branch:** Height above ground in metres of attachment point of first significant branch (cardinal point may be given indicating direction of lowest branch).
- **Crown Clearance:** Height of the crown above ground level at the lowest point.
- **Life Stage:** Assessed as Young, Semi-Mature, Early Mature, Mature, Over Mature and Veteran.
- **Phys. condition:** An assessment of the physiological condition (i.e. health/vitality) status of the tree summarised into:
 - Good: Generally in healthy condition
 - Fair: Condition satisfactory though below mean species performance
 - Poor: Tree in decline
 - Dead: Self-explanatory
- **Structural condition & Notes:** Notes on the structural integrity of the tree based on visual tree assessment, including damage, decay fungi, pests, etc. as appropriate, plus other pertinent observations
- **Management recommendations:** Recommendations for retention or removal in light of the development proposals.
- **Ret. Span:** An estimate of the remaining contribution span that the tree or group of trees is expected to have, based on species, condition and context. The following longevity bands are used, categorised accordingly:
 - <10 Tree is dead, dying, has a severe structural defect, or will become exposed following inevitable loss of companion shelter. Possibly requires sanitation felling
 - Unsuitable for retention



10+ Short-term longevity only: replacement planting generally appropriate

20+ Mid-term longevity

>40 Good longevity

- **QV Grade:** Quality & Value grade classification according to BS5837

U - Unsuitable for retention

A - High retention priority

B - Moderate retention priority

C - Low retention priority

+subcategories 1, 2 & 3 reflecting arboricultural, landscape and cultural values respectively.

- **Retention / removal colour code:**

Trees and groups to be retained

Trees and groups to be removed to facilitate development

Trees and groups to be removed for arboricultural reasons



3.4 Tree Survey Schedule

FTC Ref. No. (autoincrements)	Species	Ht. (m)	Crown Spread (m)				Ht. 1 st Br. (m)	Ht. Can. (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C
			N	S	W	E				1 / mean	2	3	4	5								
1	Hawthorn	5.5	2.5	2.3	3	3	1.6 - NW	1.2	1	250					3.00	28	M	F	Somewhat skewed crown. No observed dieback or disease and no sign of obvious decay.	No action required at time of survey	20+	C1
2	Sycamore	14.3	7.5	5.5	6.5	7	2.4 - N	1.9	1	680					8.16	209	M	F	Upright stem with full healthy crown. Multiple areas of bark damage/dysfunction on lower 6m of stem, but no significant associated decay. No observed dieback or disease.	No action required at time of survey	20+	B1
3	Sycamore	16	3.5	4	6.5	6	2.1 - SW	1.8	1	520					6.24	122	M	F	Stem bifurcates at 2.3m with included unions where stems meet. Small area of decay present at union. No observed dieback or disease.	No action required at time of survey	10+	C1
4	Sycamore	16	7	6.5	6.5	7	2.1 - S	1.5	1	700					8.40	222	M	F	Upright stem with full healthy crown. Small areas of bark damage/dysfunction on lower 4m of stem, but no significant associated decay. No observed dieback or disease.	No action required at time of survey	20+	B1
5	Ash	17.5	7	6.5	6.5	6	2.1 - W	1.7	1	940					11.28	400	M	P	Upright stem leads to crown with widespread foliage loss throughout, likely due to ash dieback disease. Large open decaying wound at 6-8m. Pocket of basal decay to SE also present.	Remove crown to leave upright stem for habitat potential	<10	U
6	Sycamore	15.5	6.5	8	6	6	2.2 - SW	1.8	1	670					8.04	203	M	F	Upright stem with full healthy crown. No apparent significant defect.	No action required at time of survey	20+	B1
7	Sycamore	13.5	4.5	2	3	3.5	2.8 - N	2.5	1	380					4.56	65	M	F	Heavily skewed crown due to adjacent trees. Tree behind block wall on 3rd party land. No observed dieback or disease and no sign of obvious decay.	No action required at time of survey	20+	C1

3.5 Explanatory Notes for Tree groups

- **ID no.:** Unique tree group or woodland reference number.
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed. The species listed represent the main components and there may be other minor species not listed.
- **Estimated dimensions:** Estimated dimensions are *italicised*.
- **Count:** Number of trees recorded within groups or woodlands. Accurate count for less than 20 trees, estimated number for 20+ trees.
- **Area:** Approximate area of woodland groups recorded in hectares.
- **Height:** Height is to the nearest metre.
- **Stem diameter(s):** Stem diameter at 1.5m above ground level for 80 percentile member of TG, WG of H. Trees with larger diameters are identified on the plan at Appendix 3.
- **MRCS:** An estimated mean radial crown spread for trees at the 80 percentile size.
- **Ht 1st branch:** Height above ground in metres of attachment point of first significant branch (cardinal point may be given indicating direction of lowest branch).
- **Crown Clearance:** Height of the crown above ground level at the lowest point.
- **Life Stage:** Assessed as Young, Semi-Mature, Early Mature, Mature, Over Mature and Veteran.
- **Phys. condition:** An assessment of the physiological condition (i.e. health/vitality) status of the tree summarised into:
 - Good: Generally in healthy condition
 - Fair: Condition satisfactory though below mean species performance
 - Poor: Tree in decline
 - Dead: Self-explanatory
- **Structural condition & Notes:** Notes on the structural integrity of the tree based on visual tree assessment, including damage, decay fungi, pests, etc as appropriate, plus other pertinent observations
- **Management recommendations:** Recommendations for intervention (e.g. tree surgery, felling, etc) prior to any development. Immediately hazardous trees will be notified to the client separately.
- **Ret. Span:** An estimate of the remaining contribution span that the tree or group of trees is expected to have, based on species, condition and context. The following longevity bands are used, categorised accordingly:
 - <10 Tree is dead, dying, has a severe structural defect, or will become exposed following inevitable loss of companion shelter. Possibly requires sanitation felling Unsuitable for retention
 - 10+ Short-term longevity only: replacement planting generally appropriate
 - 20+ Mid-term longevity
 - 40+ Good longevity



- **QV Grade:** Quality & Value grade classification according to BS5837:2012
 - U - Unsuitable for retention
 - A - High retention priority
 - B - Moderate retention priority
 - C - Low retention priority
 - +subcategories 2 & 3 reflecting arboricultural, landscape and cultural values respectively.



3.6 Tree Survey Data for Tree Groups

FTC Ref. No. (autoincrements)	Species	Tree Count	Ht. (m)	MRCS (m)	Ht. 1 st Br. (m)	Ht. Can. (m)	Specimen Stem Dia. (mm)	Specimen RPA Rad. (m)	Specimen RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C
TG1	Lawson cypress	3	5.5	2	0.1 - S	0.2	180	2.16	15	EM	F	Tight cluster of trees forming single crown. N crown has been reduced heavily to boundary line. No observed dieback or disease.	No action required at time of survey	20+	C2
TG2	Lawson cypress, yew, sycamore	6	3.5	2.5	1.2 - W	0.5	350	4.20	55	M	F	Group of 3rd party trees forming single feature set behind high stone wall. Dieback in crown if one cypress. No other dieback or decline evident.	No action required at time of survey	20+	C2

3.7 Explanatory Notes for Hedges

- **ID no.:** Unique tree group or woodland reference number.
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed. The species listed represent the main components and there may be other minor species not listed.
- **Estimated dimensions:** Estimated dimensions are *italicised*. *N*
- **Height:** Height is to the nearest metre.
- **Stem diameter(s):** Stem diameter at 1.5m above ground level for 80 percentile member of TG, WG of H. Trees with larger diameters are identified on the plan at Appendix 3.
- **Width:** An estimated mean width of the hedge for trees at the 80 percentile size
- **Life Stage:** Assessed as Young, Semi-Mature, Early Mature, Mature, Over Mature and Veteran.
- **Phys. condition:** An assessment of the physiological condition (i.e. health/vitality) status of the tree summarised into:
 - Good: Generally in healthy condition
 - Fair: Condition satisfactory though below mean species performance
 - Poor: Tree in decline
 - Dead: Self-explanatory
- **Structural condition & Notes:** Notes on the structural integrity of the tree based on visual tree assessment, including damage, decay fungi, pests, etc as appropriate, plus other pertinent observations
- **Management recommendations:** Recommendations for intervention (e.g. tree surgery, felling, etc) prior to any development. Immediately hazardous trees will be notified to the client separately.
- **Ret. Span:** An estimate of the remaining contribution span that the tree or group of trees is expected to have, based on species, condition and context. The following longevity bands are used, categorised accordingly:
 - <10 Tree is dead, dying, has a severe structural defect, or will become exposed following inevitable loss of companion shelter. Possibly requires sanitation felling Unsuitable for retention
 - 10+ Short-term longevity only: replacement planting generally appropriate
 - 20+ Mid-term longevity
 - 40+ Good longevity
- **QV Grade:** Quality & Value grade classification according to BS5837:2012
 - U - Unsuitable for retention
 - A - High retention priority
 - B - Moderate retention priority
 - C - Low retention priority
 - +subcategories 2 & 3 reflecting arboricultural, landscape and cultural values respectively.



3.8 Tree Survey Data for Hedges

FTC Ref. No.	Species	Ht. (m)	Mean Width (m)	Length (m)	Mean Stem Dia. (mm)	Life Stage Y-SM-EM-M- OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C
H1	Privet	4.2	1.5	11.4	65	M	F	Uneven height along length. Somewhat unmanaged and leggy towards W end. No observed dieback or disease.	No action required at time of survey	10+	C1



4 ARBORICULTURAL IMPACT ASSESSMENT

4.1 Tree retention and removal

4.1.1 The proposal is the removal/demolition of existing concrete pads and other ground level masonry and the construction of a 2-storey detached residential property with associated car parking area, and driveway. Access to the site will be from Bradley Fold Road through the existing gateway.

4.1.2 A large masonry wall forms the majority of the boundary to the West adjacent to the Road and Titus Cottage. A rough row of trees and shrubs run parallel to this wall on 3rd party land. Larger and more mature trees are present at the Eastern boundary of the site where the plot borders agricultural land.

4.1.3 The proposed layout will entail the loss of no trees. All trees will be retained

4.1.4 It is advised that significant arboricultural work is undertaken to tree 5 due to its current condition. This is a mature ash tree that is suffering from ash dieback disease, and has significant dieback and fragile deadwood throughout its crown. This recommendation is advised whether or not the proposed development goes ahead.

4.2 Construction in Root Protection Areas

4.2.1 A single instance of construction within an RPA is proposed. This is where the new driveway intersects with the RPA of tree 7.

4.2.2 This is a relatively minor incursion within the RPA. BS 5837 recommends, in section 7.4, that new hard surfacing within RPA's be constructed using methods that minimize the impact on the affected tree(s) and cover no more than 20% of the open ground within the RPA. The most appropriate means of construction is a no-dig method using a load-bearing cellular confinement system. The levels on site are well suited to the use of a no-dig system and I do not envisage any issues with installation. The new surface will cover 9.1sqm of the total of 65sqm of open ground within the RPA of tree 4. At 14% this is well below the maximum of 20% recommended in BS 5837.

4.3 Pruning works to facilitate development.

4.3.1 Tree 7 has an asymmetrical crown with a strong bias to the North. The crown spreading to the North and Northeast requires a degree of pruning and lifting to give adequate clearance to the access/gateway. Pruning works to facilitate construction will be necessary and these works will entail the removal/reduction of the lower order branches at the edge of the crown; it will not



be necessary to remove any of the scaffold branches. The extent of the pruning works therefore will have minimal impact on the visual appearance of the tree and its physiological function whilst providing clearance for construction and minimal likelihood of regrowth impinging on the building.

4.4 Proximity of trees and structures.

4.4.1 Due to the position of the proposed building it is set back away from retained trees meaning that shading is highly unlikely to be a significant issue.

4.4.2 Due to the lack of proximity to retained trees of a height that could drop leaves and debris onto the roof of the proposed building, there is no significant issue relating to debris and leaves obstructing guttering.

4.5 Tree protection during construction.

4.3.1 Trees can be irreparably and unwittingly damaged in a few minutes during construction. Accordingly, a tree protection scheme has been prepared in accordance with the guidance of BS 5837 for the proposal to ensure the successful long-term retention of the tree on the adjacent property (Appendix 2).

4.4 Arboricultural Method Statement

4.4.1 The increased hard standing and fencing installation have the potential to cause harm to retention trees if constructed using conventional techniques. Therefore the methods for installing hard surfaces and for excavations in RPAs recommended in BS5837 should be followed. Suggested methodologies are provided as part of the tree protection plan.



5 SUMMARY & CONCLUSION

5.1 The proposal includes the loss of zero trees.

5.2 A single instance of construction is proposed within the root protection area of retention trees. This work is not particularly complex and within the recommendations of BS5837. An arboricultural method statement has been prepared to ensure the proposals are arboriculturally acceptable. As the works are minimal in impact and not particularly complex, I suggest the presentation of the arboricultural method statement can reasonably be conditioned.

5.3 A tree protection plan has been prepared to ensure the successful prevention of harm to the retention trees during construction and therefore the long-term retention.

5.4 Given the above I am satisfied the proposal is workable and arboriculturally acceptable.

Hugh Wilson

Hugh Wilson MSc BSc M.Arbor A.

Director

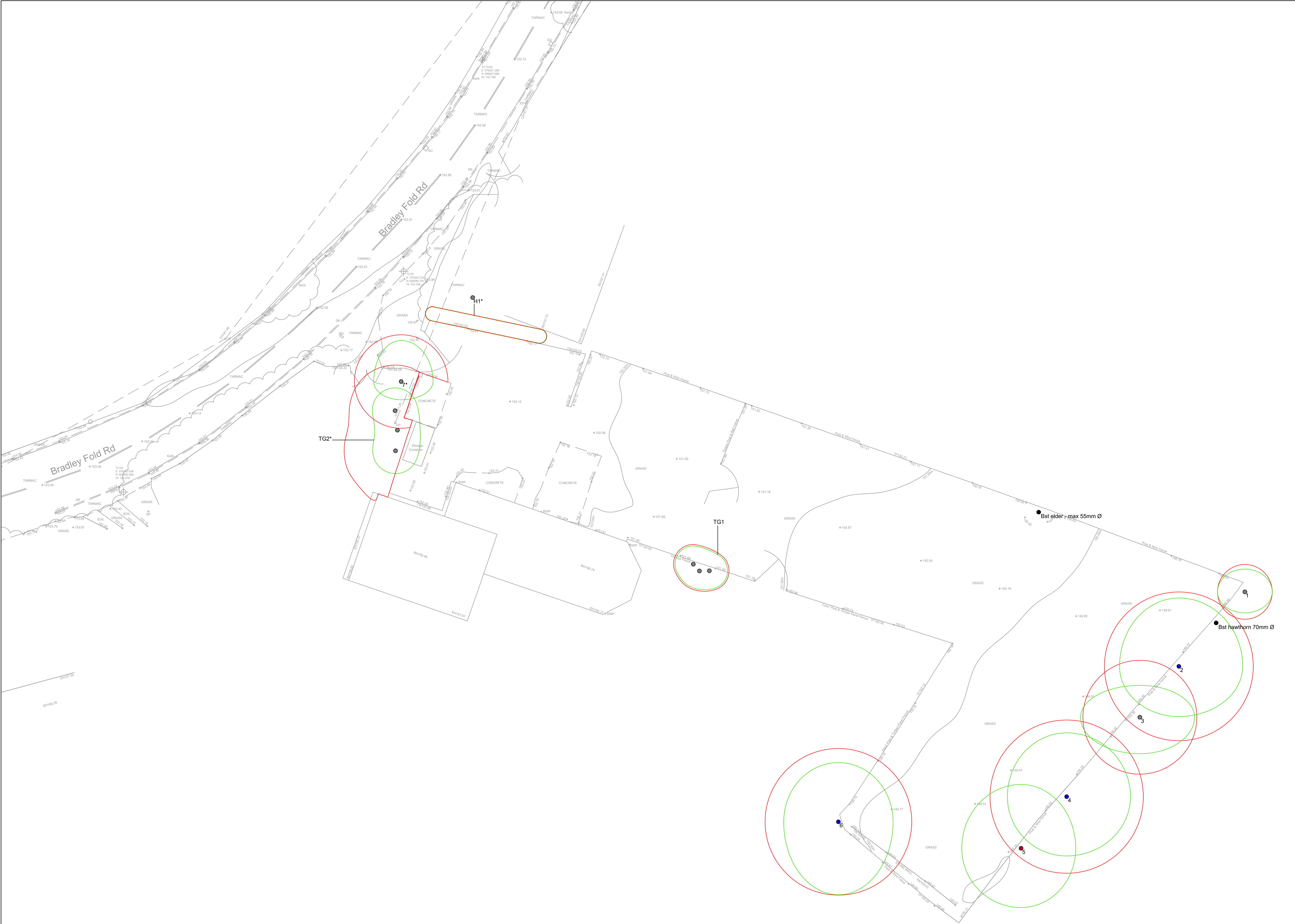


6 APPENDICES

APPENDIX 1

TREE RETENTION & REMOVAL PLAN

Note this drawing is scaled for printing at A3 and is intended to be read in colour



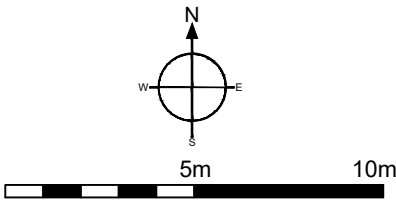
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Site: Titus Cottage	1:200 @ A1
Drawing Title: Tree Constraints Plan	June 2024

Key:

● Category A	Category	○ Crown Spread
● Category B	○ Root Protection Area	● Tree Number
● Category C		
● Category U		

NOTE: Tree/group numbers marked with an * have approximate locations.

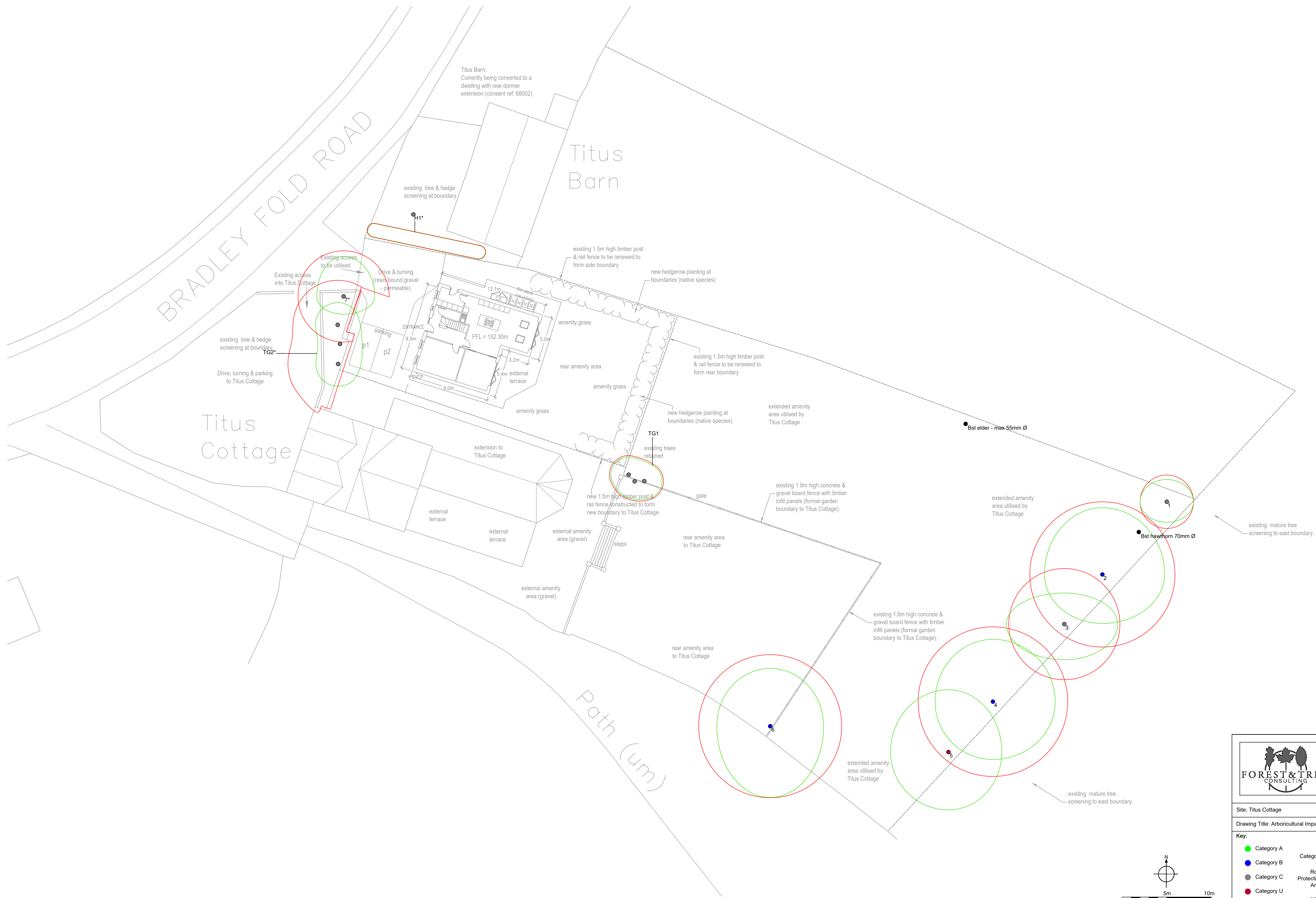




APPENDIX 2

ARBORICULTURAL IMPACT ASSESSMENT

Note this drawing is scaled for printing at A3 and is intended to be read in colour



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Site: Titus Cottage	1:200 @ A1
Drawing Title: Arboricultural Impact Assessment	Nov 2024

Key:

- Category A
- Category B
- Category C
- Category U

Category 13

Crown Spread

Tree Number

Root Protection Area

NOTE: Tree/group numbers marked with an * have approximate locations.

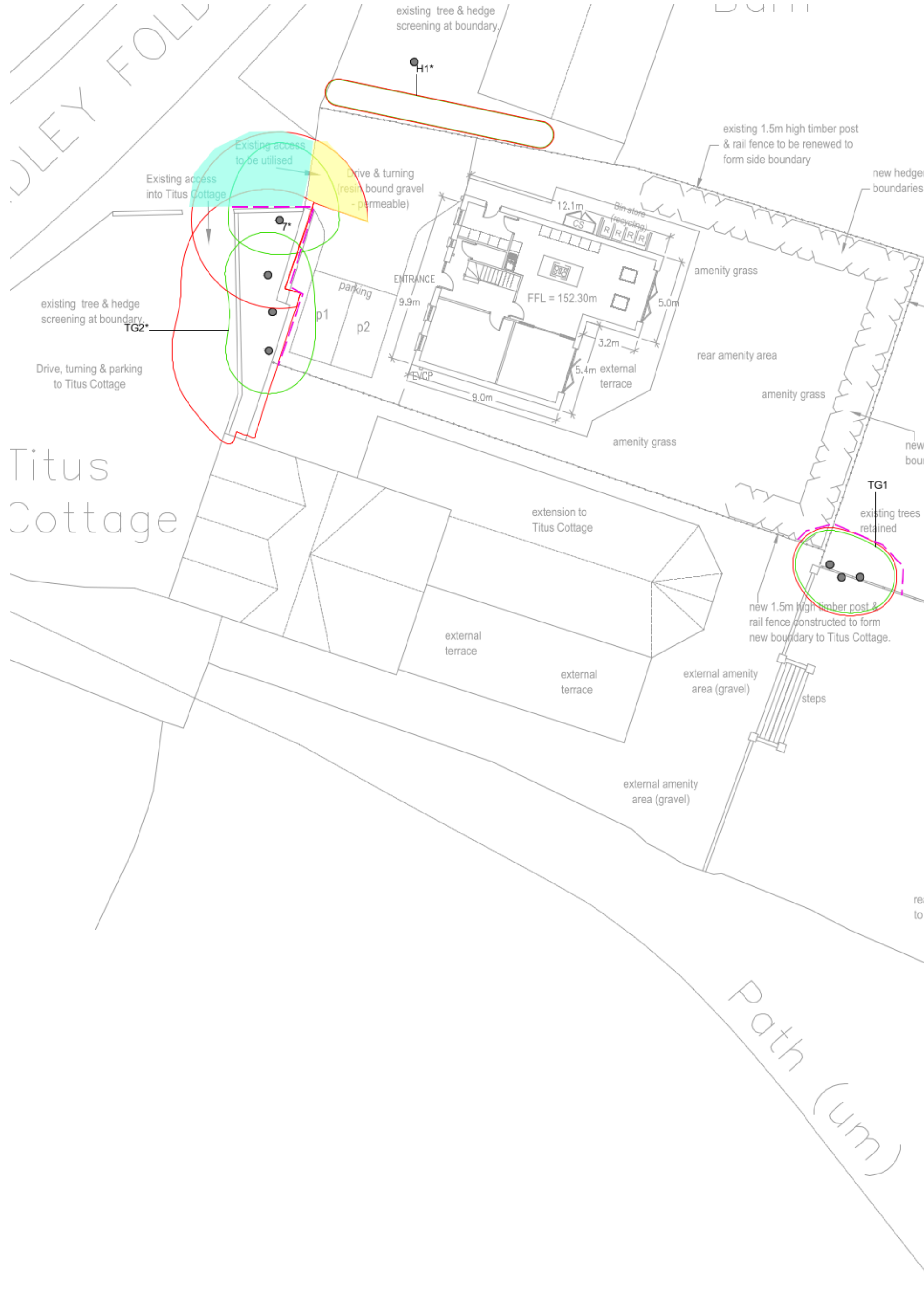


APPENDIX 3

ARBORICULTURAL METHOD STATEMENT

Note this drawing is scaled for printing at A3 and is intended to be read in colour

Land adjacent to Titus Cottage
Bradley Fold Road
Ainsworth
Bolton
BL2 5QR



- Arboricultural Method Statement:-
- Prior to commencement of construction operations, a tree protection meeting shall take place attended by a suitably qualified arboriculturist, and the building contractor. This meeting will inform construction personnel on requirements for tree protection during construction.
 - Following completion of the recommended arboricultural works to trees 5 and 7 and after the tree protection meeting, physical tree protection measures (fencing and ground protection) for the main build phase shall be installed in line with the provisions of BS5837 and at the locations show on this plan. These measures comprise of tree protection fencing to BS5837 figure 2 (adjacent) and ground protection areas as detailed in the diagram adjacent
 - The fencing and ground protection system within the RPA comprise the Construction Exclusion Zone (CEZ). Within this zone, the following activities are strictly prohibited during primary construction (other than as described below):
 - Excavation/lowering of levels into rootable soil: removal of surface organic matter using hand tools is acceptable: scraping or reduction in depth of topsoil is not
 - Grubbing out of redundant buried services (see adjacent)
 - Installation of new services, including drainage
 - Formation of new hard surfaces or paths (=‘secondary construction’:- see adjacent)
 - Operation, transit or storage of plant, and storage of materials, including during hard and soft landscaping, other than on ground protection boarding
 - Storage or handling of any chemical substance injurious to trees, including fuels, oils lubricants and cement washings
 - The CEZ shall be established site wide prior to the main build construction and shall remain in place throughout. No elements of the physical tree protection shall be removed or altered without prior written consent from the local planning authority. Once this work has been completed as per this method statement, an area of ground protection will be installed under suitable arboricultural supervision until the time at which the soft landscaping of the gardens of the proposal are to be commenced. At which point ground protection within this area will then be removed. Ground protection will be constructed from either cellular confinement systems, such as GroundTrax CellPave 40, or boards, such as GroundTrax – Iso Track, over a compressible layer, such as woodchip. As shown in diagram adjacent.
 - Within the CEZ, one area of excavation work within the RPA of tree 7 will be supervised by a suitable arboricultural professional. Break out and replacement of existing hard surfaces and decommissioning of redundant services, including drainage structures, are also high-risk operations and shall be undertaken under site supervision by a suitable arboricultural professional. Redundant buried structures are preferably disconnected/backfilled and retained in situ; further advice should be sought from Forest & Tree Consulting before consideration is given to grubbing them out. Any existing hard surfaces within the CEZ are to be retained and not demolished/removed until completion of main building construction.
 - The instance of construction required within the RPA of tree 7 will be undertaken using hand tools only. A new cellular confinement system, such as that produced by groundtrax, will be installed in the area proposed as driveway/parking area. This will be backfilled with clean, inert gravel or similar aggregate to produce a flat, consistent top surface. The installation of this should be overseen by a suitably qualified arboricultural professional.
 - The recommendations of BS5837:2012 6.2.4.1 and 7.2 are to be strictly observed throughout the construction process
 - BS5837: 2012 para—6.2.4.1—Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Such contact can result in serious damage to the tree and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning should be undertaken where necessary to maintain this clearance. BS 5837:2012 7.2. Avoiding physical damage to the roots during demolition or construction.
 - Para 7.2.1 To avoid damage to tree roots, existing ground levels should be retained within the RPA intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ. However, limited manual excavation within the RPA might be acceptable, subject to justification. Such excavation should be undertaken carefully, using hand-held tools and preferably by compressed air soil displacement.
 - Para 7.2.2 Roots, whilst exposed, should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.
 - Para 7.2.3 Roots smaller than 25mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree’s health and stability
 - Para 7.2.4 Prior to backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots



Appendix 4

Brief qualifications and experience of Hugh Wilson

1. Qualifications

- a. MSc Forest Ecology and Management – University of Edinburgh
- b. BSc honours (2:1) Environmental Science – University of Nottingham
- c. Professional Tree Inspection

2. Practical experience

- a. Southwick Arboriculture Ltd: Tree care operative
- b. Marishal Thompson Ltd: Tree Surveyor/Assistant Arboriculturalist
- c. ADAS Ltd: Vegetation Management/Wayleave Surveyor
- d. Forest & Tree Consulting Ltd: Director/Principle Consultant

3. Continuing Professional development:

Forest & Tree Consulting Ltd is committed to continuing professional development to ensure all staff continue to learn and develop throughout their careers so they keep their skills and knowledge up to date and are able to work safely, legally and effectively.

Sample of the seminars and conferences attended:

- Practitioners guide to Visual Tree Assessment
- Arboriculture Association conference 'New Horizons in Arboriculture'
- Visual Tree Assessment, Tree Safety Diagnosis and Failure Analysis seminar by Dr. Claus Mattheck
- The Institute of Chartered Foresters' conference Trees, People & the Built Environment

4. Membership of professional bodies:

- a. Professional member of the Arboricultural Association
- b. Associate member of the Institute of Chartered Foresters
- c. Member of the Royal Forestry Society
- d. Member of the Royal Scottish Forestry Society