

Arborist & Ecological Services Ltd

**Tree Condition Report
Arboricultural Impact Assessment
Method Statement and Tree Protection Plan**

Land at Halghton New Mill,

**On behalf of Bleazard and Galletta
For
Mr P Taylor**



01.02.2022

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1.0 Remit:

Check the condition of trees identified on the Site Drawing provided by Bleazard and Galletta within and adjacent to the proposed development area. Provide an Arboricultural Impact Assessment, Method Statement and Tree Protection Plan to BS5837 (2012) Trees in relation to design, demolition and construction – Recommendations.

2.0 Report limitations:

The conclusion and recommendations in this report are valid for a period of one year, or a lesser period where indicated in the report. All trees are susceptible to exceptional weather events or deterioration resulting from other environmental changes in close proximity to the tree. The evaluation is based upon Visual Tree Assessment (Mattheck & Breloer 2001). Observations have been made from ground level with the aid of binoculars.

2.1 **Statutory Obligations**

Bats and the Law (Woodland Management for Bats 2005)

'The Wildlife and Countryside Act 1981 makes it an offence to disturb, damage or destroy bats or their roosts. The Act applies in both England & Wales and requires consultation with the appropriate SNCO before carrying out activities which might harm or disturb bats or their roosts. The Act is amended by the CROW Act 2000. This adds *recklessness* to the offence of damaging or destroying a place a bat uses for shelter, or disturbing a bat while using a roost.

The Conservation (Natural Habitats Regulations 1994) implements the European Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora 1992, amended August 2007 & Oct 2010. Under the regulations, damaging or destroying a breeding site or resting place is an absolute offence, regardless of whether the act of doing so may be regarded as reckless, deliberate or accidental.

Wild Birds (Mynors 2002) The Primary legislation affecting wild birds in England, Scotland and Wales is the Wildlife and Countryside Act 1981 (as amended). In January 2001 the Countryside and Rights of Way Act 2000 (CRoW) included amendments, which strengthened the law in England and Wales. The basic principle of the Wildlife and Countryside Act 1981 (as amended) is that all wild birds, their nests and eggs, are protected by law and some rare species are afforded special protection. There are certain exemptions to this notably in respect of wildfowl, game birds and various species that may cause damage. (Cowan 2002)

Felling licence: Subject to tree size, location, condition and other Statutory protection, or prior planning approval, not more than 5m³ of timber can be felled in any Calendar quarter without first obtaining a Forestry Commission (FC) felling licence. Failure to obtain a licence where required is a prosecutable offence. Detailed information including exemptions can be found on the FC web site

Conservation Area and Tree Protection Orders: The Local Authority protects trees within the district by the use of and administration of Tree Preservation Orders (TPOs). Trees can also be protected if they are within a Conservation Area. TPOs are used to protect trees (including areas of woodland) where their removal would have a significant impact on the local environment and its enjoyment by the public. TPOs prohibit the cutting down, uprooting, wilful damage or destruction of trees. Any works to a tree(s) protected by a TPO or falling within a Conservation Area first requires the consent of the Local Authority. It is a prosecutable offence to carry out work to a tree protected by a TPO, or remove it, without the prior consent of the Local Authority. Detailed information including exemptions can be found on the Local Authority web site

2.2 Tree Condition Survey and Arboricultural Impact Assessment (AIA)

Inspection method: Visual Tree Assessment (VTA) from ground level.

Location: Halghton, New Mill **Date:** 01.03.2022

Protection Status: Unknown at the time of the survey

Limitations: Trees and shrubs have been identified, current height measured to the nearest metre and ultimate height assessed with reference to The Hillier Manual of Trees and Shrubs. A Visual Tree Assessment (VTA) has been carried out on trees in, or adjacent to, the development site. Refer to proposed site layout drawing for tree locations. The risk assessment and recommendations are valid for a period of one year. No detection equipment has been used other than a sounding hammer and metal probe.

NB. All trees are at risk of failure through exceptional weather conditions.

Identification No.	T1
Species	English oak <i>Quercus robur</i>
Current Height (M)	21m
Ultimate Height (M)	21m
Current Stem Dia (cm) at 1.5m	100cm (estimated)
Crown clearance	6m
Crown Spread (M)	Radius: 10m
Growth stage	Late mature
Tree Condition: Root: no soil movement. growing at the bottom of steep sided bank, on which the proposed driveway will be positioned. Stem: wounds occluded. Crown: major deadwood, contained over aera of rough ground. Would not overhang the proposed driveway. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 100cm at 1.5m (1 x 12) = 12m. Total RPA required at current stage of growth = 452m² Arboricultural Impact Assessment AIA: • The proposed driveway falls at the perimeter of the RPA of T1 • No trench excavation is permitted within the RPA • No alteration of soil levels is permitted within the RPA Method Statement: for the construction of new access drive • Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended • The driveway falls approximately 0.5m in the RPA of T1. The excavation required for the driveway is unlikely to sever any major roots, this far from the stem. • The driveway will follow the natural slope of the land, so construction access around the base of T1 will not be required, as it is located at the bottom of steeply sloping bank.	

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Identification No.	T2
Species	Common hawthorn <i>Crataegus monogyna</i>
Current Height (M)	13m
Ultimate Height (M)	13m
Current Stem Dia (cm) at 1.5m	22cm 14cm and 14cm (Estimated)
Crown clearance	2m
Crown Spread (M)	Radius: 3m
Growth stage	Mature
Tree Condition: Root: no soil movement. Growing at top of steep bank side. Stem: obscured by ivy Crown: No evidence of recent breakouts or significant dieback. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of multiple diameters at 1.5m $\sqrt{(0.22^2 + 0.14^2 + 0.14^2)} \times 12 = 3.6\text{m}$. Total RPA required at current stage of growth = 41m² Arboricultural Impact Assessment AIA: • The proposed driveway falls outside the RPA of T2 • No trench excavation is permitted within the RPA • No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed driveway • Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended	

Identification No.	T3
Species	English oak <i>Quercus robur</i>
Current Height (M)	16m
Ultimate Height (M)	16m
Current Stem Dia (cm) at 1.5m	68cm
Crown clearance	3m
Crown Spread (M)	Radius: 4m
Growth stage	Late mature
Tree Condition: Root: no soil movement. Stem: decay in base of stem and cavity. Crown: major deadwood overhanging proposed driveway. Hazard beam crack in 1st order limb over proposed driveway. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: high Root Protection Area RPA: for tree of 68cm diameter at 1.5m $(0.68 \times 12) = 8.2\text{m}$. Total RPA required at current stage of growth = 211m² Arboricultural Impact Assessment AIA: • The proposed driveway will fall within the RPA of T3. • The existing field entrance will be used for the access. • No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed driveway • Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended • The CCS should be designed by an engineer to carry the maximum anticipated loading for site construction traffic and then for future use. • The CCS must be constructed before vehicles cross the RPA using the 'rolling out' system of installation. This will need to be the first phase of the construction to provide access to the field. • The permeable surface on top of the CCS within the RPA should be protected with a temporary sacrificial surface laid over a geotextile separator to ensure permeability is retained (i.e. intersections should not become blocked by the passage of construction vehicles). • No excavation for haunching is permitted on side of the CCS closest to the tree/s within the RPA. The CCS edge must be supported e.g. by above-ground retaining boards/blocks secured with road pins to minimise damage to the lateral roots. • Ramping onto the pavement will need to be located within the RPA of T3. Excavation for the ramping will be done by hand to avoid severing major roots (greater than 25mm diameter). • The ramping onto the road within the RPA will be created 5.6m from the stem. The ramping will need to be done under arb-supervision, to avoid severing major roots (greater than 25mm diameter). • The British standard only permits the removal of the turf layer, the mineral soil has to remain undisturbed. The existing field access is level is lower than the road, so no alteration of soil levels are proposed within the RPA • End reduction of the lowest limb on the north side of the crown by 1.5m, to reduce loading on weakened limb. This 1st order limb has a cavity within the limb, as a result of an old hazard beam crack, which doesn't have appeared to have successfully stabilised. It is possible that there is active decay within the wound site. Limb is overhanging the proposed driveway. See photo detail in Appendix for indicative pruning position.	

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Identification No.	T4
Species	English oak <i>Quercus robur</i>
Current Height (M)	18m
Ultimate Height (M)	18m
Current Stem Dia (cm) at 1.5m	78cm
Crown clearance	4m
Crown Spread (M)	Radius: 5m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: wounds occluded. Crown: No evidence of recent breakouts or significant dieback. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 78cm at 1.5m $(0.78 \times 12) = 9.4m$. Total RPA required at current stage of growth = 277m² Arboricultural Impact Assessment AIA: Arboricultural Impact Assessment AIA: - The proposed driveway falls outside the RPA of T4 - No trench excavation is permitted within the RPA - No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed access driveway - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended	

Identification No.	T5
Species	English oak <i>Quercus robur</i>
Current Height (M)	19m
Ultimate Height (M)	19m
Current Stem Dia (cm) at 1.5m	75cm
Crown clearance	3m
Crown Spread (M)	Radius: 5m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: obscured by ivy. Crown: No evidence of recent breakouts or significant dieback. major deadwood in the lower crown, which would overhang the proposed driveway Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 75cm at 1.5m $(0.75 \times 12) = 9m$. Total RPA required at current stage of growth = 254m² Arboricultural Impact Assessment AIA: • The proposed driveway falls within the RPA of T5 • No alteration of soil levels are permitted within the RPA • No trench excavation is permitted within the RPA Method Statement: for the construction of the proposed access driveway • Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended • The CCS should be designed by an engineer to carry the maximum anticipated loading for site construction traffic and then for future use. • The CCS must be constructed before vehicles cross the RPA using the 'rolling out' system of installation. This will need to be the first phase of the construction to provide access to the field. • The permeable surface on top of the CCS within the RPA should be protected with a temporary sacrificial surface laid over a geotextile separator to ensure permeability is retained (i.e. intersections should not become blocked by the passage of construction vehicles). • No excavation for haunching is permitted on side of the CCS closest to the tree/s within the RPA. The CCS edge must be supported e.g. by above-ground retaining boards/blocks secured with road pins to minimise damage to the lateral roots. • Ramping onto the existing road is located outside the RPA of T5 • The British standard only permits the removal of the turf layer, the mineral soil has to remain undisturbed. The existing field access is level is lower than the road, so no alteration of soil levels are proposed within the RPA	

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Identification No.	T6 (on neighbouring property)
Species	English oak <i>Quercus robur</i>
Current Height (M)	18m
Ultimate Height (M)	18m
Current Stem Dia (cm) at 1.5m	60cm (estimated)
Crown clearance	2m
Crown Spread (M)	Radius: 5m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: no significant defects. Crown: No evidence of recent breakouts or significant dieback. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 60cm diameter at 1.5m $(0.6 \times 12) = 7.2\text{m}$. Total RPA required at current stage of growth = 163m^2 Arboricultural Impact Assessment AIA: - The proposed driveway falls outside the RPA of T6 - No trench excavation is permitted within the RPA - No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed access driveway - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended	

Identification No.	T7
Species	Field maple <i>Acer campestre</i>
Current Height (M)	6m
Ultimate Height (M)	6m (supressed by neighbouring oak)
Current Stem Dia (cm) at 1.5m	35cm and 30cm (estimated)
Crown clearance	2m
Crown Spread (M)	Radius: 3.5m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: growing within hedgerow, so stem obscured by foliage and dense ivy. Crown: No evidence of recent breakouts or significant dieback. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: moderate Root Protection Area RPA: for tree of multiple diameters at 1.5m $\sqrt{(0.35^2 + 0.3^2)} \times 12 = 5.5\text{m}$. Total RPA required at current stage of growth = 95m^2 Arboricultural Impact Assessment AIA: - The proposed driveway falls outside the RPA of T7 - No trench excavation is permitted within the RPA - No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed access driveway - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended	

Identification No.	H1
Species	Common hawthorn <i>Crataegus monogyna</i>
Current Height (M)	6m
Ultimate Height (M)	6m
Current Stem Dia (cm) at 1.5m	20cm (maximum for hedge)
Crown clearance	0m
Crown Spread (M)	Radius: 2m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: multiple stems. Crown: No evidence of recent breakouts or significant dieback. Lapsed hedge with collapsed crowns in places. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 20cm diameter at 1.5m $(0.20 \times 12) = 2.4\text{m}$. Total RPA required at current stage of growth = 18m^2 Arboricultural Impact Assessment AIA: - The proposed new access driveway and parking area for the converted barn fall approximately 1m within the RPA of H1. - No trench excavation is permitted within the RPA of H1 - No alteration of soil levels is permitted within the RPA Method Statement: construction of proposed access driveway and parking area - The hedge is growing on top of a steep bank side. The RPA is shown on the tree protection plan as wider than the existing bankside. It is unlikely that the hedge will be rooting any further than the bank side. - The proposed parking area will not encroach into the existing bank. - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended	

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Identification No.	H2
Species	Hawthorn and field maple
Current Height (M)	6m
Ultimate Height (M)	6m
Current Stem Dia (cm) at 1.5m	20cm (maximum for hedge)
Crown clearance	0m
Crown Spread (M)	Radius: 2m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: multiple stems. Crown: No evidence of recent breakouts or significant dieback. Lapsed hedge with collapsed crowns in places. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 20cm diameter at 1.5m $(0.20 \times 12) = 2.4\text{m}$. Total RPA required at current stage of growth = 18m^2 Arboricultural Impact Assessment AIA: - The proposed access driveway falls outside the RPA of the majority of H2. There is a 5m section of the drive to the east, which falls within the RPA of H2 - No trench excavation is permitted within the RPA of T8 - No alteration of soil levels is permitted within the RPA Method Statement: construction of proposed driveway - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended - The CCS should be designed by an engineer to carry the maximum anticipated loading for site construction traffic and then for future use. - The CCS must be constructed before vehicles cross the RPA using the 'rolling out' system of installation. This will need to be the first phase of the construction to provide access to the field. - The permeable surface on top of the CCS within the RPA should be protected with a temporary sacrificial surface laid over a geotextile separator to ensure permeability is retained (i.e. intersections should not become blocked by the passage of construction vehicles). - No excavation for haunching is permitted on side of the CCS closest to the tree/s within the RPA. The CCS edge must be supported e.g. by above-ground retaining boards/blocks secured with road pins to minimise damage to the lateral roots. - Ramping onto the existing road is located outside the RPA of H2 - The British standard only permits the removal of the turf layer, the mineral soil has to remain undisturbed. The existing field access is level is lower than the road, so no alteration of soil levels are proposed within the RPA - End reduction of foliage overhanging the proposed driveway by approximately 1m. this will then be retained as a managed hedgerow.	

Identification No.	G1
Species	Common ash and hawthorn
Current Height (M)	14m
Ultimate Height (M)	21m
Current Stem Dia (cm) at 1.5m	25cm (maximum for group)
Crown clearance	0m
Crown Spread (M)	Radius: 3m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: no significant defects. Crown: No evidence of recent breakouts or significant dieback. will need reducing over the proposed driveway for clearance. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 25cm diameters at 1.5m $(0.25 \times 12) = 3\text{m}$. Total RPA required at current stage of growth = 28m^2 Arboricultural Impact Assessment AIA: - The proposed access driveway falls outside the RPA of G1 - No trench excavation is permitted within the RPA - No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed driveway - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended	

Identification No.	H3
Species	Hawthorn, holly and field maple
Current Height (M)	6m
Ultimate Height (M)	6m
Current Stem Dia (cm) at 1.5m	20cm (maximum for hedge)
Crown clearance	0m
Crown Spread (M)	Radius: 2m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: multiple stems. Crown: No evidence of recent breakouts or significant dieback. Lapsed hedge with collapsed crowns in places. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 20cm diameter at 1.5m $(0.20 \times 12) = 2.4\text{m}$. Total RPA required at current stage of growth = 18m^2 Arboricultural Impact Assessment AIA: - The proposed access driveway falls outside the RPA of H3 - No trench excavation is permitted within the RPA - No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed driveway - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended	

Identification No.	H4
Species	Hawthorn, holly and field maple
Current Height (M)	6m
Ultimate Height (M)	6m
Current Stem Dia (cm) at 1.5m	20cm (maximum for hedge)
Crown clearance	0m
Crown Spread (M)	Radius: 2m
Growth stage	Mature
Tree Condition: Root: no soil movement. Stem: multiple stems. Crown: No evidence of recent breakouts or significant dieback. Lapsed hedge with collapsed crowns in places. Tree Quality Assessment: Ref.BS5837 (2012) 4.5.1 Category B2: 'trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating'. Water Demand NHBC 4.2-B: High Root Protection Area RPA: for tree of 20cm diameter at 1.5m $(0.20 \times 12) = 2.4\text{m}$. Total RPA required at current stage of growth = 18m^2 Arboricultural Impact Assessment AIA: - The proposed access driveway falls within the RPA of H4 - No trench excavation is permitted within the RPA - No alteration of soil levels is permitted within the RPA Method Statement: for the construction of the proposed driveway - Install section of Heras fence barrier positioned as indicated on the tree protection plan. Specification as recommended in BS5837 (2012) fig.3 appended 3m section of the south end of H4 proposed for removal by the developer, to improve visibility and create visibility splay.	

General Arboricultural Method Statement ref. BS 5837 (2012)

3.0 The root protection area (RPA) recommendation in BS 5837 2012 (Trees in relation to design, demolition and construction – Recommendations), is based upon a minimum area (in m²) calculated from the measurement of the stem diameter and a factor of the radial distance between the tree stem and the outer extent of the main lateral roots. The resulting area is usually recorded as a generalised circle on the tree survey. However the significant figure is the equivalent available rooting area in m² rather than the circular shape; tree roots exploit the optimum ground conditions for their physical development dependant upon soil aeration, plant-available water, mineral elements and physical barriers to growth. Providing the total minimum area in m² recommended in the RPA is available to the tree, the actual shape of the area is less significant, *providing* it can be demonstrated that the construction process will not result in significant damage to existing roots greater than 25mm in diameter. 'The viable retention of trees on construction sites is dictated by the successful protection of their root systems throughout the development process from initial site clearance to installation of the new landscape. Healthy soils contain five basic components: oxygen, organic matter, mineral matter, living organisms and moisture. A soil's porosity allows water to drain through, carbon dioxide to escape and oxygen to enter. Construction vehicles operating on exposed soils, particularly in wet conditions, compact the soil pores and prevent these processes from occurring' (Cowan 2005)

3.1 The Tree Protection Plan (TPP) and method statement details how the construction work will be carried out in proximity to the retained trees, protective barrier specification, timing of work, other mitigation measures where required and supervision of the protection measures during construction.

3.2 Summary of works

Drainage and Utilities: Follow recommendation in the NJUG Volume 4 Code of practice relating to work in proximity to tree roots within the RPA; specifically, the avoidance of trench excavations within the RPA. Any drainage or service related works to be carried out within the Root Protection Area must be subject to the prior written approval of the LPA of a method statement detailing how such works are to be carried out and monitored, so as to avoid undue damage to the tree.

Site Compound, construction materials, soil/demolition debris storage mixing of concrete and washings: Must be located outside of the Root Protection Areas. Vehicle movements, storage of vehicles or heavy machinery, lighting of fires and no excavations or alterations of ground level is permitted within the protective barrier or areas of temporary ground protection

Method of work for individual trees retained in proximity to construction works or access to the works: refer to the work method described for each retained tree ref. section 2.2 of the report.

3.3 Protective Fencing

- Protective barriers should be erected with verticals positioned to avoid the lateral roots of the larger trees. Refer to BS 5837 (2012) figure 3 Protective barrier for details of the recommended specification.
- Protective barrier should be erected and then approved by the Local Planning Authority before the start of demolition and construction works on site, including the installation of temporary site office, storage and welfare facilities if required
- The barrier and ground protection shall be maintained in a satisfactory condition throughout the duration of development. There is to be no access or operations of any kind within the barrier, nor repositioning of the barrier even temporarily, without the prior written approval of the LPA.

Appendix 1





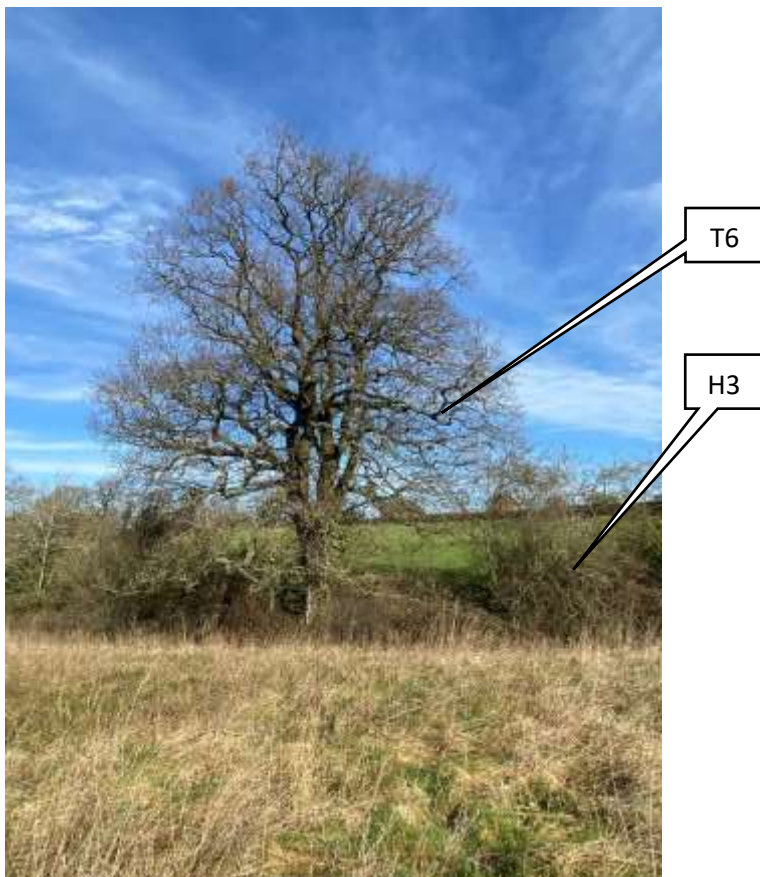
T3- indicative pruning
position



H2



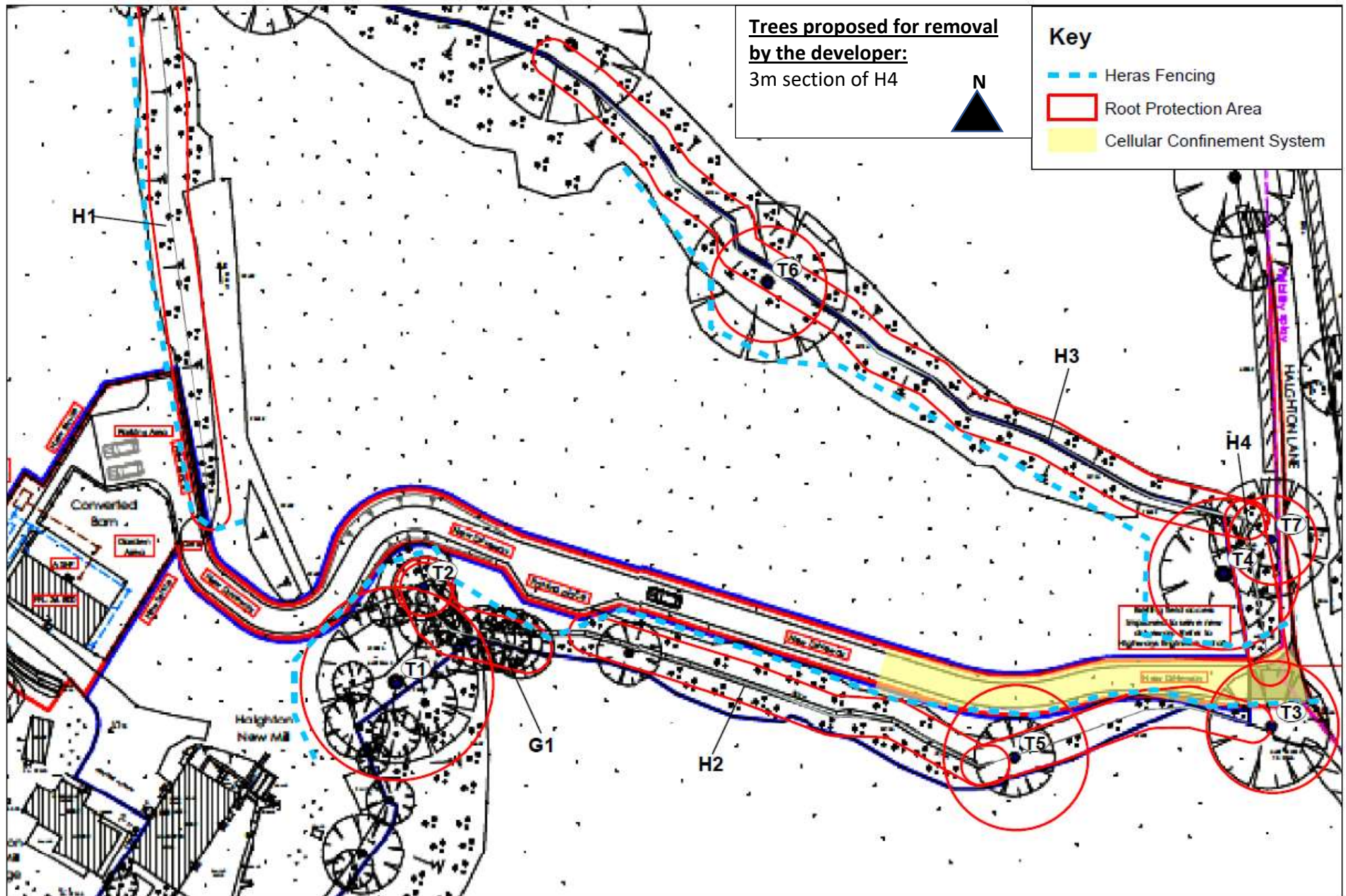
G1





H4- 3m section of H3 proposed for removal by the developer, in order to create visibility splay for access and driveway

Appendix 2: Tree Protection Plan



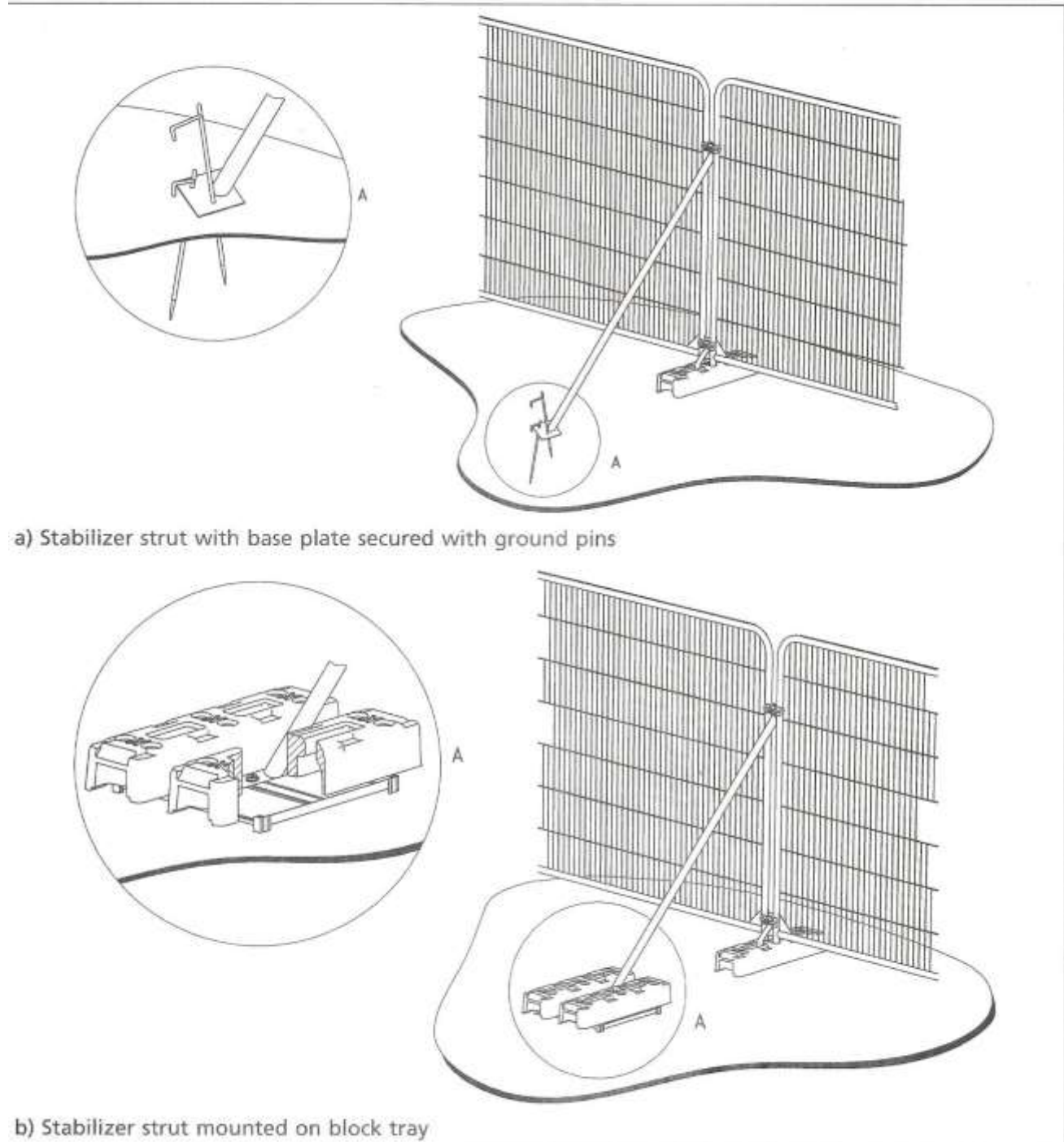
Appendix 3

BS 5837 2012 Protection illustrations x2

BRITISH STANDARD

BS 5837:2012

Figure 3 Examples of above-ground stabilizing systems



6.2.3 Ground protection during demolition and construction

6.2.3.2 Where the set-back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

6.2.3.3 New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

- a) *for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;*
- b) *for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;*
- c) *for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.*

6.2.3.4 The locations of and design for temporary ground protection should be shown on the tree protection plan and detailed within the arboricultural method statement (see 6.1).

6.2.3.5 In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

6.2.4 Additional precautions outside the exclusion zone

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 trees 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.

NOTE In some instances, local planning authority consent for pruning might be required.

6.2.4.2 Fires on sites should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and the wind direction should be taken into account when determining its location, and it should be attended at all times until safe enough to leave.

NOTE Local environmental health authorities might have specific restrictions.

6.2.4.3 Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA.

Glossary of Arboricultural Terms

Adaptive Growth: Woundwood.	New strengthening woody growth in response to loss of tissue through decay or physical damage
Age Class: Young	Up to 1/3 rd life expectancy
Early-mature	Between 1/3 rd and 2/3 rd s life expectancy
Mature	Over 2/3 rd s life expectancy
Late-mature	Onset of natural limb loss; increase in dysfunctional tissue
Over-mature	Declining or moribund trees of low vigour. NB Late-mature and over-mature trees are more prone to structural failure than young or early-mature trees.
Breakout:	Loss of a limb usually close to the junction the main stem or scaffold limb
Branch bark ridge:	Natural feature in the axil of the branch providing a simple guide for locating the best position for the top edge of a pruning cut.
Buttressing:	Root flare at the base of the stem
Crown dieback:	Significant loss of foliage throughout the crown; often the result of root damage. Usually indicating a tree in decline.
Deadwood:	Dead secondary branching persisting on the scaffold limbs. Minor deadwood <50mm diameter is less likely to cause damage in the event of failure. Major deadwood >50mm present a greater hazard and is a greater risk of failure in trees without durable heartwood e.g. Lime and ash. Deadwood which is not presenting a hazard to the highway is excluded from the inspection report. Deadwood stubs: Prevent the sealing of the wound site, providing sites of decay and increasing risk of limb failure.
Epicormic Response:	Growth of dormant buds on areas of the stem or scaffold limbs effected by loss of woody tissue or foliage. New woody tissue is laid down in areas of vigorous epicormic growth.
Included bark:	Weak regions of bark-to-bark contact at the stem or branch junctions.
Retrenchment:	Describes the response in new growth in the lower crown, following dieback in the upper crown. A feature of some over-mature trees, enabling survival into great age (veteran trees)
Scaffold limbs:	1 st order limbs; the major limbs supporting the secondary branching or 2 nd & 3 rd order branches
Soil Heave:	Raised lateral roots or loosened soil surrounding the base of the tree.

3.4 Arboricultural Supervision

- The person responsible for day to day supervision will be the Construction site manager/foreman (named)
- The Arboricultural Consultant (to be appointed) who's role will be: Pre-commencement site meeting with foreman/manager and site owner to discuss the practical impact of the method statement and mark out position of protective fencing/ground protection
- 2nd visit as soon as fencing is in place and before ground works have started for photo evidence.
- 3rd visit unannounced to check on protective measures in place and method statement followed. Final visit on completion of works for photo evidence

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