

**ARBORICULTURAL METHOD STATEMENT
to BS 5837:2012
at
Land on Woodheys Road
Littleborough
Lancashire
OL15 0BX**

Client:
AJ Cocker Associates

Client Address:
176 Drake Street
Rochdale
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OL16 1UP

JCA Ref:
18408a/DK

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1. Introduction

1.1 Purpose of the Method Statement

- 1.1.1 This Arboricultural Method Statement has been prepared to ensure good practice in the protection of retained trees during the development at **Land on Woodheys Road, Littleborough**.

1.2 Terms of Reference

- 1.2.1 JCA Limited is instructed by **AJ Cocker Associates** to prepare an Arboricultural Method Statement for the proposed development, based on our arboricultural report dated 20th May 2022 (JCA Ref: 18408/DK). The arboricultural survey and report conforms to the most recent specifications outlined in BS 5837: 2012 *Trees in relation to design, demolition and construction - Recommendations*.
- 1.2.2 It is proposed to construct two new semi-detached bungalows with associated parking to the front.
- 1.2.3 The following drawings/construction details have been provided and these are the basis of the Arboricultural Method Statement and the Tree Protection Plan at **Appendix 5**:
- 1.2.4 The development layout approved by the LPA (Ref: **proposals-semi detached bungalows-distribution-25-7-23**) has been provided by our client and is the basis for the Tree Protection Plan at **Appendix 5**.
- 1.2.5 Planning permission was granted in view of the following conditions:
- No construction works to proceed until an arboricultural method statement is formalised and agreed upon with the Local Planning Authority.
 - The method statement shall include a detailed programme for timescales for carrying out works before, during and after the proposed development.
- 1.2.6 Therefore, planning consent is subject to this method statement being agreed upon in advance by the Local Planning Authority. The contents of this report must be adhered to, before, during, and after the construction phase.

1.3 Status of the Method Statement

- 1.3.1 This Arboricultural Method Statement should be included as part of the specification and schedule of works issued to the building contractor and can form part of the contract.
- 1.3.2 This Arboricultural Method Statement should be available on site for inspection by the local authority, contractors and other relevant persons.

2. Tree Works Prior, During and Post Construction

2.1 Tree Works Prior to Construction

- 2.1.1 Prior to any construction activity, the first operation on site will be the undertaking of the necessary arboricultural works, as described at **Appendix 1**.
- 2.1.2 The tree works include:
- The removal of **T1, T2, T3, T4, T7, T8** and **T9** to facilitate the proposed development.
 - The pruning of **T5** and **T10**, to facilitate the development.

2.2 Tree Works During Construction

- 2.2.1 Root pruning is required to enable the construction of structures, dwellings, installation of utility routes within the RPA of **T5** and **T10**. This operation will be undertaken during the construction phase and will be supervised throughout by the appointed arboriculturalist.
- 2.2.2 For this method, the closest point of the proposed structure in relation to the trees will be marked on-site by an appointed engineer or another qualified person, using an appropriate method (e.g. temporary, biodegradable spray paint or pegs and lines). A hand-dug trench will then be excavated along this line, to a minimum depth of 600mm and to a width of approximately 300mm. Any roots exposed during this operation will be cleanly severed using appropriate hand tools (e.g. sanitised hand saws or bypass secateurs).
- 2.2.3 Once the operation is complete and any protective measures re-instated, no further arboricultural supervision will be required.
- 2.2.4 During the excavation operations, any tree roots which become exposed which are to be retained are at risk of potentially drying out (during the Summer) or freezing (during the Winter). As such, roots should be exposed for as little time as possible.
- 2.2.5 During the Summer months, all retained, exposed roots will be wrapped in damp hessian sacking; the sacking will need to be kept damp for as long as the roots remain exposed.
- 2.2.6 During the Winter months, all retained, exposed roots are to be wrapped in dry hessian sacking.
- 2.2.7 Before backfilling the trenches, all the hessian sacking is to be carefully removed from the roots.

2.3 Tree Works Post Construction

- 2.3.1 When the construction phase is complete and when the temporary protective barrier has been removed, some minor remedial works may be required. This may be for aesthetic purposes, to give clearance for new paths or to provide ground clearance for landscaping schemes.
- 2.3.2 Any post construction remedial works must be applied for via a tree work application submitted to the Local Planning Authority.
- 2.3.3 No post construction remedial works are to be carried out on the trees until permission has been granted by the Local Planning Authority.

2.4 Recommendations For Tree Works

- 2.4.1 All work must be undertaken to BS 3998: 2010 - *Recommendations for tree work* and carried out by qualified, experienced and, ideally, Arboricultural Association approved contractors who must be adequately insured.
- 2.4.2 Any defects seen by a contractor or the client that were not apparent to the consultant must be brought to the attention of JCA immediately.
- 2.4.3 No liability can be accepted by JCA in respect of the trees unless the recommendations of this Method Statement are carried out under our supervision.

3. The Protective Barrier Prior, During and Post Construction

3.1 Protective Barrier Prior to Construction

- 3.1.1 The installation of the temporary protective barrier will be the very first job to be undertaken on site following the completion of the tree works (**Section 2.1**). This barrier will comprise of protective fencing, ground protection, or a combination of both, as detailed below and in **Section 3.2**.
- 3.1.2 The protective fencing must be constructed in accordance with BS 5837: 2012 *Trees in relation to design, demolition and construction - Recommendations* and will be located as shown on the Tree Protection Plan at **Appendix 5**. Where possible, the protective barrier will enclose the entire Root Protection Area (RPA) of the trees to make a Construction Exclusion Zone (CEZ); **this area is to be considered a restricted area; no pedestrians, vehicles, equipment or machinery are allowed within the CEZ and the storage of materials is not permitted, unless specified within this Method Statement.**
- 3.1.3 The protective fencing will be installed in accordance with BS 5837: 2012. In this case, two construction types of fencing will be used within different areas of the site.
- 3.1.4 Where situated in open ground, the protective fencing will comprise of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3m and be driven securely into the ground, taking care to avoid underground services and structural roots. Finally, weld mesh panels are to be securely fixed on the scaffold framework.
- 3.1.5 Where situated over hard surfacing which is to be retained, the protective fencing will comprise of weld mesh panel fencing, situated in rubber or concrete feet. Panels will be joined together using a minimum of two anti-tamper couplers, positioned so that they can only be removed from inside the barrier. The fencing will be supported at each joint (where two panels meet) with a stabiliser strut, attached to the fencing at one end and a block tray at the other.
- 3.1.6 Please refer to **Appendix 2 (Fig 1 and Fig 2)** for protective fencing details.
- 3.1.7 Once the fencing is installed, waterproof signs with the sentence '*Protected tree zone, no storage or operations within this area*' are to be placed at 3m intervals to ensure that all personnel are aware of the restrictions that apply to the cordoned off area. A prepared sign is available at **Appendix 2**.

3.2 Ground Protection

- 3.2.1 Where it is not possible to enclose the entire RPA of a tree with protective fencing, it will be necessary to lay appropriate ground protection which, in combination with the fencing described in **Section 3.1**, will comprise the protective barrier.
- 3.2.2 The ground protection will be installed prior to construction and retained until the material completion of development. The purpose of the ground protection is to enable site traffic to pass over the RPAs of trees, whilst minimizing compaction and disturbance of the underlying soil which can lead to root asphyxiation and damage.
- 3.2.3 Where vehicles and machinery (over 2 tonnes in weight) are required to pass over the RPA of retained trees, a robust construction detail must be installed to provide ground protection to nearby trees. This is relevant to **T5** and **T10**.
- 3.2.4 First, any minor undulations in ground levels (e.g. pot holes.) will be filled-in using suitable top soil or sharp sand, to create a level surface. No excavation will be utilised to achieve the level surface. No excavation will be utilised to achieve the level surface. Following this, a thin geotextile membrane will be placed on the soil and pegged/pinned into position. A three dimensional, cellular confinement system will be installed over the geotextile membrane and filled with no-fines, washed angular stone, no less than 4mm in diameter and to a minimum depth of 100mm. This may then be compacted using a plate compactor (wacker-plate) and utilised as ground protection for the retained trees.
- 3.2.5 In order to retain this construction in place, edging supports may be required. Such supporting systems will minimize disturbance of the underlying soil and will not utilise continual trenching within the RPA. Acceptable methods include peg and board edging, gabions or sleepers which may be pinned in place if required.
- 3.2.6 Where no-dig hard surfaces are required within the RPA of **T5** and **T10**, the above ground protection may be retained as the permanent surface. Once the main phase of construction is complete, the chosen, permeable surface treatment may be installed to complete the no-dig construction (see **Section 4.3** – ‘hard surfacing’).

3.3 Checking the Protective Barrier Prior to Construction

- 3.3.1 Once installed, the appointed arboriculturalist will be invited on site to inspect the protective fencing, ensuring that it is located in the correct position and that it has been constructed in accordance with this Method Statement. No other work, including soil stripping, excavation, or the bringing onto site of materials or machinery, shall commence until the barrier is installed and confirmed to be acceptable by the appointed arboriculturalist.
- 3.3.2 It is important that the protective fencing is checked by the arboricultural consultant prior to any construction works being carried out on site. **If at any time during construction the protective fencing is not correctly installed, or if it does not comply with BS 5837: 2012, this could result in damage being caused to trees and consequently, a stop notice may be served by the LPA.**

3.4 Protective Barrier During Construction

- 3.4.1 No operations shall take place which require the removal of part of the protective barrier without prior agreement with the Local Planning Authority.
- 3.4.2 The protective barrier must be inspected for faults or damage by the site manager or other responsible named person on a regular basis and a written record kept. Any faults or defects must be repaired or replaced as soon as is reasonably practicable. Details of the site manager and relevant contact details can be found at **Section 7**.

3.5 Removal of the Protective Barrier

- 3.5.1 When the development phase is complete and the main site machinery has been removed, the protective barrier may be dismantled and removed from site.
- 3.5.2 It should be noted the same restrictions apply to all RPAs as the CEZ (please refer to **Section 3.1.2**).

4. Demolition Phase / Construction Phase

4.1 Demolition Works

- 4.1.1 In this case, no demolition works are required adjacent to retained trees.

4.2 Ground Level Changes

- 4.2.1 No ground level changes are required within the RPA of any tree to be retained on this site. As such no mitigation actions are considered necessary.

4.3 Construction of Hard Surfaces

- 4.3.1 Proposed hard surfaces are located within the calculated RPA of **T5** and **T10**. In this case, the hard surfaces (a proposed footpath extending around the proposed building only encroaches into the two RPAs minimally and as such no specialist construction detail will be required. However, root pruning will be utilised to prevent any ‘ripping’ damage, a problem associated with mechanical excavations. See **Section 2.2** for more details.
- 4.3.2 Hard surfaces, in the form of a driveway/car parking areas, are proposed within the RPA of **T5** and **T10**. A no-dig method of construction will therefore be implemented to prevent damage to tree roots.
- 4.3.3 First, any minor undulations in ground levels (e.g. pot holes) will be filled-in using suitable top soil or sharp sand, to create a level surface. No excavation will be utilised to achieve a level surface.
- 4.3.4 Following this, a thin geotextile membrane will be placed on the soil and pegged/pinned into position. A three-dimensional, cellular confinement system will be installed over the geotextile membrane and filled with no-fines, washed angular stone, no less than 4mm in diameter and to a minimum depth of 100mm. This may then be compacted using a plate compactor (wacker-plate) and utilised as ground protection for the retained trees.
- 4.3.5 In order to retain the surfacing in place, edging supports may be required. Such supporting systems will minimize disturbance to the underlying soil and will not utilise continual trenching within the RPA. Acceptable methods include peg and board edging, gabions or sleepers which may be pinned in place if required.
- 4.3.6 The final surface treatment must be porous to enable the percolation of water through the surfacing to the tree roots beneath. This method is considered to be appropriate in terms of minimising damage to retained trees. However, a structural engineer should be consulted to ensure that the mechanical needs of the chosen design are adequately met.

4.4 Construction of New Buildings

- 4.4.1 In this case, no specialist foundation methods are required for arboricultural purposes. However, the RPAs of **T5** and **T10** are situated within the footprint of proposed buildings, and as such root pruning will be required in accordance with **Section 2.2**, to minimize potential damage to tree roots.

4.5 Excavations and Services

- 4.5.1 Precise details on service routes are not available at this time. As such, no provision for the routing of utilities within the RPAs is made within the scope of this report.
- 4.5.2 All utilities should ideally be located outside the RPA of retained trees; this should be achievable as the trees to be retained are located around the site periphery.
- 4.5.3 If, for whatever reason, incursions into the RPAs are considered unavoidable, the consulting arboriculturalist and/or the LPA must be consulted immediately, to prevent a breach of planning conditions and/or damage to retained trees.
- 4.5.4 Guidance and methodologies on the installation of underground services whilst minimising damage to tree roots is provided at **Appendix 3**.

4.6 Location of the Site Compound

- 4.6.1 The site compound, typically including the site office, mess facilities, toilets, storage of materials and parking, must be located away from, and outside the RPA of retained trees.
- 4.6.2 Those areas designated for the storage and/or mixing of chemicals, including petrol, diesel and oils must also be located away from, and outside the RPA of retained trees. Such areas should be constructed with consideration to, and contingencies for, the occurrence of spillages, preventing the leaching of chemicals into unprotected, open ground.

5. Post Construction Phase

5.1 Completion Meeting

- 5.1.1 Upon completion of the works as specified in **Section 4**, a JCA consultant will invite the Local Planning Authority representative to meet with them on site to agree on any remedial works which may be required.
- 5.1.2 Any necessary remedial tree works will be confirmed in writing and must be carried out in accordance with BS 3998: 2010 - *Recommendations for tree work*.
- 5.1.3 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken post development.

5.2 Post Construction Landscaping

- 5.2.1 Following completion of the main construction phase, the protective fencing be removed and the landscaping phase can commence.
- 5.2.2 Where any installation of wooden boundary fences and gate posts are proposed and where these are proposed within any RPA of any retained trees, post holes will be dug by hand and they are to be as small as practically possible. They may be driven in either by hand or using mechanical means. However, if construction plant is to be used, it must work from outside of the RPA at all times.
- 5.2.3 The retained trees on site may be subject to some form of landscaping or seeding beneath their canopies after the development phase. At this stage the protective barrier will have been removed and the property may be occupied.
- 5.2.4 Landscaping works must be carried out in such a way as to avoid ground level changes or deep digging within RPAs. Tractor mounted rotovation or other mechanised cultivation methods must not be used within the RPAs of retained trees.
- 5.2.5 Heavy machinery is not permitted in the vicinity of retained trees, unless otherwise stated in this method statement.
- 5.2.6 Herbicides should be appropriate for the purpose and should not be used in such a way as to damage any retained trees or vegetation.

5.3 Mycorrhizal Fungi Inoculation

- 5.3.1 As the proposed development will encroach into the RPA of **T5** and **T10**, possibly resulting in some root loss, the application of an appropriate *mycorrhizae fungi* will be undertaken to the soils around these trees after the construction phase is complete.
- 5.3.2 Certain *mycorrhizae* fungi form a symbiotic relationship with tree roots. A tree root associated with such *mycorrhizae* will take up nutrients more effectively and this will therefore help the tree to produce new roots more effectively, so benefitting their recovery.

5.4 Tree Planting Scheme

- 5.4.1 A Tree Planting Scheme has been formalised for this development as part of the planning consent requirements and/or tree planting positions have been identified as part of the development layout plan approved by the LPA.
- 5.4.2 The planting of trees may go ahead in the first tree planting period after construction is complete.

6. Timescale of Works

6.1.1 The timescale for arboricultural requirements are summarised below:

Timescale	Action	✓	Initial
Stage 1	All requirements listed in the planning consent are approved by the Local Authority planning office.		
Stage 2	Undertake the tree works (as detailed at Appendix 1).		
Stage 3	Install the temporary protective fencing around the trees (as detailed at Appendix 2 and as shown on the Tree Protection Plan at Appendix 5).		
Stage 5	Have the Arboricultural Consultant inspect the fencing measures prior to any on site construction. Once inspected, the protective fencing must not to be moved or breached.		
Stage 7	Construction Phase: Undertake the construction of the new building. No-Dig and Root Pruning of T5 and T10 to be carried out and completed in full as a priority before any other development works are commenced. Install permanent hard surfaces whilst undertaking suitable measures to avoid root damage and soil compaction (as detailed in Section 4 and at Appendix 4). Arboricultural Supervision Required for all Stage 7 works.		
Stage 8	Completion Meeting (see Section 5).		
Stage 9	Following the completion of the construction phase and when all site traffic and machinery has left, the protective fencing can be removed.		
Stage 10	Post construction remedial tree works to be undertaken including <i>Mycorrhizal</i> inoculation.		
Stage 11	Undertake Landscaping and Tree Planting Scheme.		

7. Relevant Contact Details

Contact Name	Organisation/Detail	Contact Number
Dan Kemp Arboricultural Consultant	JCA Limited	01422 376335
TBC Tree Officer	Local Authority	TBC
TBC Site Manager	TBC	TBC
TBC Architect	TBC	TBC

Appendices

Appendix 1: Tree Works Schedule

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 1	Semi mature Field Maple <i>Acer campestre</i>	10 #	1 to 2 #	1 to 2 # N/A	43	4 # 4 # 4 #	Vertical main stem with spreading crown. Crown suppressed to east side by T2 . Minor epicormic growth on main stem. Crown lifted - several pruning wounds on upper main stem and parts removed on ground. Moss on main stem.	Remove tree to facilitate development.	GOOD	GOOD	MOD	MOD	40+	B 1
T 2	Semi mature to Early Mature Field Maple <i>Acer campestre</i>	8 #	1 to 2 #	1 to 2 # N/A	32	3.5 # 3.5 # 3.5 # 3.5 #	Vertical main stem with spreading crown. Minor epicormic growth on main stem. Moss on main stem. West side of crown suppressed by T1 . Branch ends low over highway.	Remove tree to facilitate development.	GOOD	GOOD	MOD	MOD	40+	B 1
T 3	Semi mature to Early Mature Lime <i>Tilia species</i>	9 #	1 #	1 # N/A	30, 16	3 # 3 # 3 #	Vertical main stem with pendulous crown growth. Main stem divides at about 2 metres. Secondary stem at about 1 metre. Minor epicormic on main stem. Early bark inclusion typical of lime species.	Remove tree to facilitate development.	GOOD	GOOD	MOD	MOD	40+	B 1
T 4	Semi mature Lime <i>Tilia species</i>	4.5 #	1 #	1 # N/A	19	2 # 2 # 2 #	Vertical main stem with pendulous crown growth. Some thinning/crown dieback around top of crown. Broad leaved lime suckers around base of tree, possibly a grafted tree.	Remove tree to facilitate development.	FAIR	FAIR	MOD	MOD	40+	C 1
T 5	Early Mature to Mature Common Ash <i>Fraxinus excelsior</i>	13 #	2 to 3 #	2 to 3 # N/A	56	6 # 6 # 6 #	Vertical main stem with decurrent crown growth. Tip dieback/minor deadwood. Root flare. Two robust looking poster screws in south-west side of main stem.	Monitor annually. Where the Root Protection Area extends beneath the proposed foundation and footpath, shown in magenta on the Tree Protection Plan at Appendix 5 , root pruning will be required under arboricultural supervision. Where the Root Protection Area extends beneath the proposed parking area, shown in blue on the Tree Protection Plan at Appendix 5 , a 'no-dig' method of construction will be utilised. The lower crown area will need to be crown lifted and/or cut back on the north-west side to accommodate the proposals and to leave working space.	FAIR	GOOD	MOD	MOD	40+	B 1
								Moderate						

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 6	Semi mature to Early Mature Field Maple <i>Acer campestre</i>	8 #	1 to 2 #	1 to 2 # N/A	36	4 # 3 # 4 # 5 #	Vertical main stem with spreading crown. Crown lifted - pruning wounds on main stem with good occlusion. Moss on main stem. Crown growth around street lamp column and over highway.	Remove tree to facilitate development.	GOOD	GOOD	MOD	MOD	40+	B 1
T 7	Semi mature Silver Birch <i>Betula pendula</i>	3 #	1.5 #	1.5 # N/A	10.5	1.5 # 1 # 1 # 1 #	Vertical main stem. Double stake with cross bar no longer providing support and no longer required. Poor root plate development, tree rocks in ground when pushed.	Remove tree to facilitate development.	FAIR	FAIR	LOW	LOW	40+	C 1
T 8	Semi mature Silver Birch <i>Betula pendula</i>	3 #	1 #	1 # N/A	8.5	1 # 1 # 1 # 1 #	Vertical main stem. Double stake with cross bar no longer required.	Remove tree to facilitate development.	GOOD	GOOD	MOD	LOW	40+	C 1
T 9	Semi mature Common Alder <i>Alnus glutinosa</i>	8 #	2 to 3 #	2 to 3 # N/A	19	3 # 3 # 3 # 3 #	Vertical main stem. Reduced crown density. Alder leaf beetle, <i>Agelastica alni</i> noted on epicormic growth around basal area. Woolly aphid also noted in leaf petiole axils.	Remove tree to facilitate development.	GOOD	GOOD	MOD	MOD	40+	C 1
T 10	Early Mature Monkey Puzzle <i>Araucaria araucana</i>	8 #	1 to 2 #	1 to 2 # N/A	45 #	3 # 3 # 3 # 3 #	Vertical main stem. Tree growing in neighbouring garden.	Where the Root Protection Area extends beneath the foundation and footpath, as shown in magenta on the Tree Protection Plan at Appendix 5 , root pruning will be required under arboricultural supervision. Where the Root Protection Area extends beneath the proposed parking area, as shown in blue on the Tree Protection Plan at Appendix 5 , a 'no-dig' method of construction will be utilised. The east side of the tree's canopy may need to be cut back to provide working room.	GOOD	GOOD	MOD	MOD	40+	B 2

Appendix 2: Protective Barrier

A2.1 The protective barrier will be installed in accordance with BS5837: 2012. The default specification of BS 5837: 2012 (pictured below for reference) recommends a vertical and horizontal, scaffold framework, well braced to resist impacts, with vertical tubes at no more than 3m intervals. These should be driven into the ground. Weld mesh panels should be affixed to this framework with scaffold clamps - See Figure 1 and Figure 2.

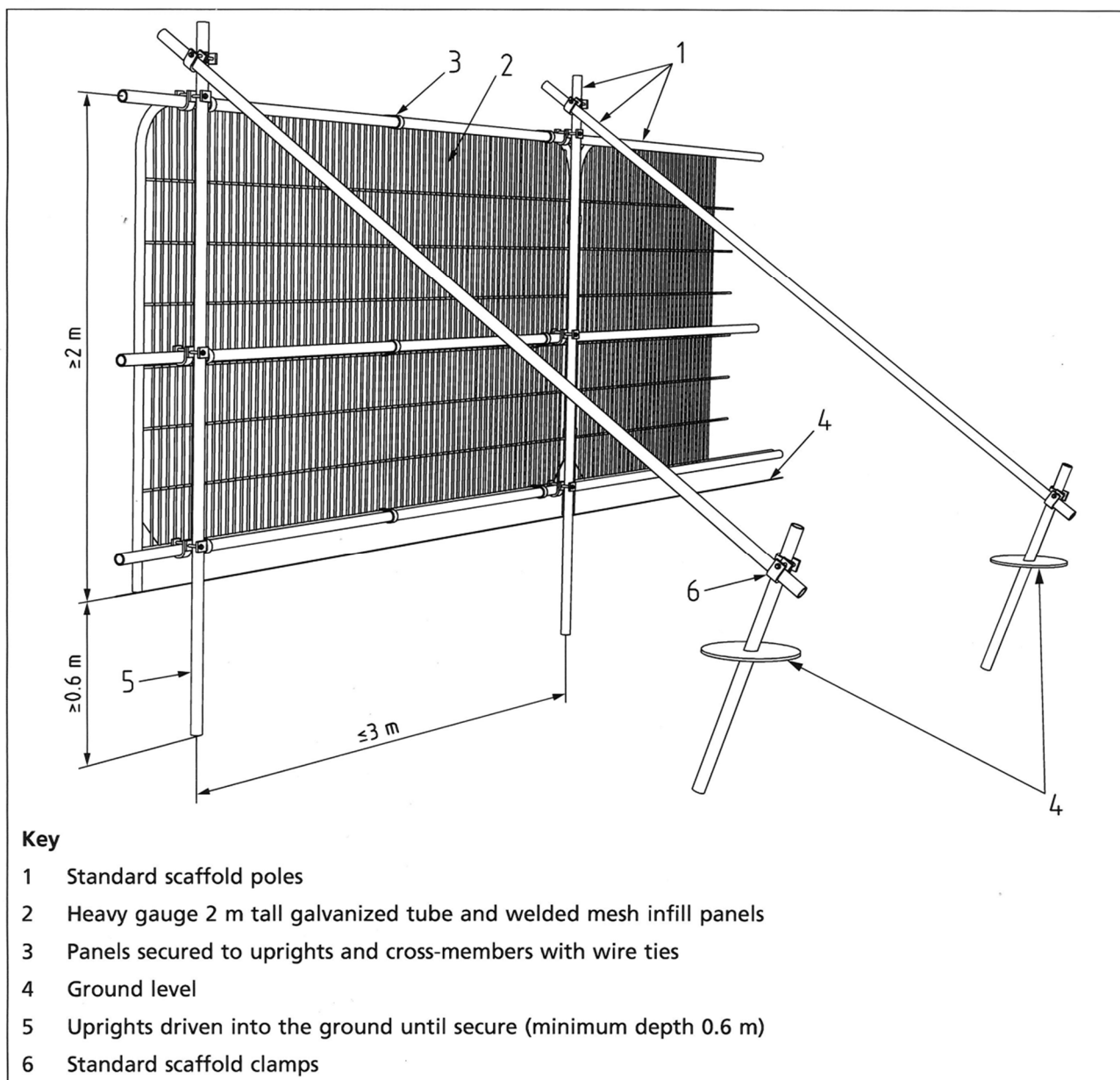
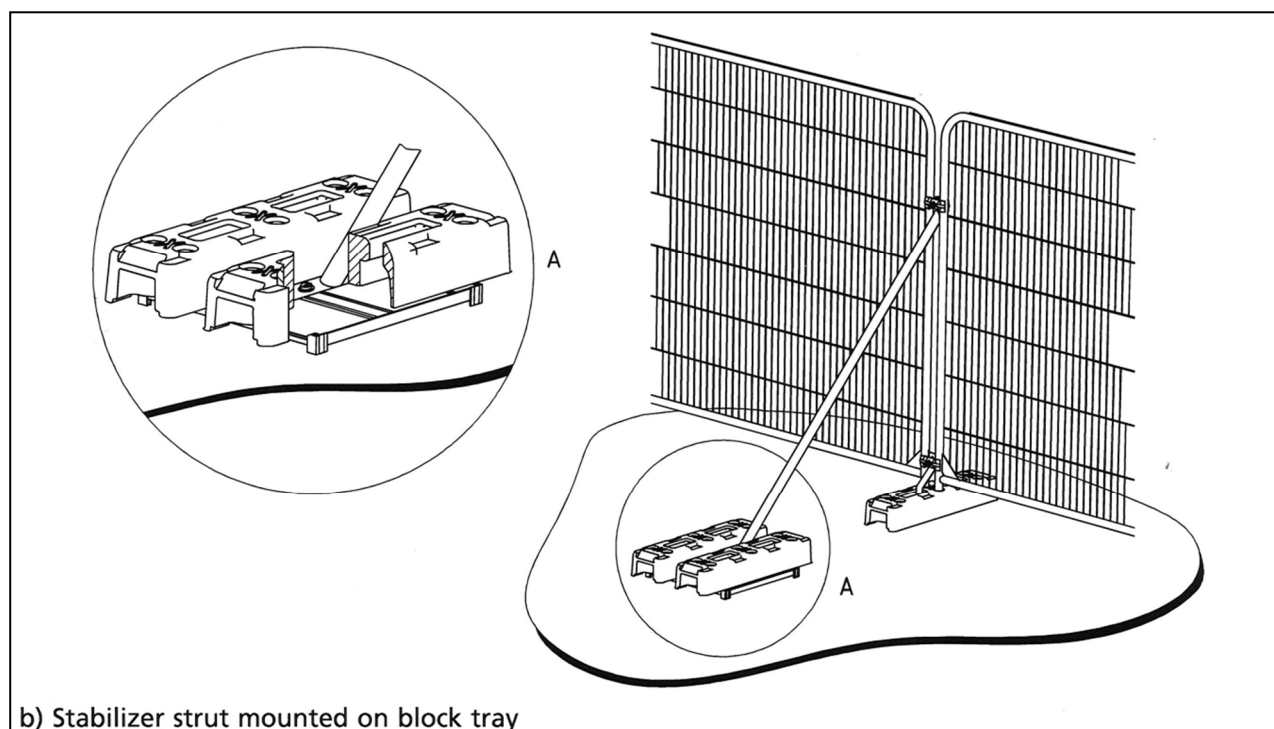


Figure 1: 'Protective Barrier to BS 5837: 2012'. To be used where situated in open ground.



Figures 2a and 2b: Examples of above-ground stabilisation systems. To be used where there is hard surfacing which is to be retained.

TREE PROTECTION ZONE

KEEP OUT!

TREES ENCLOSED BY THIS FENCE ARE PROTECTED
BY STRICT PLANNING CONDITIONS

ANY DAMAGE CAUSED TO THESE TREES MAY
RESULT IN CRIMINAL PROSECUTION

RESTRICTED AREA:

- THE PROTECTIVE FENCE MUST NOT BE MOVED OR BREACHED
- NO PERSON, MACHINERY, VEHICLE OR PLANT IS PERMITTED WITHIN THE TREE PROTECTION ZONE
- NO MATERIALS SHALL BE STORED WITHIN THE TREE PROTECTION ZONE
- NO EXCAVATIONS ARE PERMITTED WITHIN THE TREE PROTECTION ZONE
- NO SPOIL IS TO BE DEPOSITED WITHIN THE TREE PROTECTION ZONE
- NO FIRES ARE TO BE LIT WITHIN THE TREE PROTECTION ZONE

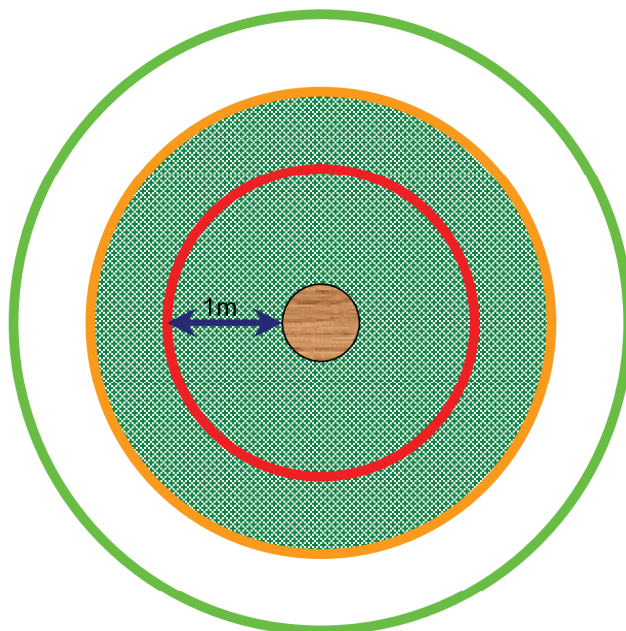
REPORT TREE DAMAGE TO JCA LIMITED ON
01422 376 335

Appendix 3: Utilities and Drainage

- A3.1 Over-ground services should be routed away from areas where they are likely to interfere with the crowns of trees. Similarly any landscaping should take account of over-ground services and mature tree size.
- A3.2 Underground services must be routed outside the RPA of retained trees, unless otherwise specified within this report. NJUG Volume 4 Issue 2 (on the next page) is a set of accepted guidelines for installing services in the proximity of trees. Please note that this is not a substitute for site-specific advice by an arboriculturalist and consultation should be made wherever incursions of RPAs are envisaged. The contents of this report, specifically **Section 4.5**, supersede the set of guidelines on the next page, which are only included for reference.



NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2



TREE PROTECTION ZONE

Key to Diagram



Trunk of Tree



Spread of canopy or branches



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

Appendix 4: Permanent Hard Surfaces

- A4.1 This Appendix outlines the options available for constructing No-Dig hard surfaces within the RPA of a tree. The design of such a construction needs to be sensitive to the requirements of tree roots, substantial enough to withstand the expected levels of traffic and practicable in terms of ease of fabrication (See **Section 4.4** for details)
- A4.2 We are not qualified to recommend any particular construction method in terms of durability or structural integrity and any proposed construction should be approved by a qualified structural engineer prior to implementation. However, with regards to trees, we make the following comments:
- Severance of roots and soil compaction should be avoided. However, if it is necessary to sever roots or if they are severed accidentally we must be informed so that we are able to assess and recommend accordingly.
 - Air and water must be able to diffuse into the soil beneath the engineered surface. Toxic substances which could leach into the ground must be avoided, as should substances which affect the pH value of the soil, for example limestone.
- A4.3 **The No-Dig Method:** This involves construction of a surface with no excavation, soil stripping or site grading (see Figure 3). All construction takes place above ground level. Preparation is as follows:
- A4.4 Ground vegetation is killed using a suitable herbicide. Care must be taken to select a herbicide which does not damage the tree roots within the treated area. Once the vegetation has died, the dead organic matter should be removed. This helps prevent the future build up of anaerobic conditions or settlement due to decomposition.

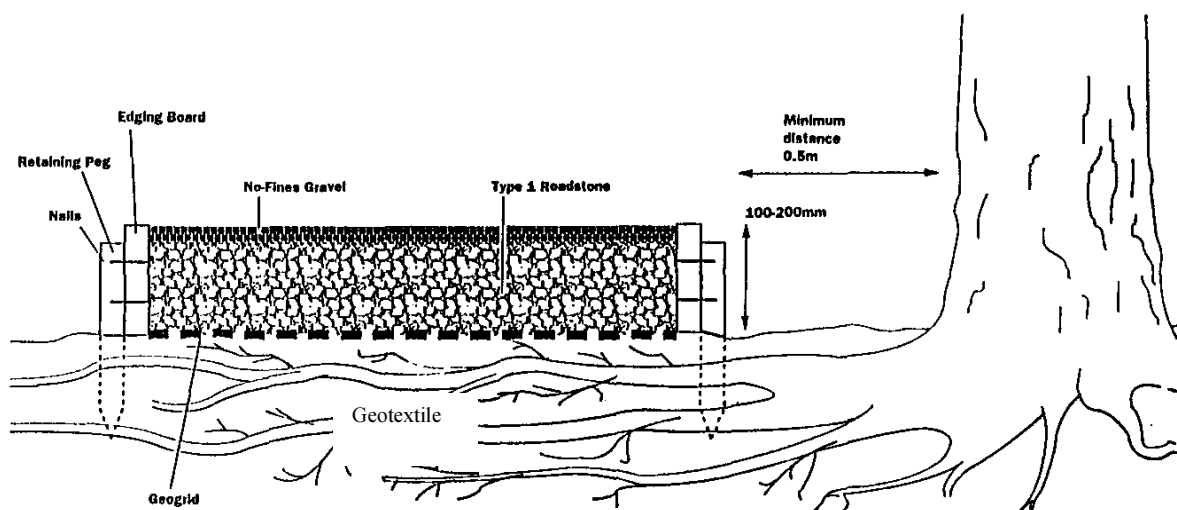
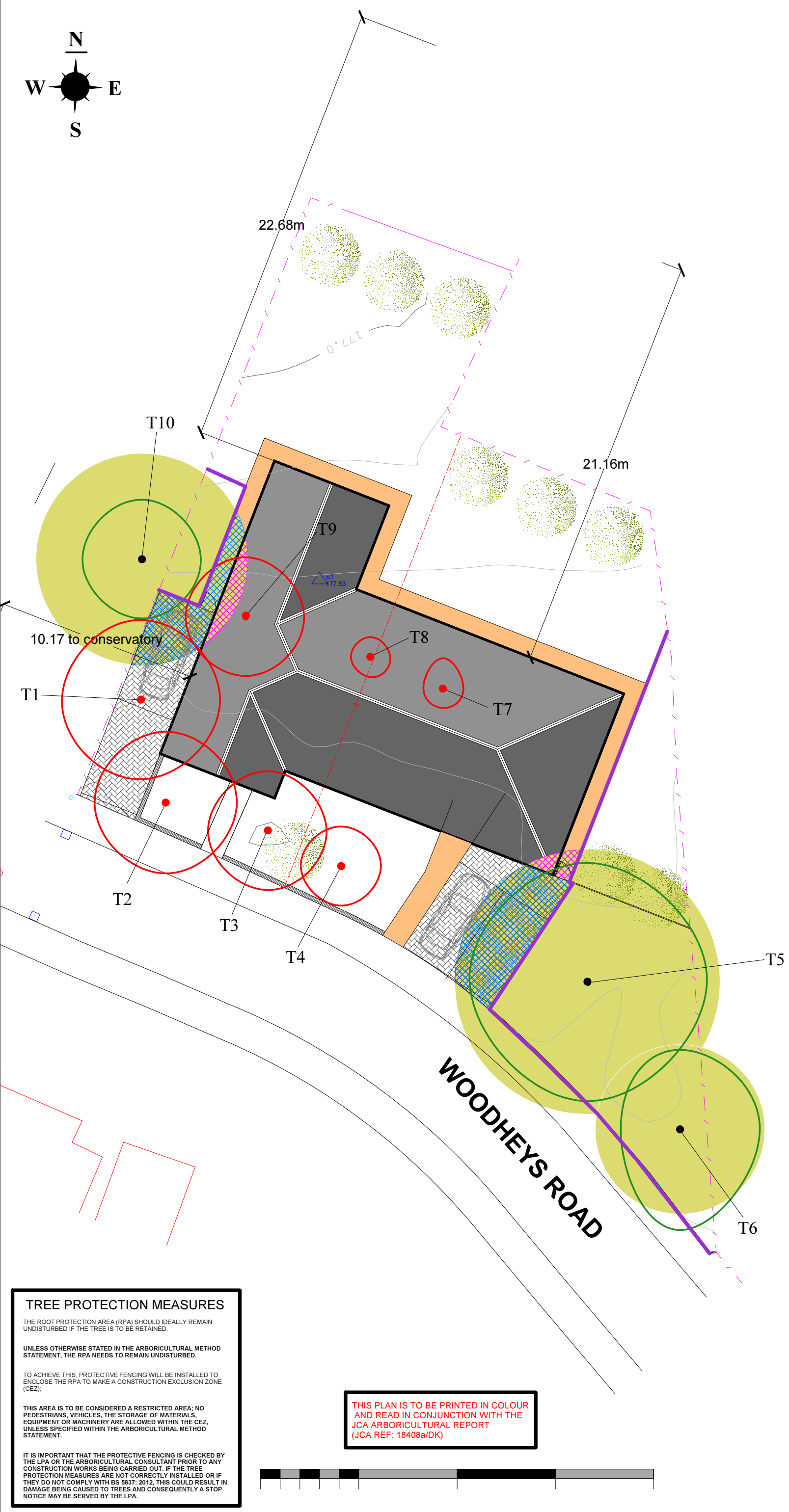
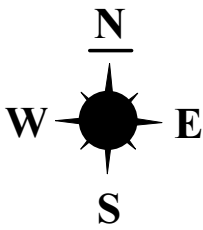
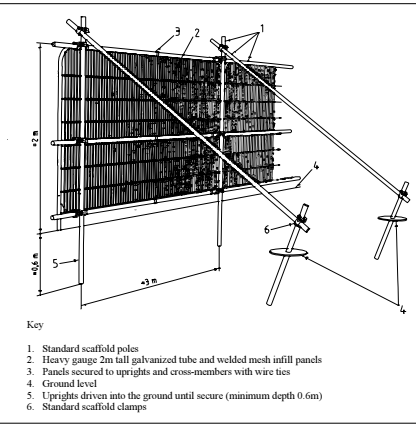


Figure 3. A light duty drive constructed using the *No Dig Method*.

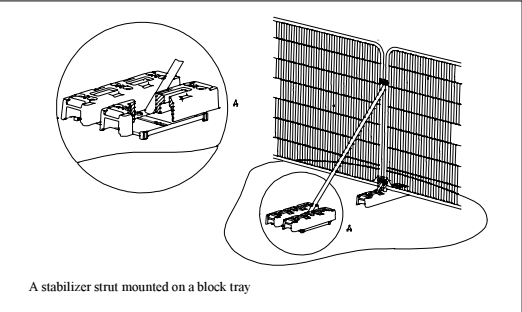
Appendix 5: Tree Protection Plan



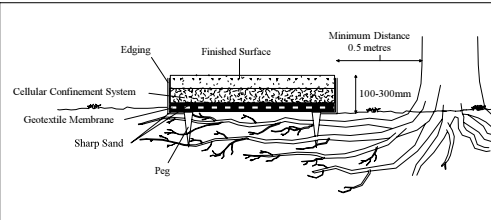
Default specification for a protective barrier



An example of an above-ground stabilizing system



An example of a 'no dig' road construction



Appendix 5:
Tree Protection Plan

ADDRESS: Land at Woodheys Road, Smithy Bridge,
Littleborough, Lancashire, OL15 0BX.
JCA REF: 18408a/DK

SCALE: 1:200

PAPER SIZE : A3

	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA (RPA)
	AREA OF RPA ENCRoaCHED BY THE DEVELOPMENT; NO-DIG CONSTRUCTION METHODS TO BE USED TO MINIMISE ROOT DISTURBANCE
	AREA OF RPA ENCRoaCHED BY THE DEVELOPMENT; ROOT PRUNING UNDER ARBORICULTURAL SUPERVISION REQUIRED
	PROTECTIVE FENCE LINE (CEZ)
	CLIENT TREE REPLACEMENT PROGRAMME

TREE PROTECTION MEASURES

THE ROOT PROTECTION AREA (RPA) SHOULD IDEALLY REMAIN UNDISTURBED IF THE TREE IS TO BE RETAINED.

UNLESS OTHERWISE STATED IN THE ARBORICULTURAL METHOD STATEMENT, THE RPA NEEDS TO REMAIN UNDISTURBED.

TO ACHIEVE THIS, PROTECTIVE FENCING WILL BE INSTALLED TO ENCLOSE THE RPA TO MAKE A CONSTRUCTION EXCLUSION ZONE (CEZ).

THIS AREA IS TO BE CONSIDERED A RESTRICTED AREA; NO PEDESTRIANS, VEHICLES, THE STORAGE OF MATERIALS, EQUIPMENT OR MACHINERY ARE ALLOWED WITHIN THE CEZ, UNLESS SPECIFIED WITHIN THE ARBORICULTURAL METHOD STATEMENT.

IT IS IMPORTANT THAT THE PROTECTIVE FENCING IS CHECKED BY THE LPA OR THE ARBORICULTURAL CONSULTANT PRIOR TO ANY CONSTRUCTION WORKS BEING CARRIED OUT. IF THE TREE PROTECTION MEASURES ARE NOT CORRECTLY INSTALLED OR IF THEY DO NOT COMPLY WITH BS 5837: 2012, THIS COULD RESULT IN DAMAGE BEING CAUSED TO TREES AND CONSEQUENTLY A STOP NOTICE MAY BE SERVED BY THE LPA.

THIS PLAN IS TO BE PRINTED IN COLOUR
AND READ IN CONJUNCTION WITH THE
JCA ARBORICULTURAL REPORT
(JCA REF: 18408a/DK)



Arboricultural & Ecological Consultants

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

D Kemp

Dan Kemp *FdSc (Arboriculture)*.

7th August 2023

For and on behalf of *JCA Ltd*

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JCA Ltd. Arboricultural and Ecological Consultants

Professional Tree and Ecology Advice nationwide

ARBORICULTURAL SERVICES

Guidance for Architects and Developers

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- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

HEAD QUARTERS:

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