

Arboricultural Constraints and Implications Report

Melksham Community Hospital

Report Type	Hi-Line Reference
Tree Constraints Plan	
Tree Constraints Report	RSKHL_8795.25_TCR
Tree Constraints Plan	RSKHL_8795.25_TCP
Planting Scheme & Landscape Proposals <i>(if required)</i>	
Site Monitoring & Watch Briefs	

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TREE MANAGEMENT, CONSULTANCY & TRAINING

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Tree Constraints Report

Prepared by: David Hansford

RSK Hi-Line

For:

Kendall Kingscott Ltd

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LOCAL PLANNING AUTHORITY:	Wiltshire Council

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RSKHL_8795.25 – Kendall Kingscott Ltd – Melksham Hospital (BS:5837 2012) – Arb. Constraints.

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1. INSTRUCTION

- 1.1. Hi-Line received written instruction (email) from Harry Avis of Kendall Kingscott Ltd to provide an Arboricultural Constraints Report and Arboricultural Implications Assessment, to include an inventory of significant arboreal features in proximity to the proposed development works, as well as notable tree features, and prioritised constraints based on value categorisation, in accordance with '*BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations*'. The report informs and supports the proposed re-development of the parking and turning areas near the main entrance of Melksham Community Hospital.
- 1.2. Additional written instruction was received via email from the client for the AIA report to reflect an updated layout. This is with particular regard to detail regarding underground service runs (private sewers, foul water, and lighting connections) and the potential impacts on retained trees.
- 1.3. The framework for this report and the associated plans is the British Standard '*BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*' as this is the standard used by local planning authority officers when considering trees potentially affected by development.

2. REPORT LIMITATIONS

- 2.1. **Reliance** – This Arboricultural Report has been prepared for the Client and may only be relied on by the Client.
- 2.2. **Period of Reliance** - Unless agreed otherwise by Hi-Line in writing, the information and findings in this Arboricultural Report shall remain valid for a period of six (6) months from the date of the relevant survey.
- 2.3. **Third Party works/services** - Hi-Line shall have no liability to the Client (or any third party) for any works, services and/or recommendations set out in this Arboricultural Report to the extent that any such works, services and/or recommendations are carried out or otherwise implemented by a third party not being Hi-Line.
- 2.4. **Limitation of liability** - Subject to any limitations that are not permitted by law, the aggregate liability of Hi-Line under and in relation to this Arboricultural Report in respect of all claims, losses or damages, whether arising from negligence, breach of contract or otherwise shall be limited to the proceeds of insurance that Hi-Line receives from its insurers in respect of the relevant claims, losses or damages.
- 2.5. **Site conditions** – Any physical alterations to the condition of the Site after the date of this Arboricultural Report will have the potential to invalidate the findings and recommendations in this Arboricultural Impact Assessment. To the extent that such physical alterations do take place then the Client should contact Hi-Line.
- 2.6. **Subsidence** – Issues of subsidence and heave have not been considered or addressed in this Arboricultural Report and soil samples have not been taken. If the Client does wish for issues of subsidence to be assessed and reported on, then the Client should contact Hi-Line.
- 2.7. **Weather, vandalism and accident** – This Arboricultural Report does not take account, or provide any advice in respect of, extremes of weather/climate, vandalism or accident whether the same are physical, chemical or fire related and Hi-Line accepts no liability in respect of the same. For example, and without limiting the foregoing, snow and/or flood conditions can place unpredictable and therefore unforeseen physical strains on trees and vegetation.
- 2.8. **Adjacent property** – Trees on adjacent property will have been inspected from within the confines of the site; this inspection may have been limited due to available access, and the report will highlight obvious issues only.
- 2.9. This Arboricultural Report is intended as a guide to identify key tree related constraints to site development only, and the potential influence of trees upon existing or proposed buildings or other structures resulting from the effect of their roots abstracting water from shrinkable load-bearing soils is not considered.

3. PLANNING CONSTRAINTS

- 3.1. Excluding specific exceptions (including the granting of full planning permission) it is an offence to carry out any works to a tree that is subject to a Tree Preservation Order (TPO) without having first applied to and obtained the approval of the Local Planning Authority (LPA).
- 3.2. Exceptions exist to the need to apply for permission to undertake works on protected trees or within conservation areas, including the granting of full planning permission. The exception to the need to apply only exists insofar as it is necessary to implement the detailed permission where this might directly and significantly affect retained trees. It is not permitted to fell trees or undertake pruning where trees are not directly affected by the proposed works.
- 3.3. A search of the Wiltshire Council online planning record for TPO trees and Conservation Areas indicates that there are no protected trees on or immediately adjacent to the site. In addition, no part of the site is within a Conservation Area. Please note that the online council tree protection record may not be fully up to date and that further checks should be made by the contractor appointed to undertake any works to trees within the application boundary, prior to such works being undertaken. To view the NSC Planning Map, click [here](#).

4. STATUTORY WILDLIFE CONSIDERATIONS

- 4.1. Although preliminary visual checks from ground-level of likely wildlife habitats are made at the time of survey, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside the remit of this report.
- 4.2. The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) provides statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist must be obtained by the tree owner or person responsible, before undertaking any works that might constitute an offence.

5. SITE DETAILS

- 5.1. The site comprises part of the Melksham Community Hospital site, including the access road off Spa Road, small carparks and public open space areas immediately adjacent to the hospital buildings.
- 5.2. Trees, shrubs and hedgerows included within the inventory are of native, naturalised and amenity species and are dispersed throughout the survey area. These are predominantly found within grass and shrub borders within the site, adjacent to roads, carparks and buildings. Trees and shrubs have been pruned (including clipping hedges and crown raising trees for access). Additional arboricultural information pertaining to the subject trees/groups/hedges is included within the schedule at Appendix A, as appended to this

report. Please also refer to the Tree Constraints Plan (TCP) and subsequent Tree Protection Plan.

6. THE PROPOSAL

- 6.1. The proposal is for the provision of a revised layout to improve parking arrangements at Melksham Community Hospital. Draft proposals have been provided, which detail 23 General and five Accessible spaces, two drop-off bays and one Ambulance Bay, immediately outside the entrance and to the east of Melksham Community Hospital.

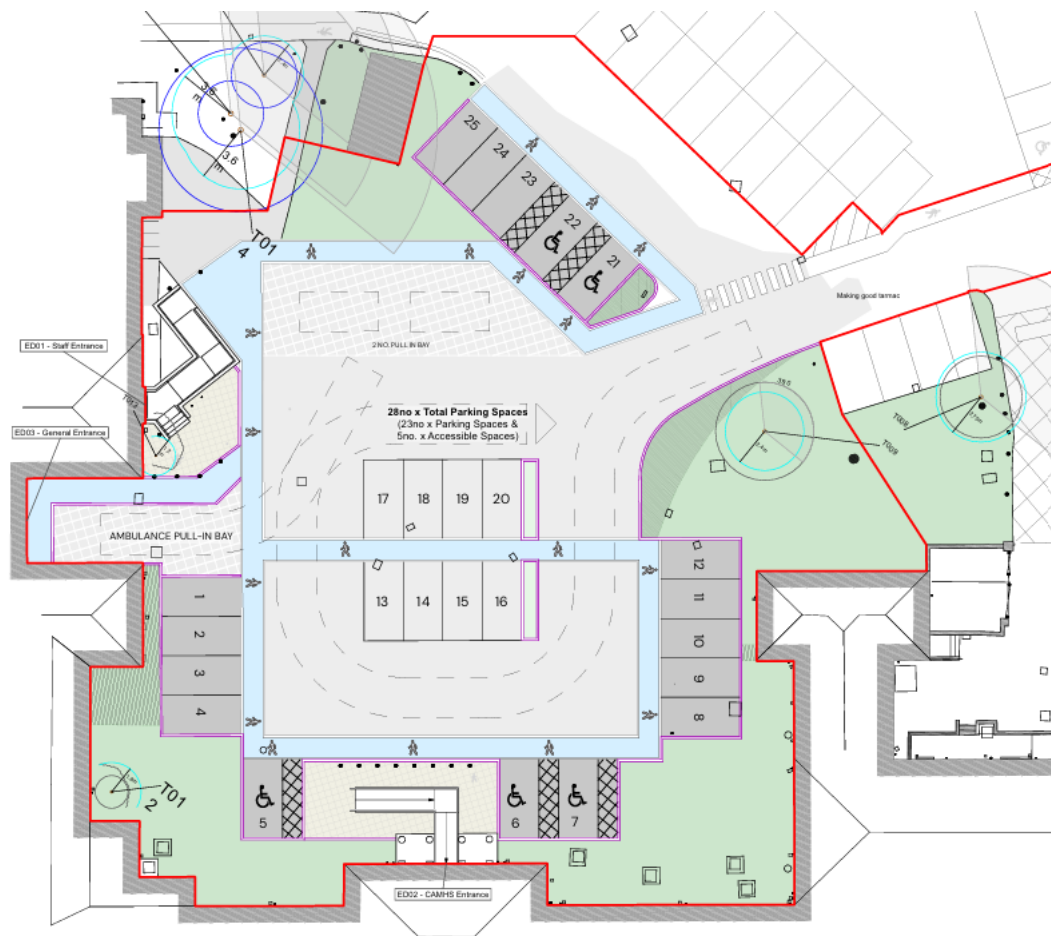


Fig 01: Excerpt from plans provided detailing revised layout for the area adjacent to the entrance to Melksham Community Hospital.



Image 01: G001, shrub group (typical, small, well-managed shrubs within the site).



Image 02: G005, shrub group adjacent to existing car parking.



Image 03: T001, lime adjacent to the access road entrance.



Image 04: T003, cherry adjacent to access road.



Image 05: T007, cherry plum and T008, pear in grass areas adjacent to existing parking.

7. ARBORICULTURAL IMPLICATIONS ASSESSMENT

- 7.1. With reference to [BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'](#) this Arboricultural Implications Assessment (AIA) evaluates the direct and indirect effects of the proposed design on the site's arboricultural resource.
- 7.2. An Impact Schedule is included at Appendix A and provides an assessment of the potential impacts of the proposal on the trees. It provides the significance of and where appropriate, details mitigation to reduce the impact.

8. TREE BENEFITS

- 8.1. Trees can offer many benefits, including:

- 8.1.1. Providing visual amenity, softening, or complementing the effect of the built environment, and adding maturity to new developments.

- 8.1.2. Displaying seasonal change and providing opportunities for wildlife in built up areas where these are often lacking.
 - 8.1.3. Making places more comfortable in tangible ways by contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall and reducing glare.
- 8.2. Trees and shrubs are numerous throughout the site, and whilst the majority are only small in stature, they nevertheless provide a strong amenity presence and contribution to the overall aesthetic of the site. The majority of trees and shrubs are also in good condition, with no significant visible defects noted in most cases. As such, any permitted development within the site can benefit from a significant resource, softening the feel of the site and breaking up the built landscape with natural features. The age-class of the majority of trees on site is such that these benefits will be provided for many years to come, with relatively minimal management intervention.

9 TREE DIS-BENEFITS

- 9.1 Whilst the majority of the impacts the presence of trees in a particular setting provides are positive in nature, and trees are vital for the proper functioning of many ecosystems, trees can also present negative impacts on the surrounding environment. These include overbearing/excessive shade (sometimes causing damp and associated issues with buildings), direct and indirect damage to structures (distortion of light structures, pavements and roads, subsidence related issues), insect-associated issues (e.g., honeydew on vehicles, attracting stinging and biting insects), and branch/whole tree failures causing damage or disruption (mostly during storms).
- 9.2 The dis-benefits of trees as it pertains to the proposal are deemed to be minimal. With the exception of minor shade-related issues (discussed further below), the presence of trees is considered to be a net positive to the proposed development of the site.
- 9.3 **SHADING** – Note that whilst shade can provide welcome respite from the hot sun, shading of buildings by trees can be or can become an issue where there are rooms that require natural light. There is an element of the subjective to consider, as different individuals are likely to have varying degrees of tolerance to trees and shade. Development proposals should, however, be designed to take account of existing trees and the shade that they cast, as building too close to existing significant trees (or young trees that will grow to become large specimens) can lead to significant issues and subsequent pressure to prune heavily or remove healthy, valuable trees altogether.
- 9.3.1 The nature of the proposals is such that shade considerations are relatively minimal, and no special considerations or amendments are recommended. In relation to carparking, shade can be beneficial on hot days. Certain species do shed ‘honeydew’ on to vehicles where aphid infestations are present, which may be considered a minor nuisance.

10 TREE PRUNING AND REMOVAL

- 10.1 Tree pruning or removal, depending on the quantity of trees, size of tree and its quality can have a negative impact on the character and visual amenity of the surrounding area.
- 10.2 Outline proposals indicate the alterations to the parking layout of the site will necessitate the removal of a small number of shrubs and small trees only, including individual small trees T010 and T011 and shrub groups G004 and G005. The impact of the removal of these shrubs and trees of low stature is considered to be low both within the site and within the wider locality.

11 UNDERGROUND SERVICES

- 11.1. The excavation and/or installation of underground utilities near trees can cause significant root damage and consequently impact on a tree's overall physiological condition and potentially compromise stability. This is especially true where conventional installation methods are utilised, for instance strip trenches which are dug by a tracked mechanical excavator. Significant root damage is highly likely where this is undertaken in close proximity to retained trees.
- 11.2. Detail received on the layout of underground service runs (plan refs 'Lighting Layout' 7391/ES/301 and 'Proposed Drainage' 24390-JDL-XX-XX-DR-E-01) on this site indicates that three existing, private sewer runs are present which run underneath/within the RPA for T009, in addition to a connection to a lighting column (which has been amended to avoid conflict). An existing foul water run is also in place underneath/within the RPA for T012. These trees can be retained as no additional works are required to these foul water/sewer runs within proximity. There is no other known conflict between underground services and retained trees which may necessitate additional tree pruning or removal.

12. CONSTRUCTION AND NEW SURFACES WITHIN THE RPA

- 12.1. The excavating of soils within the RPA of retained trees can result in extensive root loss leading to a decline in the trees long term physiological and structural condition. This operation potentially also compromises the stability of retained trees. Where permanent hard surfaces or structures within the RPA of retained trees is considered unavoidable, section 7.4 of BS 5837: 2012 makes recommendations on permanent hard surfacing.
- 12.2. The nature of the proposals is such that construction activity within the RPA for retained trees and shrubs may be required, most notably in the form of the expanded parking area installation. In addition to the requirements for tree and shrub removal stated above, there may be additional impacts on T009 and T012 – T016. Of these T014, T015 and T016 are of greater significance and quality, however the footprint of the proposals does not encroach within the RPA for these trees. The potential proximity of working and access requirements may be such that construction activity may threaten the RPA for these trees.

12.3. As with the installation of underground services, the potential impacts of excavation and parking area installation within the RPA of retained trees include impacts to both physiological and structural functionality, impairing a tree's ability to uptake moisture and nutrients to fuel biological processes (nutrition, reproduction and defence), providing entry courts for pathogens and potentially also immediately compromising structural stability where in very close proximity to the main stem. The alkalinity of concrete (where used) can also alter soil pH, harming root function. Additionally, concrete, tarmac (etc.) can impede soil aeration, which is essential for healthy root respiration. Soil compaction from such construction activity also results in long-term impairment of the soil to support healthy root function, with a commensurate long-term impact on the health and condition of the subject tree(s).

12.4. More generally, construction activities within proximity to retained trees can have additional, adverse impacts to retained trees. These include:

Physical damage: Compaction of soil from heavy machinery can damage roots, reducing their ability to absorb water and nutrients. Severed roots can also lead to instability and increased risk of disease.

Restricted growth: Structures like concrete and paving can limit root expansion, hindering the tree's access to essential resources.

Altered soil conditions: Changes in soil pH due to materials like concrete can harm root function. Construction can also impede soil aeration, which is crucial for root respiration.

Contamination: Spills of fuels, oils, and other chemicals can poison the soil, harming or killing roots.

12.5. The above impacts can be significantly mitigated in this instance by adopting appropriate protection measures (i.e., tree protection fencing, ground protection measures). These issues must be addressed within an Arboricultural Method Statement following finalisation of design and prior to commencement.

12.6. Where ground protection is required on existing 'soft' surfaces within the construction exclusion zone (CEZ) due to construction activity, BS 5837: 2012 (p 22) also provides the following advice for temporary measures:

'...should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.'

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. 100mm depth of woodchip), laid onto a geotextile membrane;*
- b) *for pedestrian-operated plant up to a gross weight of 2t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;**

- c) *for wheeled or tracked construction traffic exceeding 2t 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.*

Note that during times when there has not been significant rainfall, ground protection measures will not be required for pedestrian access within the CEZ/RPA (any vehicular access on grass or 'soft' surfaced areas within the CEZ/RPA will require ground protection at all times).

13. BUILDABILITY OF THE SCHEME IN RELATION TO RETAINED TREES

- 13.1. Tree-related constraints are evident, with the close proximity of trees within, and immediately adjacent to, the proposal area. These constraints do not however significantly affect the buildability of the proposal, with suitable vehicle access to the proposal area (for works vehicles and delivery of materials) provided by the existing road and extensive parking areas. These are often within minimal RPA areas for retained trees, with continued, frequent vehicular use.
- 13.2. The nature and location of the proposals is such that all significant trees and the majority of trees and shrubs can be retained. Minor losses are detailed above where small trees and shrubs are within the footprint of the development. The methods required to complete the proposed redevelopment of the site are such that no additional losses will be required to facilitate access or storage.
- 13.3. The excessive use of the RPA to store vehicles, tools or materials may have a negative impact on retained trees. Storage/parking/set-down/amenities areas can be provided within the site in existing parking areas and roads. Note that these areas must be set out prior to commencement and in compliance with recommendations provided elsewhere (including ecological advice). Materials, tools and heavy machinery must be stored outside the RPA. Measures to prevent leaching into the soil must be utilised. Refer also to the accompanying plans and arboricultural method statement(s) to be provided at a later date.

14 CONCLUSION

- 14.1 The site benefits from a substantial arboricultural resource, with numerous small trees. These are supplemented by established shrubs and hedges. These trees are predominantly in good condition, offering significant **visual amenity, screening, shade, and biodiversity value**. Their age class ensures these benefits will persist for many years with minimal management. While trees generally provide positive impacts, potential dis-benefits such as excessive shade, structural damage, insect issues, and branch failure have been considered. However, for this proposal, the dis-benefits are deemed minimal, with the overall presence of trees representing a considerable net positive.

- 14.2 The outline proposals indicate that the proposals will necessitate the removal of T010, T011 G004 and G005. These are all C category features (small trees and shrub groups), the loss of which will be low within the site and the wider locality. This impact could be mitigated for with the incorporation of trees and shrubs in keeping with the site within the landscape scheme. There is ample space within the green spaces which are frequent across the site.
- 14.3 The installation of **underground services** and the construction of **new surfaces**, particularly within the **Root Protection Areas (RPAs)** of retained trees poses a **low risk** to retained trees and shrubs. Conventional excavation methods can lead to severe root damage, impacting physiological health, stability, and providing entry points for pathogens. Detailed proposals for utilities may require further arboricultural assessment. Construction activities, including excavation and the use of concrete/tarmac, can also cause soil compaction, alter soil pH, impede aeration, and result in contamination from spills. These impacts can be significantly mitigated with the installation of **tree protection fencing** and **ground protection measures** as necessary. An **Arboricultural Method Statement** will address these issues prior to commencement.
- 14.4 Despite the close proximity of trees, the proposed scheme's buildability is not significantly constrained. Vehicle access is well-provided from the east via the main access road to the hospital. The strategic positioning of the new parking layout allows for the retention of almost all on-site trees, preserving the long-term amenity and ecological value of the site. During construction, the storage of vehicles, tools, and materials, along with the provision of amenities, must occur outside of RPAs, ideally in the existing parking areas and roads within the site, in compliance with arboricultural and ecological advice. Strict measures to prevent leaching of contaminants into the soil are also required. Further details regarding these aspects will be provided in accompanying plans and future arboricultural method statements.

APPENDIX A – TREE INVENTORY SCHEDULE – KEY:

Ref.: A unique numerical identifier assigned to individual trees (T) or groups of trees (G) for ease of reference within the survey and subsequent reports.

Other Ref (tag): Any additional reference or tag, such as a physical tree tag number, used on site for identification purposes.

Common Name: The widely recognized non-scientific name of the tree species (e.g., Oak, Sycamore, Birch).

Botanical Name: The scientific (Latin) name of the tree species, typically comprising the genus and species (e.g., *Quercus robur*, *Acer pseudoplatanus*). This provides an unambiguous identification.

Height (m): The estimated or measured height of the tree, from ground level to the highest point of the crown, expressed in metres.

Ult. Height (m): The estimated ultimate height the tree is expected to reach, considering its species and typical growth characteristics, expressed in metres. This helps in assessing future impact on development.

Num. Stems: The number of individual stems originating from or near ground level. A single stem is typical, but multi-stemmed trees are common.

Stem diameter (mm): The diameter of the stem(s) measured at 1.5 metres above ground level, or immediately above the root flare for multi-stemmed trees, expressed in millimetres. This is a critical measurement for calculating the Root Protection Area.

RPA (Root Protection Area) (m²): The minimum area around a tree that should be left undisturbed to ensure its survival and health, calculated as an area in square metres (m2). This is derived from the stem diameter in accordance with BS 5837:2012.

Crown Radius (North, East, South, West) (m): The horizontal distance from the centre of the tree stem to the furthest extent of the crown spread in each cardinal direction (North, East, South, West), expressed in metres.

Crown Clearance (m): The height from ground level to the lowest point of the tree's canopy where continuous canopy begins, expressed in metres. This indicates the vertical clearance beneath the crown.

Lowest Branch (m): The height from ground level to the first significant branch, expressed in metres.

Lowest Branch Direction: The cardinal direction (e.g., North, East, South, West, NE, SW) in which the lowest significant branch is extending.

Age Class: Categorization of the tree's maturity, typically defined as Young, Semi-Mature, Mature, Over-Mature, or Veteran. This provides an indication of the tree's stage of development and future growth potential.

General Observations: A concise summary of the tree's overall physiological and structural condition, including any notable defects, diseases, or significant features.

Rem. Contrib. (Estimated Remaining Contribution in Years): An estimation of the number of years the tree is expected to continue to provide a significant landscape contribution, categorized as <10, 10-20, 20-40, or >40 years.

Retention Category: A classification of the tree's quality and value in accordance with BS 5837:2012, determining its suitability for retention. Categories range from A (High quality, high value) to U (Unsuitable for retention).

APPENDIX A – TREE INVENTORY SCHEDULE:

Ref.	Common Name	Botanical Name	Height	Ult. Height (M)	Num. Stems	Stem dia (cm)	RPA radius	RPA (m²)	North	East	South	West	Crown Clearance (m)	Lowest Branch (m)	Lowest Branch Direction	Age Class	General Observations	Rem. Contrib.	Retention Category
G001	Mixed species	Mixed species	1.5	3	10+	10	1.2m	4.52	1	1	1	1	0	0	Multiple	Early Mature	Good vitality, well maintained. Small mixed species shrub/ hedge	20	C2
G002	Mixed species x2	Mixed species x2	3	5	5	10	1.2m	4.52	1	1	1	1	0	0	Multiple	Early Mature	Persian ivy shrub and viburnum shrub. Fair vitality. Minor deadwood in crown	10	C2
G003	Mixed species	Mixed species	2	5	5	10	1.2m	4.52	2	2	2	2	0	0	Multiple	Early Mature	2 x leather leaf viburnum shrub. Good form and vitality	20	C2
G004	Mixed species	Mixed species	2	6	3	10	1.2m	4.52	1	1	1	1	0	0	Multiple	Early Mature	Group of three small buddleia, close to hospital building. Coppiced	20	C2
G005	Cotoneaster x3	<i>Cotoneaster sp. x3</i>	5	7	10+	20	2.4m	18.09	3	3	3	3	0	0	Multiple	Early Mature	Multi-stemmed cotoneaster x 3. estimated diameter for all three as multiple stems on each tree. Good vitality	20	C2
H001	Common beech x10	<i>Fagus sylvatica x10</i>	7	25	~10	15	1.8m	10.17	2	2	2	2	0	0	Multiple	Early Mature	Good condition. Mixed species hedgerow, mostly beech, with some lapsed stems growing taller. Well maintained on sides. Some deadwood present on heavily ivy clad stem but considered low risk	50+	C2
T001	Lime	<i>Tilia sp.</i>	12	25	1	44	5.28m	87.58	5	4.9	4	4.6	1.5	2.1	SW	Mature	Good vitality and form, minimal defects	50+	B2
T002	Wild cherry	<i>Prunus avium</i>	8	12	1	25	3m	28.27	3.3	3.4	2.8	3.2	1.7	3	E	Early Mature	Fair condition. Minor dieback in crown. Decay at pruning wounds	30	B2
T003	Wild cherry	<i>Prunus avium</i>	8	12	1	31	3.72m	43.47	3.7	3.6	3.3	3.5	1.6	4	SW	Mature	Fair vitality and form, minor crown dieback. Surface roots damage by mower	20	B2
T004	Wild cherry	<i>Prunus avium</i>	6	12	1	15	1.8m	10.17	2.2	2.5	2.9	2	2	3.5	S	Semi Mature	Poor vitality. Significant crown dieback. Strip of cambial dieback on west side of tree from 0.5m to 3.5m up stem, likely to die in next 5-10 years	5	U
T005	Wild cherry	<i>Prunus avium</i>	7	12	1	25	3m	28.27	4	3	4	4	2	1.7	SE	Early Mature	Heavily ivy clad. Minor to moderate crown decline	10	C2

T006	Silver birch	<i>Betula pendula</i>	12	15	1	27	3.24m	32.97	3.1	2.7	2.6	1.4	1.7	1.6	S	Mature	Good form and vitality. Pruned away from telephone cables on west and south side, producing slightly unbalanced crown	30	B2
T007	Cherry plum	<i>Prunus cerasifera</i>	5	8	1	21	2.52m	19.95	2	2	2	2	1	1.5	N	Early Mature	Good form and vitality. Typical of species and age class	20	C2
T008	Pear	<i>Pyrus sp.</i>	8	15	1	23	2.72m	23.24	2.5	2.6	2.5	2.5	0.3	0.1	W	Early Mature	Good vitality. Basal epicormic growth on west/ south west side of tree	20	C2
T009	Lily magnolia	<i>Magnolia liliflora</i>	3	5	2	20	2.4m	18.09	3	3.4	3	2.3	0	0.3	W	Mature	Good vitality. Pruned away from hospital driveway. Good example of species.	40	C2
T010	Laurustinus	<i>Viburnum tinus</i>	1	5	5	20	2.4m	18.09	1	1	1	1	0	0	N	Mature	Viburnum coppiced at 1m. Good healthy epicormic growth	20	C2
T011	Viburnum	<i>Viburnum sp.</i>	1.5	5	5	15	1.8m	10.17	1	1	1	1	0	0	Multiple	Mature	Leatherhead viburnum. Coppiced to 0.5m. Healthy growth response. Diameter of multi stems estimated	20	C2
T012	Common holly	<i>Ilex aquifolium</i>	2	15	~3	15	1.8m	10.17	1	1	1	1	0	0	Multiple	Semi Mature	Holly Bush, growing right against wall. Estimate RPA as stem of tree inaccessible	20	C2
T013	Pyracantha	<i>Pyracantha sp.</i>	1.5	3	~3	10	1.2m	4.52	2	2	2	2	0	0	Multiple	Semi Mature	Good vitality. Typical form, minor deadwood in crown. grown right up against wall between main entrance and ambulance turning/ parking area.	10	C2
T014	Apple	<i>Malus sp.</i>	12	15	1	30	3.6m	40.71	5	5	4	4	2	1.5	SE	Mature	Heavy ivy coverage. Estimate measurements due to limited access (bramble). Bramble inhibit basal access	40	B2
T015	Western red cedar	<i>Thuja plicata</i>	9	25+	~3	30	3.6m	40.71	2	2	2	3	0	1	W	Semi Mature	Fair vitality. Limited assessment, covered in ivy and surrounded by bramble	40	B2
T016	Holly	<i>Ilex sp.</i>	8	15	3	20	2.4m	18.09	2	2	2	2	1.7	1.7	NE	Early Mature	Minor dieback in crown. Measurement estimates, bramble inhibit access	30	B2

APPENDIX B – ARBORICULTURAL IMPACT ASSESSMENT SCHEDULE:

Tree ID	BS 5837 Quality	No Impact	Some Impact	Impact Description	Severity of Impact	Suggested Mitigation	Revised Impact Long - Term
T001 - T003 T005 - T008 G001 - G003 H001	B x 4 C x 7		✓	Trees located adjacent to proposals/access and working space. Very low anticipated impact with regard to soil erosion and compaction, leaching of chemicals/concrete, storage of vehicles and materials; woody and fibrous root severance, crown raising for retained trees, direct damage to stems and branches	L	General precautions, methodologies and guidance in place in form of arboricultural method statement; no specific methodologies identified as necessary	L
T009 G004 T012 - T016	B x 3 C x 4		✓	Trees in close proximity to footprint of proposals; whole or partial removal potentially required to facilitate proposals; soil erosion, compaction, woody and fibrous root severance, crown raising for retained trees	M	Specific precautions, methodologies and guidance in place in form of arboricultural method statement; replacement in landscape scheme where removal necessitated (NB: T014 – T016 higher quality and protection feasible)	L
T010 - T011 G004 G005	C x 4		✓	Trees within footprint of proposals; removal required	H	Replacement of low stature trees and shrubs within comprehensive landscape scheme in close proximity to proposal area	L

Note: U category trees are not included within the impact assessment schedule, as their removal is required regardless of the impacts of construction activity.

APPENDIX C –ARBORICULTURAL METHOD STATEMENT

A1.1 This Arboricultural Method Statement (AMS) has been prepared on the assumption that the scheme will proceed as per the plans provided. The completed AMS should be discussed in detail prior to the commencement of works on site. Any amendments deemed necessary as a result of construction drawings/standards/specification, or any other modifications, should be made prior to the commencement of any works on site. The table below lists the outline phasing covered by the AMS.

Phasing	Action	Input	Timing	Supervision or monitoring
1	Pre-commencement meeting; tree work and setting out root protection areas	PAC/ PC	Prior to the commencement of any works	Y
2	Construction phase – Delivery/set up of plant and materials to designated area on site	PC	Construction	N
3	Construction phase – Removal of existing surfaces etc/prep for top course	PAC/PC	Construction	N
4	Construction phase – Installation of finished course/markings	PC	Construction	N
5	Post-construction – Soft landscaping/tree and shrub planting	PC	Post-Construction	N

PAC = Project Arboricultural Consultant, PC = Principal Contractor, E = Engineer, A = Architect

A1.2 It is the responsibility of the appointed principal contractor (PC) to ensure the tree protection measures within this document are implemented and followed for the duration of the project.

A1.3 Should there for any reason be a requirement to deviate from the specifications within, advice must be sought from the Project Arboricultural Consultant (PAC).

A1.4 The AMS and tree protection plan (TPP) must be made available to all site staff, including subcontractors, who must also be briefed as to the tree protection requirements and necessary working methods.

A1.5 Prior to the commencement of any works associated with the development, there is to be a site meeting attended by the PC, client and PAC. The purpose of the meeting is to ensure that all parties are conversant with the TPP, particularly the extent of the construction exclusion zone (CEZ), the position and specification of protective fencing, precautionary zones (PZ) and the timing of operations.

A2. TIMING OF OPERATIONS

- A2.1 The operations should be undertaken in dry weather (if possible) when the ground is driest and least prone to damaging compaction. Ideally this should be between May and October, although due to other logistical demands and project constraints this may not be possible.
- A2.2 Tree work and general vegetation clearance should be completed outside of bird nesting season where possible, which is generally considered to be between March and August (Natural England advice). However, the nesting period may start before this and extend beyond it, in some cases. Ecological watch briefs/nest checks prior to commencement may be required.

A3. PRE-COMMENCEMENT TREE WORKS

- A3.1 All relevant Arboricultural plans and reports to be reviewed and signed off by the PC and PAC. Any amendments to be made and a copy of all revised documents sent to the local planning authority as necessary. Signed off copy to be held on file on site for the duration of construction works.
- A3.2 Table of required pre-commencement tree work:

Tree reference	Required works
T010, T011, G004, G005	Remove to ground-level; grub out stumps

A4. CONSTRUCTION EXCLUSION AND PRECAUTIONARY ZONES

- A4.1 Areas encapsulated by protective fencing or designated on site within areas of protected ground/existing hard surfacing are collectively considered the construction exclusion zone (CEZ). The CEZ comprises the retained trees' root protection areas (RPA). The RPA are merged where necessary. The accompanying tree protection plans (to be completed) shall detail the extent of the CEZ.
- A4.2 Despite potential site constraints in the form of structures and carparks, the recommended RPA/CEZ (in accordance with *BS5837: 2012*) have been designated for all retained trees on the accompanying plans. These have primarily been designated due to the location of the new carpark arrangement and the necessary working and access space required. Particular attention must be given to the higher quality trees in proximity to the proposal (T014 – T016). TPF will not be required in other areas, due to the use of the site and proximity of roads and carpark areas which must be utilised throughout. At no time shall the RPA/CEZ areas be utilised for vehicles or machinery, or the storage of materials.

A4.3 Please note the following operations and actions are known to cause harm to trees and their rooting environments:

- soil level changes, excavation or fill
- traffic and/or parking of vehicles and plant
- mixing of cement and associated run off
- storage of materials (to include topsoil)
- fires
- trenching for underground services
- installation of hard surfaces
- use of high sided vehicles, cranes and lifting equipment.

A4.4 Should an occasion arise where operations are required within the CEZ or PZ which will potentially expose soils beneath to loads in excess of the design loads, advice must be sought from the PAC/project engineer. It may be necessary to use additional materials or methods aimed at reducing loading, thus mitigating for adverse impacts on significant, retained trees. Written permission from the LPA may be required in order to undertake any additional works within the CEZ or PZ.

A4.5 The construction measures within the CEZ and PZ will be controlled by this Arboricultural Method Statement and following details supplied to, and approved by, the Local Planning Authority.

A5. MONITORING OF OPERATIONS/WATCH BRIEFS

A5.1 Due to the nature of the operations, regular monitoring to ensure the recommendations within this method statement are adhered to is not required, throughout what will be a short build phase. No watch briefs are required. However, two main interactions are recommended where the PAC must be in attendance. The following schedule is deemed sufficient in order to ensure tree retention and protection is ensured:

- Pre-commencement meeting to set out tree protection measures and conduct toolbox talk to brief site team on precautions set out in this method statement.
- PAC to remain in contact to advise site team on the phone/by email as required.
- Site visit during construction activities in proximity to T014 – T016 to ensure adequate tree protection measures remain in place.
- Site inspection record to be completed at each visit; copy to be supplied to the project management team and the local authority planning department within 24 hours.

A6. TREE PROTECTION FENCING (TPF)

A6.1 Due to the nature of the site and the operations, tree protection fencing in the form of 3500mm weldmesh panels is deemed to be appropriate for T014 - T016.

A7. TEMPORARY REPOSITIONING OF TREE PROTECTION FENCING

A7.1 It will not be necessary to reposition TPF once in place for T014 – T016.

A8. INSTALLATION/RELOCATION OF EXISTING UNDERGROUND SERVICES

- A8.1 The installation, exposure or relocation of underground services is not required within any retained trees' RPAs. Specific methodologies/materials are therefore not required.

A9. EXCAVATION AND ROOT PRUNING PROCEDURE

- A9.1 The development involves the reconfiguration of the site with improved carpark facilities/layout. The main precautions involve ground protection during the construction phase in proximity to T014-T016.
- RPA/CEZ (precautionary zone) for retained trees to be set out on site by PAC as per accompanying TPP, utilising 3500mm weldmesh panels as detailed above.
 - There is to be no *heavy mechanised access* within the RPA/CEZ without appropriate ground protection (in accordance with BS5837: 2012 and as detailed in section 8.12 of this report).
 - There is to be *no excavation* within the RPA/CEZ.
 - Operations to install the new carpark layout may continue without further specific precautions (beyond the general precautions detailed within this AMS).

The pruning of large diameter roots (i.e. over 25mm) is unlikely to be required due to the constraints to root proliferation identified elsewhere and the proximity of operations. This must only be done under the supervision of the PAC under a watching brief as they may be vital to the physiological and structural integrity of the tree. It may be necessary in some circumstances to relocate structures or services to accommodate large diameter roots. A methodology for root pruning is included at A10, below.

A10. ROOT PRUNING

- A10.1 As stated above, the pruning of large diameter roots (i.e. over 25mm) is not likely to be required. As a rule, pruning larger diameter roots must only be done under the supervision of the PAC as they may be vital to the physiological and structural integrity of the tree. It may be necessary in some circumstances to relocate structures or services to accommodate large diameter roots. The zones within which supervision/root pruning may be required is detailed on the accompanying plans with measurements from retained tree stems for the extent of these areas (included as red shaded CEZ/blue outline RPA). A methodology for root pruning is included below:

1. Pruning of exposed roots only to take place using sterilised tools – bypass secateurs or pruning saw.
2. Pruning of all fibrous roots and woody roots <25mm may proceed without expert arboriculturist consultation (NB: any fibrous roots will likely be severed by hand-held tools regardless of degree of caution used) using a clean cut 50mm **outside** the edge of the excavation.
3. Pruning of roots >25mm diameter only permitted following consultation with the PAC and then using a clean cut 50mm **outside** the edge of the excavation.

4. Clumps of fibrous roots must be treated with the same precautions as large diameter roots – where the collective mass of roots exceeds 25mm diameter, retention is desirable and consultation with the PAC will be required should the need arise to prune these.
5. Roots which have been pruned shall not be left uncovered – soil from site shall be used to re-cover exposed roots to prevent drying.
6. Retained roots which need to be left uncovered must be kept moist by use of hessian sacking, wrapped double around roots and kept moist during working hours – this includes large diameter individual roots and larger clumps of fibrous roots.

A10.2 A photographic record and plan detailing the location of roots which have been pruned should be kept. A monitoring plan which records the condition of retained trees is also recommended. 12-month intervals are suitable, with a photographic record included.

A10.3 The accompanying Tree Protection Plan contains additional advice and should also be referred to.

A11. MAIN BUILD PHASE

A11.1 Key considerations for main build phase:

- o **Proximity:** The closer the construction activities are to trees, the greater the risk of damage.
- o **Heavy Machinery:** Heavy machinery can cause significant damage to tree roots and crowns.
- o **Material Handling:** Improper material handling can lead to soil compaction, contamination, and damage to trees.
- o **Communication:** Effective communication between all parties is essential for ensuring tree protection.

A11.2 Following completion of any demolition and groundworks and establishment of levels for the project, the main build phase can commence. The following methodology is considered to be appropriate:

- o Review of AMS/TPP: Ensure the AMS/TPP is still valid and reflects any site changes.
- o Reconfirm the Root Protection Areas (RPAs) and the required protective fencing (if recommended).
- o Review access routes, material storage areas, and construction activities in relation to RPAs.
- o Educate workers on the importance of avoiding damage to trees and the consequences of non-compliance.
- o Ensure material storage areas are located outside RPAs; there is adequate space within and to the east of the site for this purpose.
- o Prohibit any storage of materials or equipment within RPAs.
- o Deliver materials and remove debris carefully, via access/egress route from the east aspect, avoiding dragging or dropping materials within RPA/CEZ.
- o **Machinery operations:** Where temporary access is unavoidable within the RPA, use ground protection measures as specified by the arboriculturist, such as heavy-duty ground protection mats (contact for additional advice).
- o If any damage to trees or protective fencing occurs, address it immediately. Consult the PAC for advice on remedial action.
- o **Removal of Protective Fencing:**
- o Protective fencing should only be removed once all construction activities have been completed and the site is clear.

- o **Soil Decompaction & Remediation:**
- o If soil compaction has occurred within RPAs, carry out soil decompaction using appropriate techniques, such as air spading or soil aeration.
- o Implement any necessary remediation measures, such as mulching or soil amendments – in accordance with arboriculturist advice.
- o Any deviations from the AMS/TPP must be approved by the arboriculturist.

A12. CONTRACTORS PARKING

A12.1 There is adequate space within the site for contractor parking, on car parks and roads currently in use for vehicle parking.

A13. SITE HUTS/OFFICES AND TOILETS

A13.1 There is sufficient space within the site to accommodate such facilities well outside the zone of influence for retained trees.

A14. STORAGE OF MATERIALS, TOOLS AND MACHINERY

A14.1 There is sufficient space within the site to accommodate storage space and any materials, tools or machinery. At no time will the CEZ (or RPA) of any tree be used to store materials, tools, machinery or waste materials.

A14.2 Particular attention must be given to the raised borders, within which trees T014 – T016 are situated. At no time shall these areas be utilised for vehicles or machinery, or the storage of materials.

A15. ADDITIONAL PRECAUTIONS

A15.1 Materials which may contaminate the soil will not be discharged within 10m of any tree stem. When undertaking the mixing of materials, it is essential that any slope of the ground does not allow contaminants to run towards a tree root area. For the purposes of this project, no additional detail has been provided regarding potentially harmful materials (other than those detailed above).

A15.2 No notice boards, cables or other services will be attached to any tree.

A15.3 No herbicide use is required on this site.

APPENDIX D – TREE PROTECTION BARRIERS

Figure AD.1: Extract from BS5837:2012 Default specification for protection barrier

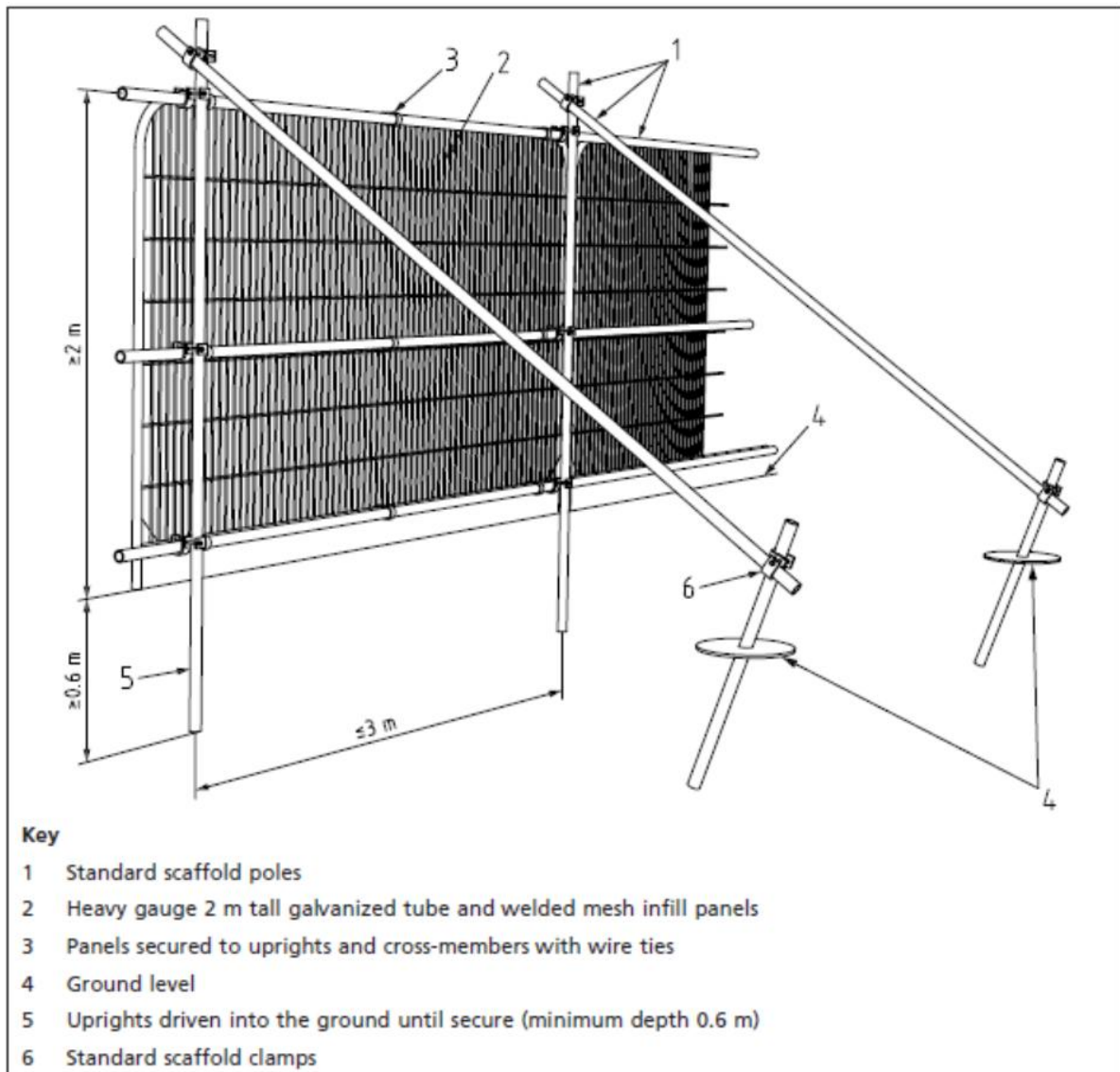
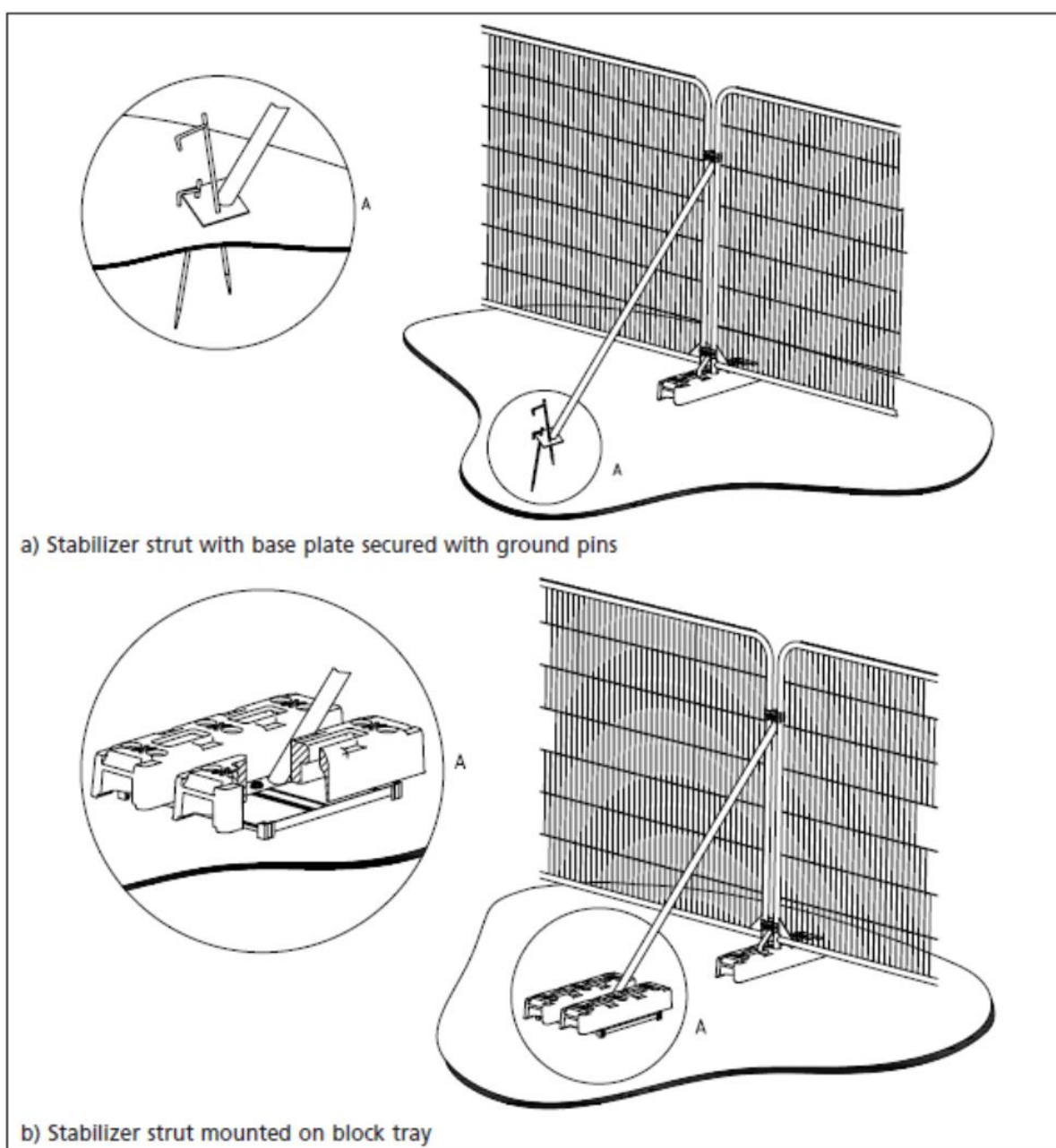


Figure AD.2: Extract from BS5837:2012 Examples of Ground Stabilising systems



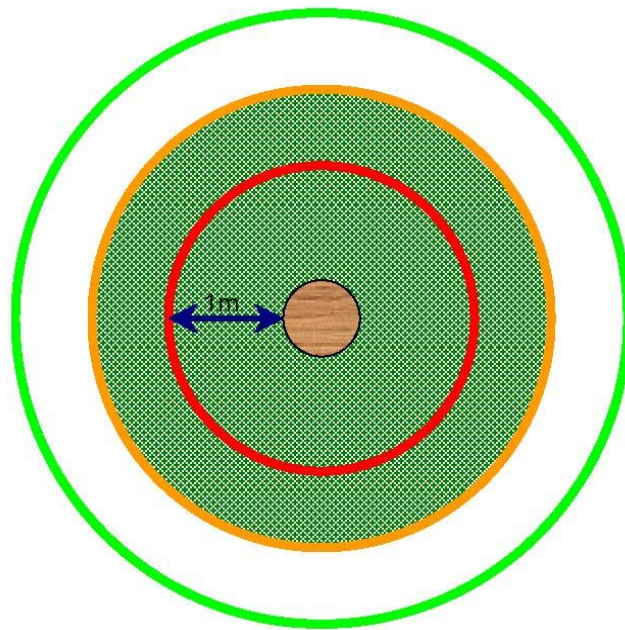
APPENDIX E – TREE PROTECTION BARRIER SIGNAGE

Figure AE.1: Example of warning signs for tree fence protection



Weather resistant notices are to be affixed to tree protection fencing, in positions clearly visible to contractors. Notices must read 'Construction Exclusion Zone/Tree Protection Area, no access or works permitted beyond this fence'.

NJUG GUIDLINE FOR INSTALLATION OF SERVICES CLOSE TO TREES

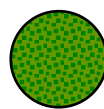


TREE PROTECTION ZONE

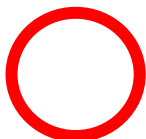
Key to Diagram



Trunk of Tree



Spread of canopy or branch



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Hi-Line Arboriculturalist is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – edge of tree canopy. 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 Hi-Line Arboriculturalist 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.

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don't excavate within this zone.

Don't use any form of mechanical plant within this zone

Don't store materials, plant or equipment within this zone.

Don't move plant or vehicles within this zone.

Don't lean materials against, or chain plant to, the trunk.

Do contact the Hi-Line Arboriculturist or owner of the tree if excavation within this zone is unavoidable.

Do protect any exposed roots uncovered within this zone with dry sacking.

Do backfill with a suitable inert granular and topsoil material mix as soon as possible on completion of works.

Do notify the Hi-Line Arboriculturist or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

Don't excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.

Don't cut roots over 25mm in diameter, unless advice has been sought from the Hi-Line Arboriculturist.

Don't repeatedly move / use heavy mechanical plant except on hard standing.

Don't store spoil or building material, including chemicals and fuels, within this zone.

Don't build up the permanent ground level within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do backfill the trench with an inert granular material and topsoil mix. Compact the backfill with care around the retained roots. On non-highway sites backfill only with excavated soil.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify Hi-Line Arboriculturist or the tree's owner of any damage.

THE PERMITTED ZONE

Don't cut roots over 25mm in diameter, unless advice has been sought from the Hi-Line Arboriculturist.

Do use caution if it is absolutely necessary to operate mechanical plant within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the Hi-Line Arboriculturist or the tree's owner of any damage.



we're all about trees

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BSKHI_8795_25 – Kendall Kingscott Ltd – Melksham Hospital (BS:5837:2012) – Arb. Constraints