

Project No: 315972

Arboricultural Method Statement

Prepared for:

Darwin Group

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Section 1.0: Introduction

1.1 Instruction

- 1.1.1 Mabbet & Associates Ltd. have been commissioned to produce an Arboricultural Impact Assessment by Darwin Group ('the Client') in relation to potential construction of a new building at Dewsbury and District Hospital, Dewsbury ("the site").
- 1.1.2 The instruction is to produce an updated Arboricultural Impact Assessment (AIA) and appropriate Arboricultural Method Statement (AMS) that accords with the methodologies and guidance of BS5837:2012 *Trees in Relation to design, demolition, and construction: recommendations*, to inform layout design and minimize impact on existing tree cover.

1.2 Brief

- 1.2.1 Following a single Site visit undertaken by a Consultant on behalf of Mabbett & Associates Ltd (formerly Crestwood Environmental Ltd), data was gathered regarding the presence of trees cover on the site.
- 1.2.2 4 individual trees were identified as potential constraints on development.
- 1.2.3 There were two young trees, an early mature tree and one mature tree, with varying species noted. One tree was relatively prominent, whereas the other trees were much smaller. Photographs were collected for illustrative purposes and to aid reporting.
- 1.2.4 A Tree Constraints Plan (i.e. drawing CE-DH2247-ADW01 - Fig 1) has been produced which identifies the locations, dimensions, and overall quality of the 10 trees and shrubs (using the BS 5837: 20212 categorization Method). The TCP forms part of a suite of documents comprising the Tree Protection Scheme.
- 1.2.5 A Tree Protection Plan (hereby referred to as 'the TPP') has been produced separately (i.e. drawing CE-DH2247-ADW01 - Fig 2) by to inform suitable tree protection measures and provide guidance on appropriate methods of working.
- 1.2.6 Taken together, the TCP and TPP form the basis of the Arboricultural Impact Assessment (AIA). The AIA aims to provide detailed advice on the protection of retained trees and an evaluation of the impact on tree cover which will be delivered by the development of the Site as currently proposed.
- 1.2.7 An Arboricultural Method Statement (AMS) has been produced to prescribe clear logical tree protection methods to be used during the implementation of the scheme alongside a workable Tree Protection Plan.

1.3 Documents and Information Provided

Plans showing the location of the proposed Site were provided by the Client to facilitate the Tree Constraints Survey and production of this report.

Existing Site Plan 180598- DGL-01-00-DR-A-1150

Proposed Landscaping 180598-DGL-01-XX-DR-A-1402

1.4 Tree Survey

1.4.1 A Tree Constraints Survey was undertaken at the Site by David Woodhouse Arboricultural Consultant on behalf of Mabbett & Associates Ltd (formerly Crestwood Environmental Ltd) on 7th February 2023.

1.4.2 The survey was used to identify and categorise on-site trees, evaluating those which are most suitable for retention.

1.4.3 Each tree was given a sequential (T) number and tagged where appropriate. Each tree was recorded with the common and botanical names. Where groups or hedges formed a cohesive assemblage, they were recorded as (G) Groups and (H) Hedges, with largest trees recorded to reflect RPA's and crown spreads. Where trees appear exceptional to the existing group or woodland they were recorded as individuals.

1.4.4 All trees measured were measured using a standard DBH girthing tape noting the following:

- Stem diameters were measured at 1.5m above ground level with a girthing tape to enable calculation of root protection areas; where trees were inaccessible, stem diameters and/or RPA values were estimated by the arboriculturist.
- Heights and crown spreads at 4 cardinal points are estimated to enable crown representation on tree protection plans.

1.4.5 Each life stage for each tree was assessed using the criteria in Table 1 (below).

Table 1 **Tree Life Stages**

	Description
Young	Newly planted or self-set trees
Semi-mature	Large nursery stock or self-set trees in their early life stages.
Early-mature	Trees that are in their third life cycle with significant increases in size.
Mature	Trees in their second third life cycle reaching full size potential and slowing growth rates.
Late-mature	Trees in their final third their life cycle showing signs of decline.
Veteran	Trees showing signs of retrenchment and deadwood habitat irrespective of their age.

1.5 Scope Of The Report

- 1.5.1 The purpose of this report is to provide a Tree Protection Scheme including Arboricultural Method Statement based on an evaluation of the tree cover currently present on the Site, and the subsequent identified impacts from an Arboricultural Impact Assessment for the overall tree impact associated with the development as proposed.
- 1.5.2 The Arboricultural Method Statement aims to provide a progressive set of steps by which the development proposal is delivered in accordance with submitted plans implementing suitable protective measures at the correct time and for a suitable duration.
- 1.5.3 This report includes a series of Tree Protection Plans and the drawings have been produced using a base Mastermap plan supplied by Mabbet & Associates Ltd. The locations of the trees were determined during the original constraints assessment cross-referencing existing structures and landscape features. The Tree Protection Plans are as follows:
- CE-DH2247-ADW01 - Fig 2 – Tree Protection Plan (TPP)
- 1.5.4 Under the UK planning system, Local Planning Authorities (LPA) have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a Tree Preservation Order or by their inclusion within Conservation Area) or not, is a material consideration within the Planning System.
- 1.5.5 The nature and level of detail of information required for the LPA to properly consider the impacts and effects of development proposals varies between stages and in relation to what is being proposed.
- 1.5.6 Below is an extract from BS5837:2012 which provides advice to both developers and LPAs on the level of information required at varying stages of planning and development processes. This is the minimum detail that LPAs are expected to seek.

Extract from BS5837:2012 – Tree Information Detail

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

1.6 Limitation and Copyright

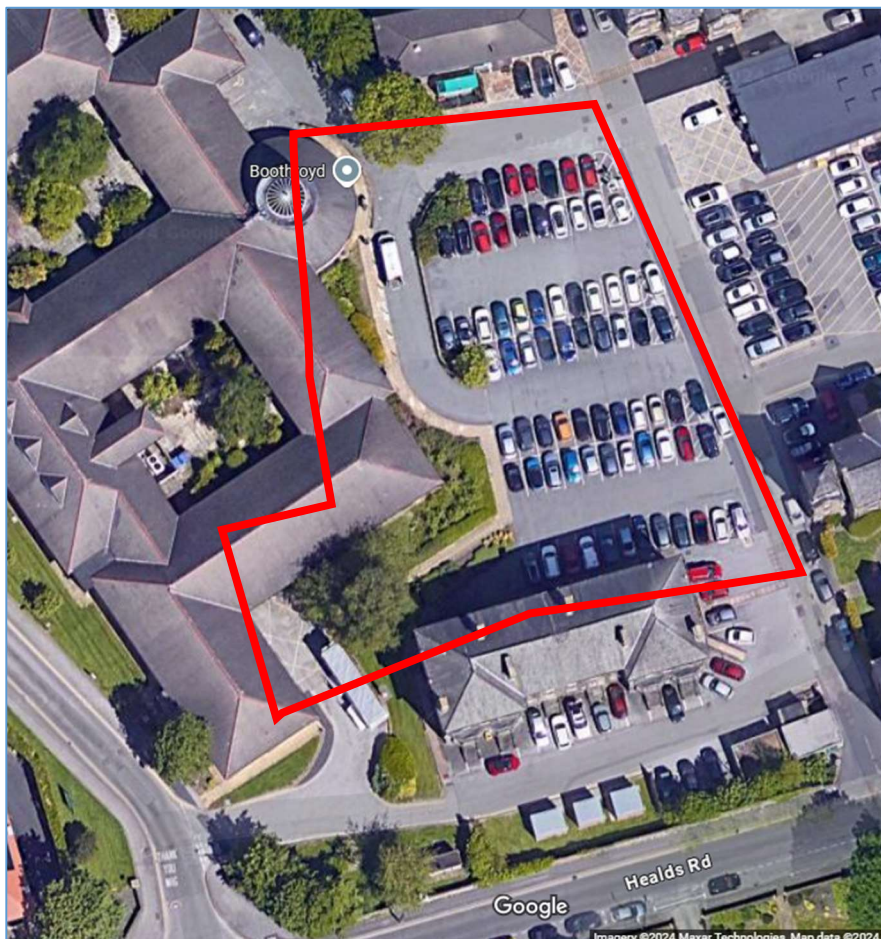
- 1.6.1 This report is solely for the purpose of assessment of development proposals and not to assess any risk the trees may pose to people and/or property. However, details on the structural and physiological condition of trees will be noted, and should an unacceptable risk be identified then this will be brought to the attention of the client, but the report and its contents do not represent a tree risk management report and should not be treated as such.
- 1.6.2 This report does not refer to protected species (e.g. Bats, breeding birds etc), this being outside the scope of this report, and being covered by separate ecology studies; however, this report should be read in conjunction with related reports provided by others.
- 1.6.3 No samples of any description were taken from the Site for laboratory analysis or other purpose.
- 1.6.4 No survey for Japanese Knotweed or other invasive species was undertaken as part of the Tree Constraints Survey.
- 1.6.5 The survey did not include soil sampling for the assessment of shrinkable soil types. Analysis of this type should be conducted by a specialist to ensure building foundations are adequate and in accordance with current National House Building Council Guidelines NHBC.
- 1.6.6 Trees are influenced by a variety of biotic and abiotic activities (e.g. construction activities, pathogens, or climatic events) which can affect their biomechanical and physiological condition of trees. The author cannot take responsibility for changes in condition once the fieldwork has been completed. This report is considered to be valid for 1 year from date of the fieldwork.
- 1.6.7 Trees can be protected by a Tree Preservation Order under the Town and Country Planning Act 1990 (as amended) or located within a Conservation Area Planning listed buildings and Conservation Area Act 1990 (as amended). For the purposes of this report, Kirklees Council website (accessed 11/02/23) confirmed that none of the trees subject to the survey are protected. The site does not lie within a Conservation Area.
- 1.6.8 It should also be noted that felling of trees prior to receiving full planning permission may require a felling license from the Forestry Commission under the Forestry Act 1967. The felling of trees of more 5m³ within any three-month period requires a felling license from the Forestry Commission unless an exemption applies.
- 1.6.9 Any management recommendations have been made in accordance with BS3998: 2010 Tree Works – Recommendations and industry best practice.
- 1.6.10 Should any part of the report be altered or tampered, with in any way, after being issued to the Client then this will invalidate the entire document.

Section 2.0: The Site and Proposals

2.1 Location and Description

- 2.1.1 The site is situated in the northern part of the town of Dewsbury, in a mature urban area. It is a small part of the larger hospital site with urban and internal highways and footways located adjacent.
- 2.1.2 The site is currently comprising a surfaced car park with small shrub beds (some of these have been surfaced or gravelled) with existing buildings to the four compass points. In the western part of the site is an existing footway that leads from the car parking area to an entrance in Boothroyd Centre.
- 2.1.3 There are trees located adjacent to the footway and a single tree in a gravelled shrub bed in the centre of the car park.

Fig 1 – Site Area



- 2.1.4 The proposals are to construct a new building with footpath links to the existing buildings.

Section 3.0: Results

3.1 Existing Tree Presence

- 3.1.1 A total of 4 individual trees have been scheduled as the basis of this survey. The existing tree cover is variable with a few species present.
- 3.1.2 A Tree Data Schedule has been compiled and can be found in (Appendix A).
- 3.1.3 Each individual tree, tree group and woodland has been categorised in accordance with the criteria provided in BS5837:2012, reproduced in **Error! Reference source not found.**
- 3.1.4 **Silver Birch T2** is a mature, well-formed tree that is relatively prominent and well located in relation to the existing buildings. There is an existing footway that passed very close to the base of this tree and if retained this footpath will become a physical restriction for stem growth. This tree is rated category B and is the best tree identified in the survey.
- 3.1.5 **Bird Cherry trees T3 & T4** are part suppressed trees growing very close to the adjacent building. These trees are virtually contacting the current building but would be expected to grow significantly more in the future.
- 3.1.6 **Horse Chestnut T1** is a young well-formed healthy tree in a small gravel filled planting bed in the car park.
- 3.1.7 Trees **T1, T3 & T4** are rated category C.

3.2 Evaluation

- 3.2.1 In relation to any Potential Development, there are:
- 1 tree considered to belong in the moderate retention priority 'B' category; and
 - 3 trees considered to belong in the low retention priority 'C category'.
- 3.2.2 Appendix B defines the 'Retention Categories' as per BS5837:2012.

Table 2 Tree and Group Quality Summary

Category:	A	B	C	U
Tree ID Reference:	n/a	T2	T1, T3, T4	n/a
Total No:	0	1	2	0

Section 4.0: Tree Constraints

4.1 General

- 4.1.1 Trees impose below-ground constraints represented by their Root Protection Areas (RPAs), and above ground constraints by their current and future size, i.e. height and spread and species characteristics, particularly their foliage density, branch and fruit drop, production of honey dew etc.
- 4.1.2 The RPA is calculated using the tree's stem diameter measured at 1.5 m height and represents the minimum area which should be protected and left undisturbed around each retained tree, during and following development.
- 4.1.3 The above ground attributes can also have a significant effect on land use and living conditions, particularly the effect of trees on sunlight. Sunlight or shade maybe desirable depending on the particular site but unreasonable light obstruction should be avoided at the design stages.
- 4.1.4 An assessment should be made at the design stages of development for any incompatibilities between the design and tree retention, the effects on amenity value provided by existing trees, working space required during construction, infrastructure requirements for underground and or above ground apparatus and highway visibility requirements.
- 4.1.5 The morphology and distribution of tree roots is influenced by past land use or existing land use (e.g. the presence of roads, structures and underground services, topography, drainage, soil type and structure). The likely tolerance of a tree, to root disturbance or damage, will depend on factors such as species, age, structural and physiological condition, and past management. Any of these factors may result in non-uniform root growth. This issue can be dealt with in greater detail at the Tree Protection Planning stage.
- 4.1.6 Any alterations made within the trees' rooting environment that cause damage can lead to visible progressive abnormalities in the crown of the trees affected, including reduced vigour, or increased deadwood production. Trees may decline acutely or become hazardous within a brief period of time.
- 4.1.7 Tree protection fencing should be installed around the RPA of retained trees or extended to the edge of the crown spread, whichever is greatest, to ensure no alterations to soil levels or damage occurs to their roots or overhanging branches are damaged by construction activity.
- 4.1.8 No traditional construction methods should be used within the RPA of retained trees, unless overriding circumstances dictate. In such circumstances, appropriate construction methods and materials should be used in accordance with a specification from appropriately qualified and competent person, to prevent damage and ensure tree retention.
- 4.1.9 Where aerial parts of the tree crowns extend beyond the edge of the RPA, it may be appropriate to consider pruning for construction purposes and/or to abate future nuisance, in accordance with a project arboriculturist and the Local Planning Authority

4.2 General Recommendations

4.2.1 It is recommended that development should seek to avoid all unnecessary tree loss and impacts on trees. It is also noted, however, that overall tree and hedge quality within the application area is variable and that compensatory replanting at another location within any scheme may be able to off-set such losses.

4.2.2 Trees should be prioritised for retention based on their assessed retention category status. In addition to recommendations at Appendix A, in general, development should be designed such that:

- Where possible, category A trees are treated as priority retentions during the design stages of the development. An appropriate amount of protected rooting area (expressed in the data schedule as RPA radius) will need to be robustly fenced to afford adequate protection. It is advisable to apply the general principles of successful tree retention (as expressed in a General Arboricultural Method Statement) at an early stage in the design of the development.
- Wherever possible, Category B trees should be similarly retained and protected. Some tree management works to enable retention alongside required construction operations may be possible. This level of detail would need to be submitted to the Local Authority as part of a detailed Tree Protection Plan.
- Where unavoidable impacts or losses arise, compensatory tree planting will be required in line with local planning policy or guidance; and where unavoidable impacts/losses arise in relation to the Category C trees, it would be assumed that an appropriate compensatory tree planting and landscaping scheme could be implemented in line with local planning policy to adequately make up for this.
- Some category C trees may have enhanced ecological value due to structural features such as cracks, cavities, and fissures. The ecological appraisal of the site, including its tree cover, should be read in conjunction with this report.

Section 5.0: Impact Assessment

5.1 Tree Removals

Category:	A	B	C	U
Tree ID Reference:	n/a	n/a	T1, T3, T4	n/a
Total No:	0	0	3	0

5.1.1 To implement the proposals the following trees are required to be removed. **T1**, is in direct conflict with the proposed building so has to be removed. **T3 & T4** are in direct conflict with the proposed walkway to the west of the building.

5.1.2 The latest amendment has ensured the retention of **Silver Birch T2** by adjusting the location of the proposed walkway.

5.2 Root Protection Area Encroachment

5.2.1 The proposed new footway / ramp passes within the edge of the RPA of **Silver Birch T2**. The encroachment less than 4m² of a total 139m². This is equivalent of less than 3% of the RPA and is a relatively small proportion. It is proposed that this be offset into the adjacent existing grassed area and the encroachment result in a small amount of RPA loss.

5.2.2 The removal of the existing footway is likely to be of benefit to this tree and so any root loss will be adequately compensated through the creation of an improved rooting area.

5.3 Tree Protection Fencing

5.3.1 It would be expected that prior to implementation of the project that a Construction Exclusion Zone would be identified around the retained Silver Birch tree to prevent any damage of harm to the tree. The use of Tree Protection Fencing located at the edge of the Root Protection Area (RPA) or at locations shown on the TPP **Appendix D** would be expected to the standard defined within BS5837:2012.

5.4 Underground Utilities

5.4.1 There are no details of existing or proposed underground utilities. There should be no new installation of underground utilities through the RPAs of any retained trees unless further information and advice is sought regarding appropriate excavation techniques. Excavation outside the RPA to install services is considered acceptable.

5.5 Shading

5.5.1 This is not considered an issue for this scheme.

5.6 Tree Detritus Issues

5.6.1 With all trees there will naturally be leaf and other detritus issues. Issues such as Honeydew can be problematic where hard surfaces or parked vehicles are located close to problematic tree.

5.6.2 No such issues are noted for this proposal.

Section 6.0: Arboricultural Method Statement

6.1 SITE RESPONSIBILITIES

- 6.1.1 It will be the responsibility of the main contractor to ensure that the method statement is followed and that a monitoring regime as regards tree protection is adopted on site.
- 6.1.2 The site supervisor shall consult with the Arboricultural Clerk of Works (ACoW) at the key stages detailed to ensure that the methods detailed are implemented as intended on site.
- 6.1.3 Any concerns or problems encountered regarding tree protection shall be reported to the ACoW by the site supervisor immediately by telephone or e-mail and work in an area shall be suspended until such time advice is received.
- 6.1.4 The site supervisor shall be responsible for ensuring that regular inspection of tree protection measures is made and maintained as detailed in the method statement.
- 6.1.5 Copies of the approved AMS will be available onsite, the requirements of which will be incorporated into all relevant site management documents and site induction procedures.

6.2 SEQUENCE OF OPERATIONS

- 6.2.1 Suitable protection measures can only be implemented and succeed when a logical sequence of works occurs. This may require periodic Arboricultural monitoring by an ACoW. An Arboricultural Method Statement checklist in Appendix F has tabular representation of the activities and appropriate responsibilities.

6.3 PRE-COMMENCEMENT SITE MEETING

- 6.3.1 It is recommended that a pre-commencement site meeting be undertaken with, the client, main contractor, site agent and the ACoW prior to any on-site works commencing.
- 6.3.2 The purpose of this meeting will be to clarify roles and to ensure that all aspects of the tree protection measures are understood. Any future sequencing and supervisory arrangements are agreed and details recorded and circulated for future reference during the project.

6.4 TREE REMOVALS

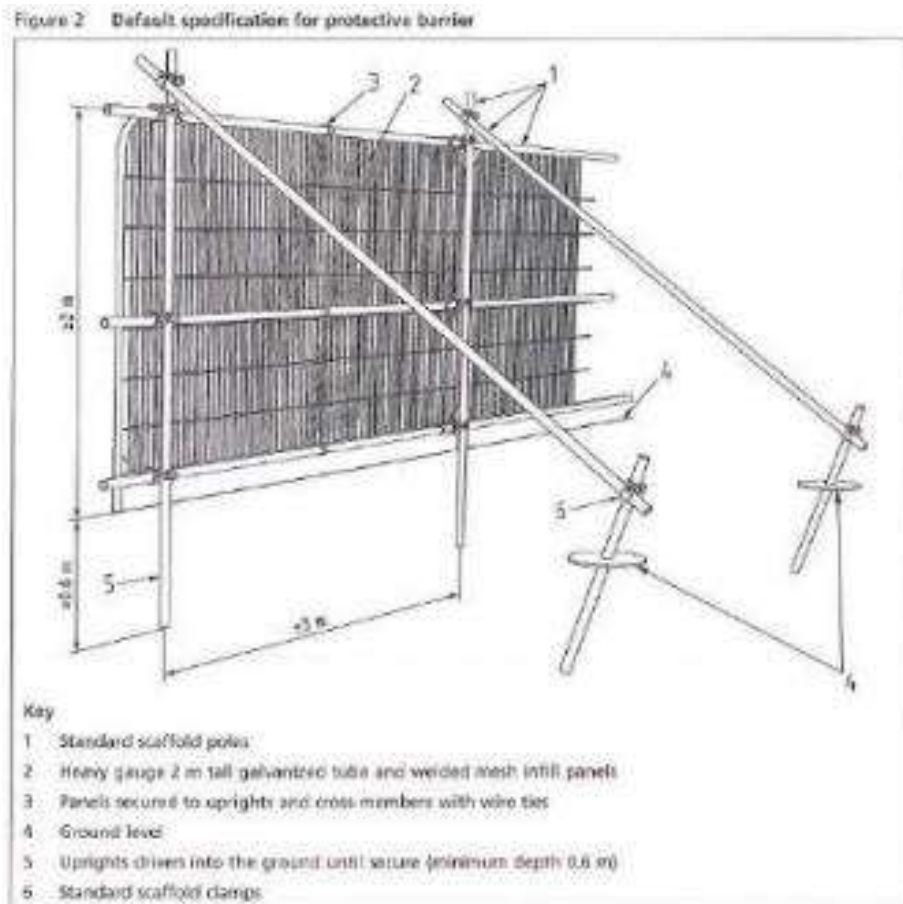
- 6.4.1 Any tree removals consented by the LPA, plus any tree remedial works and/or facilitation pruning, must be undertaken by competent and experienced arborists ('tree surgeons') in line with the recommendations of BS 3998:2010.
- 6.4.2 Unless otherwise specified in the Tree Protection Plan (TPP) for the project, tree protection fencing is not required to be in place prior to consented tree removal operations – its presence can result in an unsafe, overly restricted working space for the arborist(s). However, all reasonable means, including Arboricultural monitoring as appropriate, must be utilized to keep retained trees safe from accidental damage during felling works.
- 6.4.3 Persons undertaking the Treework shall do so in such a way to avoid any impact upon any retained tree on or adjacent to the property. All pruning work shall comply with BS3998: 2010 Tree work – Recommendations.
- 6.4.4 Any machinery used shall be operated outside any root protection area and all arisings shall be removed from site or stored outside the RPA of any retained tree.
- 6.4.5 To implement the proposals there is a requirement to undertake some tree removal, as identified on drawing ref: CE-DH2247-ADW01 - Fig 2 – Tree Protection Plan Revision B (Appendix E). Relevant summary tables for each work type are provided below.

Table 3 – Tree Removal to implement proposals.

Tree No.	Species	Retention Category	Treework required	Reason for work
T1	Horse Chestnut	C1	Fell to ground level and remove stump	Direct conflict with proposed building
T3	Bird Cherry	C2	Fell to ground level and remove stump	Direct conflict with proposed footway
T4	Bird Cherry	C2	Fell to ground level and remove stump	Direct conflict with proposed footway

6.5 INSTALLATION OF TREE PROTECTIVE FENCING

- 6.5.1 Following tree removal and pruning work and prior to commencement of any activity including construction, preparation, excavation, or material deliveries the main contractor shall erect the temporary protective fencing detailed in Appendix G Tree Protective Fencing and Signs
- 6.5.2 Fencing must be fixed into position, on the perimeter established by the calculated RPA or as shown on the Tree Protection Plan (Appendix F). The project's supervising ACoW may be required to verify, on site, that the fencing is correctly located and fit-for-purpose. Such verification, in the form of an Arboricultural Certificate of Compliance, can be provided for the LPA Tree Officer, if required.
- 6.5.3 It is recommended that the fencing specification used at land at Dewsbury & District Hospital should be that set out in BS 5837: 2012 at point 6.2.2.2 and shown as Figure 2 'Default specification for protective barrier'. This will require the sinking of uprights into the ground which may have the risk of damaging some of the root systems of adjacent retained trees, however such fence designs are very secure and will ensure this key area is securely fenced. Figure 2 from BS 5837: 2012 is reproduced below as Diagram 1 for reference:



- 6.5.4 Signage is required to be fixed to the outside of the fencing at 20m min intervals, saying 'Construction Exclusion Zone – No Entry' or similar.
- 6.5.5 All of these areas will be termed the Construction Exclusion Zone (CEZ).
- 6.5.6 There will be no access permitted into any CEZ by any machinery unless prescribed by this AMS.
- 6.5.7 There shall be no storage of materials of any kind within the CEZ.
- 6.5.8 Should any Tree Protection fencing require realignment, or temporary removal FOR ANY OTHER REASON during the construction works, the project's supervising ACoW must be notified and must assess the requirement. Justification for adjustment or movement of the fence, along with an evaluation of possible tree impact and any associated mitigation measures, may require to be notified to and approved by the LPA Tree Officer, for agreement, prior to fence adjustment. Generally, when such incidences occur, the Arboricultural Consultant will be required to supervise movement of the fence and to produce a photo-based Activities Record of operations subsequently taking place in proximity to retained trees. This Activities Record shall be provided to the LPA upon request.

6.6 MAIN CONSTRUCTION PHASE

- 6.6.1 The protective shall remain in place for the duration of the development until such a point as there is a requirement prescribed within this AMS unless otherwise agreed in writing with the Local Planning Authority.
- 6.6.2 No materials that are likely to have an adverse effect on tree health will be stored or discharged within 10 metres of the trunk of a tree that is to be retained. This includes materials such as oil, bitumen, or cement.
- 6.6.3 The site agent shall supervise and plan all site operations in proximity to trees in such a way as to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with any retained trees.

6.7 SPECIAL EXCAVATION AREA – EXISTING FOOTWAY REMOVAL

- 6.7.1 The area identified on the Tree Protection Plan requires closely supervised as the presence of tree roots is considered likely. It is accepted that the rooting mass from this tree that lies outside the Construction Exclusion Zone will be lost.
- 6.7.2 The removal of the existing slabbed footpath requires the execution if suitably controlled working methods.
- 6.7.3 The existing paving slabs and kerb edging will require removal along with any sub-base material to allow for the creation of a larger area of soft landscaping.

- 6.7.4 The use of lightweight machinery will be permitted whilst working from existing surfacing and only when under Arboricultural supervision.
- 6.7.5 Specific methods of working are prescribed within **Appendix H** and must be followed unless otherwise agreed in writing with the Local Planning Authority.
- 6.7.6 Upon completion of this activity, the Tree Protection must be replaced until such a point that the implementation of the approved landscaping scheme is to take place.

6.8 UNDERGROUND SERVICES

- 6.8.1 Underground services must not be routed through the RPAs of any retained trees.

6.9 REMOVAL OF TREE PROTECTIVE FENCING

- 6.9.1 No Tree Protection fencing can be moved, reconfigured or taken down without notification being given to the supervising Arboricultural Consultant to the project, who in turn will notify the LPA 'Tree Officer' if required. Final dismantling of tree protection fencing following completion of phased construction works may require to be signed-off by the supervising Arboricultural Consultant.

6.10 LANDSCAPING

- 6.10.1 Landscaping will take place as set out in the Client's submitted and approved Landscaping Proposals.
- 6.10.2 Such actions will require the removal of the Tree Protection Fencing.
- 6.10.3 All works within the CEZ must be undertaken by hand.
- 6.10.4 There shall be no rotovation or machinery based cultivation of existing ground within the CEZ, with any new topsoil to be raked out by hand.
- 6.10.5 A specific Method Statement should be sought from the appointed Landscaping Contractor(s) to cover activities that involve ground preparation and reinstatement within the RPA of the retained tree.

6.11 GENERAL TREE PROTECTION INFORMATION

- 6.11.1 Prohibited Activities Within Construction Exclusion Zones:

- Entry of machinery.
- Storage of building materials.
- Parking of any kind.
- Erection or placement of site facilities.
- Removal or stockpiling of soil or site debris.
- Disposal of liquid waste including paint and concrete wash.
- Lighting of fires.

- Excavation or trenching of any kind (including irrigation or electrical connections).
- Attaching any signs or any other objects to the trees.
- Placement of waste disposal or skip bins.
- Pruning and removal of branches, except by a qualified Arborist.
- In order to avoid root damage caused by toxic materials e.g. oil, fuel, hardcore, cement, mortar, bitumen, there should be no materials discharge within 10m of any tree trunk. Neither should mixing of concrete take place within 10m of a tree trunk unless an impermeable membrane can be used and waste disposed of appropriately. Sloping ground must be considered to avoid run off in the direction of trees; and
- Trees must not be used as anchorage, nor have signs, boards, cables, or wires attached to them.

6.11.2 Extreme care must be exercised when using heavy plant (i.e. cranes, excavators or other lifting equipment) in the vicinity of retained trees. If accidental damage does occur, this must be reported to site management and the Arb Monitor immediately, so that remedial action can be taken.

Section 7.0: CONCLUSIONS

7.1 GENERAL

- 7.1.1 The proposals involve the construction of a substantial building within hospital grounds, most of which are currently used for car parking.
- 7.1.2 To facilitate installation of the main building a single tree will be removed, and to install a new footway link two additional trees will have to be removed.
- 7.1.3 The new footway will require the removal of an existing potentially problematic footway and will ensure the retention of a prominent moderately valuable tree on the site.
- 7.1.4 There are proposals to undertake suitable mitigation planting for the felled trees that provides the opportunity to increase the volume of tree cover on the site and provide lasting amenity for the site.
- 7.1.5 In summary the proposals, whilst requiring some tree removal, are retaining a significant tree, providing an improved rooting area, and introducing new trees, and are of low impact on the overall tree covering the defined protection measures are installed.

Appendix A: Tree Data Schedule

Tree No.	Species (Common name)	Height (m)	Stem diam @1.5m (mm)	Crown spread (m)	Crown clearance (m) & direction of lowest growth	Maturity	Vigour	Est remaining contribution (yrs)	Condition/ Comments	Preliminary recommendations	Management	RPA radius (m)	RPA area (m ²)	BS5637 quality ref
T001	Horse Chestnut (<i>Aesculus hippocastanum</i>)	6.0	170	N:4 E:3 S:3 W:3	1.5 1.5(S)	Y	G	20+ Years	Healthy tree, open crown form	No work required		2.0	13	C1
T002	Silver Birch (<i>Betula pendula</i>)	16.0	550	N:5 E:6 S:5 W:5	2.0 4(E)	M	G	20+ Years	Well-formed feature tree, well located in terms of existing buildings	No work required		6.6	139	B1
T003	Bird Cherry (<i>Prunus padus</i>)	9.0	300	N:5 E:3 S:4 W:6	2.0 4(SW)	EM	G	10+ Years	Branch tips close to building, crown suppressed towards Birch	No work required		3.6	41	C2
T004	Bird Cherry (<i>Prunus padus</i>)	9.0	350	N:6 E:6 S:3 W:5	2.0 2(SW)	EM	G	10+ Years	Branch tips close to building, crown suppressed towards Birch	No work required		4.2	55	C2

Key:

Maturity – This is a categorisation of the age class or life stage of a tree. There are 5 categories as follows:

Young (Y) – Newly planted or self-set trees; **Semi-mature (SM)** – Large nursery stock or self-set trees in their early life stages.; **Early-mature (EM)** – Trees that are in their first third life cycle with significant increases in size.; **Mature (M)** – Trees in their second third life cycle reaching full size potential and slowing growth rates.; **Late-mature (LM)** – Trees in their final third their life cycle showing signs of decline.; **V (V)** - Trees showing signs of retrenchment and deadwood habitat irrespective of their age.

Vigour – An assessment of the biological function of the tree by visually observing the leaf colour, size, crown density, general shoot extension and live crown. There are 4 categories as follows:

Good – attributes considered normal for species and variety; **Fair** -minor reductions within the tree crown of any of the categories listed from that of a normal example; **Poor** - significant reductions within the tree crown of at least two categories listed accompanied by extensive crown dieback (in excess of 33% of crown volume); **None** - this is when a tree is dead

Est remaining contribution (yrs) - This is an estimation of how long the particular trees is likely to survive in a similar form, size, shape etc in the current location, measured in years. Issues such as reduced vigour, pathogen infection or a likelihood of structural failure are major factors reducing this value (categories are **40+**, **20+**, **10+**, **<10**).

RPA radius (m) – This is the radius, in metres, of the root protection area (RPA) being expressed as a circle around each tree.

RPA area (m²) – This is the equivalent cross-sectional area of the root protection area (in square metres) which is deemed large enough to contain sufficient volume of roots to maintain the tree's viability.

BS5837 quality ref: This is a grading based on Table 1 within the standard and has 4 categories and 3 subcategories. The 4 main categories are:

A - trees of high quality with an estimated remaining life expectancy of at least 40 years.

B - trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

C - trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

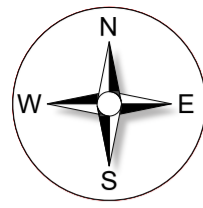
U - those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

Appendix B: Tree Categorisation Table (Extract From BS5837:2012)

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix C: Tree Constraints Plan



Tree No.	Species (Common name)	Height (m)	Stem diam @1.5m (mm)	Crown spread (m)	Crown clearance & direction of lowest growth	Maturity	Vigour	Est remaining contribution (yrs)	Condition/ Comments	Preliminary Management recommendations	RPA radius (m)	RPA area (m ²)	BS56837 quality ref
T001	Horse Chestnut (<i>Aesculus hippocastanum</i>)	6.0	170	N:4 E:3 S:3 W:3	1.5 1.5(S)	Y	G	20+ Years	Healthy tree, open crown form	No work required	2.0	13	C1
T002	Silver Birch (<i>Betula pendula</i>)	16.0	550	N:5 E:6 S:5 W:5	2.0 4(E)	M	G	20+ Years	Well formed feature tree, well located in terms of existing buildings	No work required	6.6	139	B1
T003	Bird Cherry (<i>Prunus padus</i>)	9.0	300	N:5 E:3 S:4 W:6	2.0 4(SW)	EM	G	10+ Years	Branch tips close to building, crown suppressed towards Birch	No work required	3.6	41	C2
T004	Bird Cherry (<i>Prunus padus</i>)	9.0	350	N:6 E:6 S:3 W:5	2.0 2(SW)	EM	G	10+ Years	Branch tips close to building, crown suppressed towards Birch	No work required	4.2	55	C2

Key:

Maturity – This is a categorisation of the age class or life stage of a tree. There are 5 categories as follows:

Young (Y) – a tree less than one third of its normal life expectancy for the species and usually showing monopodial growth; **Young/Mature (Y/M)** – a tree between one and two thirds of its optimum life expectancy for the species normally showing sympodial growth form; **Early-mature (E/M)** – a tree between two thirds and its optimum life expectancy for the species but that has a naturally smaller crown size and shape for than would be expected for the species; **Mature (M)** – a tree between two thirds and its optimum life expectancy generally that has reached peak crown size and shape for the species; **Late-mature (LM)** – in excess of its optimum life expectancy for the species usually with signs of crown decline. Veteran trees fall into this category and they offer numerous ecological habitats due to e.g. crown cavities, dead branches, loose bark etc and can have historic & cultural attributes.

Legend:

- Tree/ Group Identification Number
- Root Protection Area shown as a radius, individual trees
- Tree canopy extent

	Tree	Tree group	Hedge native	Hedge ornamental
Category A				
Category B				
Category C				
Category U				

NOTES:

This drawing is to be read in conjunction with report CE-DH2247-RP01-FINAL 'Tree Constraints Survey and Arboricultural Impact Assessment' dated March 2023.

This drawing is not for construction but for planning purposes only.

All dimensions to be checked on site and not scaled from this drawing.

Consultant: MABBETT & ASSOCIATES		Site: Dewsbury District Hospital			
Client: DarwinGroup <small>Construction Has Evolved</small>		Drawing Title: Tree Constraints Plan (TCP)			
Drawn By: IS	Checked By: IS	Date: 11 / 04 / 2023	Scale: 1:200	Paper Size: A1 (841x594 mm)	
Status: FINAL	Final Revision: -	CAD Ref: CE-DH2247-ADW01-FINAL	Drawing No. / Client Ref: Figure 1		

Appendix D: Site Photos

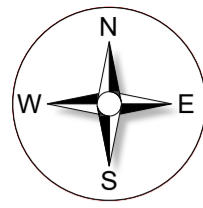


Photo 1 (top left): Overall view of the site.

Photo 2 (top right): T2 – T4 general located either side of the existing slabbed footpath.

Photo 3 (left): T2 Silver Birch with the existing slabbed footpath close to the tree base. This requires removal and the utilising of suitable methodology to prevent root damage.

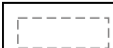



Appendix E: Tree Protection Plan Revision B








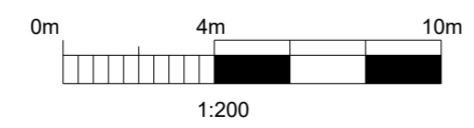
Extent of proposed building and external ramps and steps, taken from Proposed Site Plan ref: 180598-DGL-XX-XX-M3-ZZ-A-0001

Location of proposed tree protective fencing

Legend:

-  Area of Proposed Building
-  Tree Identification Number
-  Approximate locations of protective fencing (BS 5837:2012 'Heras' style)
-  Special Excavation Area

-  Trees to be removed
-  Trees to be retained (Refer to Fig 1 for tree categories)
-  Tree Category
-  Canopy spread
-  Root protection area



NOTES:

- This drawing to be read in conjunction with the Arboricultural Impact Assessment report produced by Crestwood Environmental.
- For details on individual trees, refer to Tree Constraints Data dated 07/02/2023.
- Three trees are identified for removal, T1, T3 and T4

MABBETT & ASSOCIATES

Client:

DarwinGroup
Construction Has Evolved

Site: Dewsbury District Hospital				
Drawing Title: Tree Protection Plan (TPP)				
Drawn By: IS	Checked By: IS	Date: 11 / 04 / 2023	Scale: 1:200	Paper Size: A1 (841x594 mm)
Status: FINAL	Final Revision: B	CAD Ref: CE-DH2247-ADW01-FINAL	Drawing No. / Client Ref: Figure 2	

Appendix F: Arboricultural Method Statement Checklist

Activity	Person Involved	Date Completed	Signed (Project Arboriculturist)	Signed (Site Manager)
Precontract site meeting	Client Main Contractor Arboricultural Clerk of Works Site Agent			
Tree surgery works as per Tree Protection (<i>Appendix E</i>)	Main Contractor Site Agent			
Erect Temporary Tree Protective Fencing as per Tree Protection Plan (<i>Appendix E</i>)	Main Contractor Site Agent Arboricultural Clerk of Works (to inspect if needed)			
Main construction phase	Main Contractor Site Agent			
Removal of existing footway (<i>Appendix H</i>)	Main Contractor Site Agent Arboricultural Clerk of Works (to supervise footpath removal)			
Removal of temporary fencing	Main Contractor Site Agent Arboricultural Clerk of Works			
Landscaping implementation	Main Contractor Site Agent			

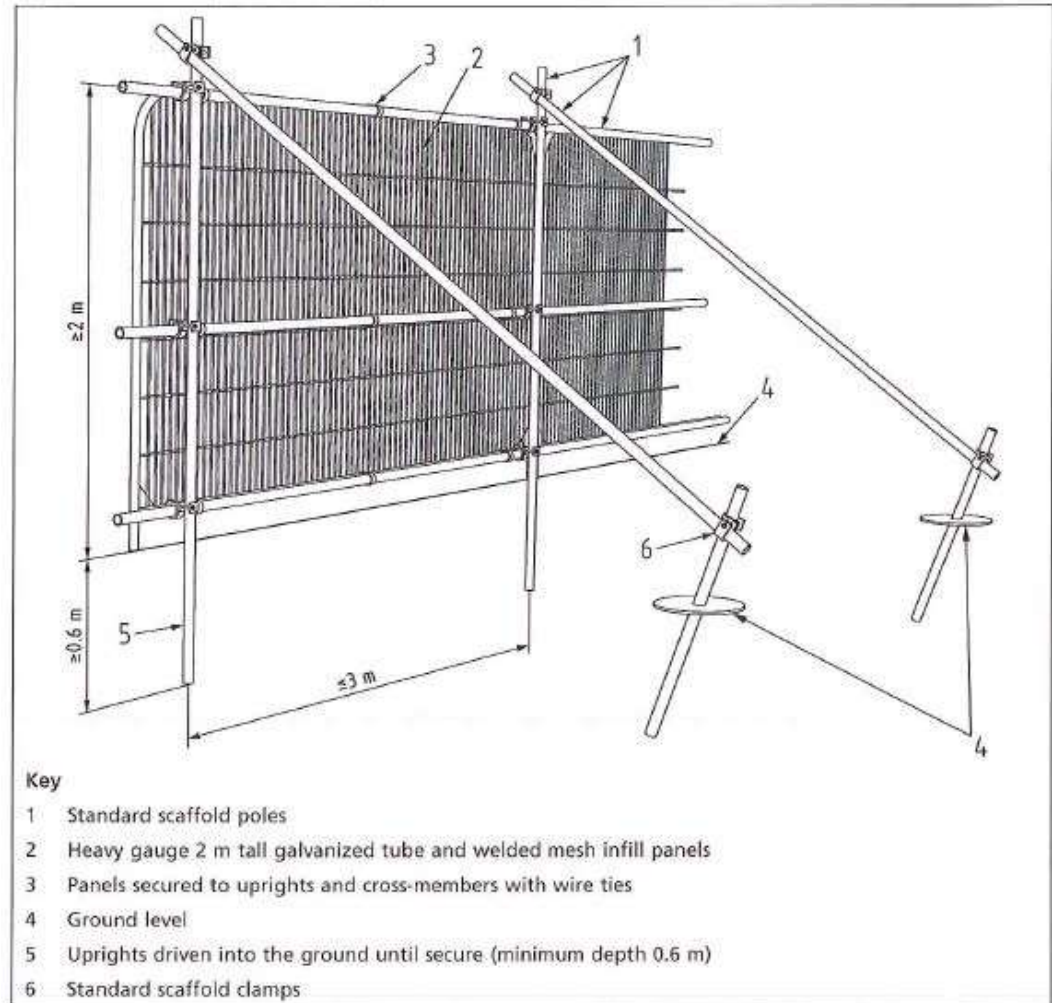
Appendix G: Tree Protective Fencing & Signs



Fencing shall be installed at the location as shown on the Tree Protection Plans to create the Construction Exclusion Zone (CEZ).

Fencing shall remain in place until all construction activity has ceased, and all machinery and materials are removed from site.

Figure 2 Default specification for protective barrier





**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

(TOWN & COUNTRY PLANNING ACT 1990)

**TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.**

**CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY**

Appendix H: SPECIAL Excavation AREA – EXISTING FOOTWAY REMOVAL

In the western edge of the site is an existing slabbed surface with associated kerbing passing close to the base of **Silver Birch T2**.

The proposal requires the removal of this surface and kerbed edging and the replacement with soft landscaped area consisting of topsoil seeded with grass.

To achieve this, the slabbed area and the kerbing will need to be removed and any subbase materials supporting these also removed.

In both instances there are likely to be tree roots underneath the slabs and within the existing sub-base materials.

The area of concern is highlighted on the Tree Protection Plan Revision B (Appendix E) and are labelled Special Excavation Areas.

- All works undertaking footpath and sub-base material removal within the highlight area requires Arboricultural Supervision.

Removal of Existing slabbed footway

- Adjust Tree Protection Fencing to allow access to the CEZ from the western boundary.
- Lightweight machinery is permitted to access along the existing footpath slabs to enable supervised removal of the slabs, kerbs, and sub-base material. At no point is machinery access permitted off the in situ slabbed pathway.
- Working from existing slabs progress east to the extreme end of the footpath. Using a toothed bucket prise up to three slabs length up from the subbase and remove these systematically from the CEZ.
- Immediately upon removal of each section of surfacing, work shall be briefly paused to enable a visual inspection for the presence of tree roots.
- Assessment will be made by the supervising Arboriculturist.
- Upon receiving authorisation to continue the exposed sub-base shall be removed in shallow layers (no greater than 50mm depth) using lightweight machinery with a toothed bucket.
- Immediately upon removal of each section of surfacing, work shall be briefly paused to enable a visual inspection for the presence of tree roots.
- All sub-base material shall be removed outside the CEZ.
- All excavation shall be undertaken under the guidance and supervising of the ACoW. If significant roots are encountered, alternative pedestrian based excavation methods will be employed at the discretion of the ACoW.
- Suitable methods will be either hand digging or vacuum excavation.
- When significant root are exposed the wrapping of the roots in hessian sacking will be required (damp in summer, dry in winter).
- Upon removal of the subbase materials, Tree Protection Fencing must be reinstalled to create a construction exclusion zone in these areas.

Appendix I: References

- BS5837:2012. Trees In Relation to Design, Demolition, and Construction – Recommendations. British Standards Institute. London, UK.
- BS 3998:2010. Tree work. Recommendations. British Standards Institute. London, UK
- Veteran Trees – A Guide to Good Management – Helen Read et al - Natural England (IN13) Published Record 2000
- Management of the Risk from Falling Trees (HSE 2007)
- Managing Deadwood in Forests and Woodlands – Forestry Commission Practice Guide (2012)