



**NUCLEAR MEDICINE CONSOLIDATION FACILITY  
GLAN CLWYD HOSPITAL, BODELWYDDAN  
ARBORICULTURAL IMPACT ASSESSMENT  
JUNE 2023**

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Document Control

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Prepared by	The Environment Partnership (TEP) Ltd
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Approved	Jonathan Smith

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1.0	05/06/2023	HEE	JGS	Approval	Issue

Arboricultural Impact Assessment

1.0 Scope

- 1.1. TEP has been commissioned by BAM Construction Ltd to conduct an arboricultural survey of land at Glan Clwyd Hospital in Bodelwyddan and to make an assessment in accordance with BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.
- 1.2. This report has been produced to support a planning application. It describes the findings of field and desktop surveys; the effects that granting planning permission would have on arboriculture; and measures that are and/or should be incorporated in the proposed development.
- 1.3. A judgement has been made in consideration of the survey findings, desktop search results and the nature of the proposed development that a full report style Arboricultural Impact Assessment (AIA) would not be proportionate. This document presents the content of an AIA in a condensed format, which is considered appropriate for relatively simple sites and/or development in relation to trees.

Survey

- 1.4. The survey was undertaken in January 2023 in accordance with BS 5837 by a qualified arboriculturist. The survey method is included at Appendix B.
- 1.5. A topographical survey was used to record the position of trees and vegetation (Layer Surveys drawing reference: 1687). Where trees were not shown on the topographical survey, their locations were estimated.
- 1.6. Trees on private land outside the application boundary, and at inaccessible locations were surveyed insofar as was practicable. Whilst reasonable effort has been made to ensure the accuracy and comprehensiveness of such records, it cannot be guaranteed.

Limitation

- 1.7. This report relates to a specific development proposal and should not be interpreted as advice in any other circumstance.
- 1.8. This report constitutes a valid basis for the evaluation of impacts on trees resulting from the proposed development for a period not exceeding 2 years from the survey date. After this, it would be necessary to review baseline data and conclusions to ensure reliability.
- 1.9. Where the recommendations of this report have been followed, any future deterioration in tree condition shall not be attributable to the development.

Arboricultural Impact Assessment

2.0 Baseline

2.1. This drawing presents an overview of the existing trees within influencing distance of the proposed development. It also summarises the results of desktop searches for any designations, legal and regulatory restrictions or special status of relevance to arboriculture.

Application Site

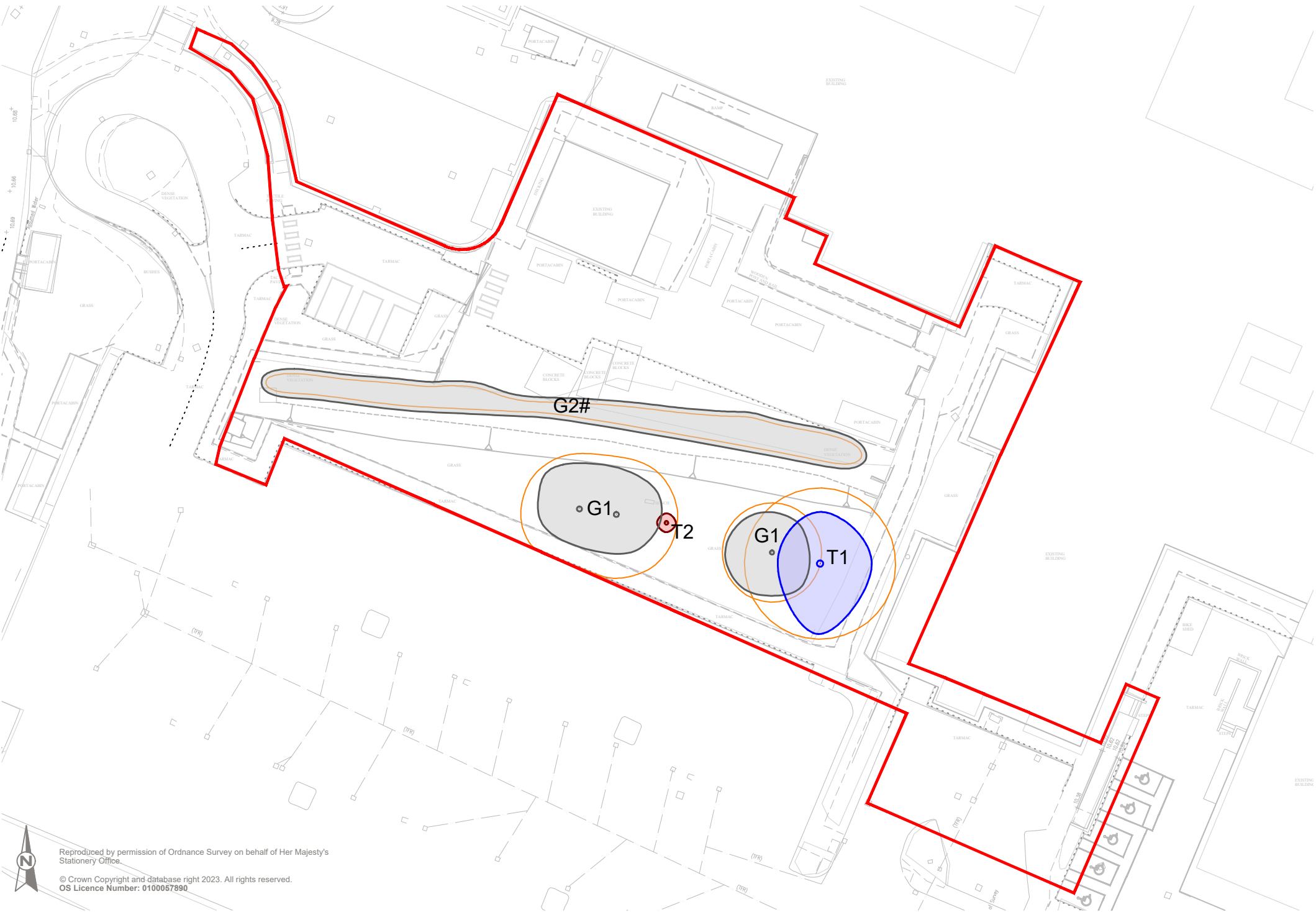
2.2. The application site comprises an area of predominantly hardstanding that is currently in use as a compound containing several shipping containers and a steel frame building. To the south there are grass verges situated on either side of a culverted ditch. Abutting the south-western boundary and southernmost grass verge is a kerbed pavement and car park.

Survey results

- 2.3. 2 individual trees and 2 tree groups were recorded within influencing distance of the application site.
- 2.4. Within the largest grass verge, south of the culverted ditch, are 5 hybrid black poplar trees (T1, T2 and G1). These trees have been unsympathetically pruned and heavily reduced in height previously, with the canopies of T1 and G1 largely comprising regrowth from the wounds. T2 is a standing dead pole with cracking and hollowing of the stem. Of these trees, T1 is the most significant due to its height, size and condition in comparison to the adjacent trees.
- 2.5. Group G2 comprises dense blackthorn and wych elm located within and either side of the culverted ditch. There are several dead elm stems present within the group, likely as a result of Dutch Elm Disease (*Ophiostoma novo-ulmi*) and due to the age of the stems within the group, it is likely others will succumb to the disease. The group currently acts as a screen between the car park and compound area.
- 2.6. Trees have been categorised in accordance with BS 5837 to describe their arboricultural, landscape or cultural qualities: A (high quality), B (moderate quality) C (low quality) and U (unsuitable for retention). The categorisation of tree quality allows a weighting to be given to each tree within the context of proposed development but is not prescriptive.
- 2.7. A Root Protection Area (RPA) has been calculated in accordance with BS 5837. This is based on each tree's stem diameter at 1.5 metres and has been adjusted where necessary to most accurately represent the likely spread of roots in consideration of prevailing conditions. The RPA represents the minimum area around each tree that must be left undisturbed to ensure its survival.
- 2.8. Feature locations, their quality categories, canopy spreads and root protection areas are shown opposite. All arboricultural information recorded during the survey is presented at Appendix A.

Desktop Searches

- 2.9. Denbighshire County Council's online mapping system confirmed that no trees on or immediately adjacent to the site are protected by Tree Preservation Order or within a Conservation Area.
- 2.10. Natural Resources Wales Ancient Woodland Inventory (2021) contains no records within or immediately adjacent to the site.
- 2.11. There are no veteran trees which could be affected by development of the site.
- 2.12. There is no specific database for Wales indicating the locations of mapped arboreal Habitats of Principal Importance (Hedgerow; Broadleaved, Mixed and Yew Woodland; Wood Pasture and Parkland; and Traditional Orchards). However, the site survey observed that no features appear to meet HoPI descriptors.
- 2.13. No assessment of the presence of protected species has been made during the production of this report. Features of possible interest that were observed incidentally during the tree survey are recorded in Appendix A.
- 2.14. Works to and around trees have the capacity to affect protected species, particularly including birds, bats, great crested newts, badgers, dormice, otters and water voles. Contractors should be familiar with the locations and sensitivities of any protected species that are present and take reasonable avoidance measures or comply with the requirements of any licence agreement in accordance with the advice of an ecologist.



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KEY

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- T1/G1 Trees and Groups
- Root Protection Area (RPA)
- Approximate Site Extent
- Approximate location  
(Feature not shown on supplied topographical survey)

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A  
(High quality)
- Category B  
(Moderate quality)
- Category C  
(Low quality)
- Category U  
(Unsuitable for retention)

NOTE: This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

A	Inclusion of approximate site extent boundary	HEE	JGS	05.06.2023
Rev	Description	Drawn	Approved	Date



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Project  
Glan Clwyd Hospital, Bodelwyddan -  
Nuclear Medicine Consolidation Facility  
Title  
Arboricultural Impact Assessment [BASELINE]

Drawing Number  
D8166.04.001

Drawn	Checked	Approved	Scale	Date
HEE	AAB	JGS	1:500 @ A3	02/05/2023



Arboricultural Impact Assessment

3.0 Effects

3.1. In simple terms, the effects on arboriculture comprises an account of which existing trees would not be retained within the proposed development; what significance they have; and whether adverse effects would or can be mitigated or offset.

3.2. This drawing presents the results of an assessment in accordance with BS 5837, including a definitive account of which trees would be removed or pruned.

Proposed development

3.3. The proposed development comprises the construction of a new building with associated parking, access and soft landscaping, some of which will be reconfigured from existing hardstanding. The proposed layout is shown opposite and is based on the Ground Floor Plan (ref: NMC-PDA-ZZ-00-DR-A-20100, Rev P09).

3.4. Where the proposed building is not to be constructed over the existing ditch, it is assumed that the remaining portion of ditch will be remain in situ and open, with a new headwall anticipated close to the building with associated stepped access. If the ditch is to be entirely filled in and levelled, additional tree removal may be required.

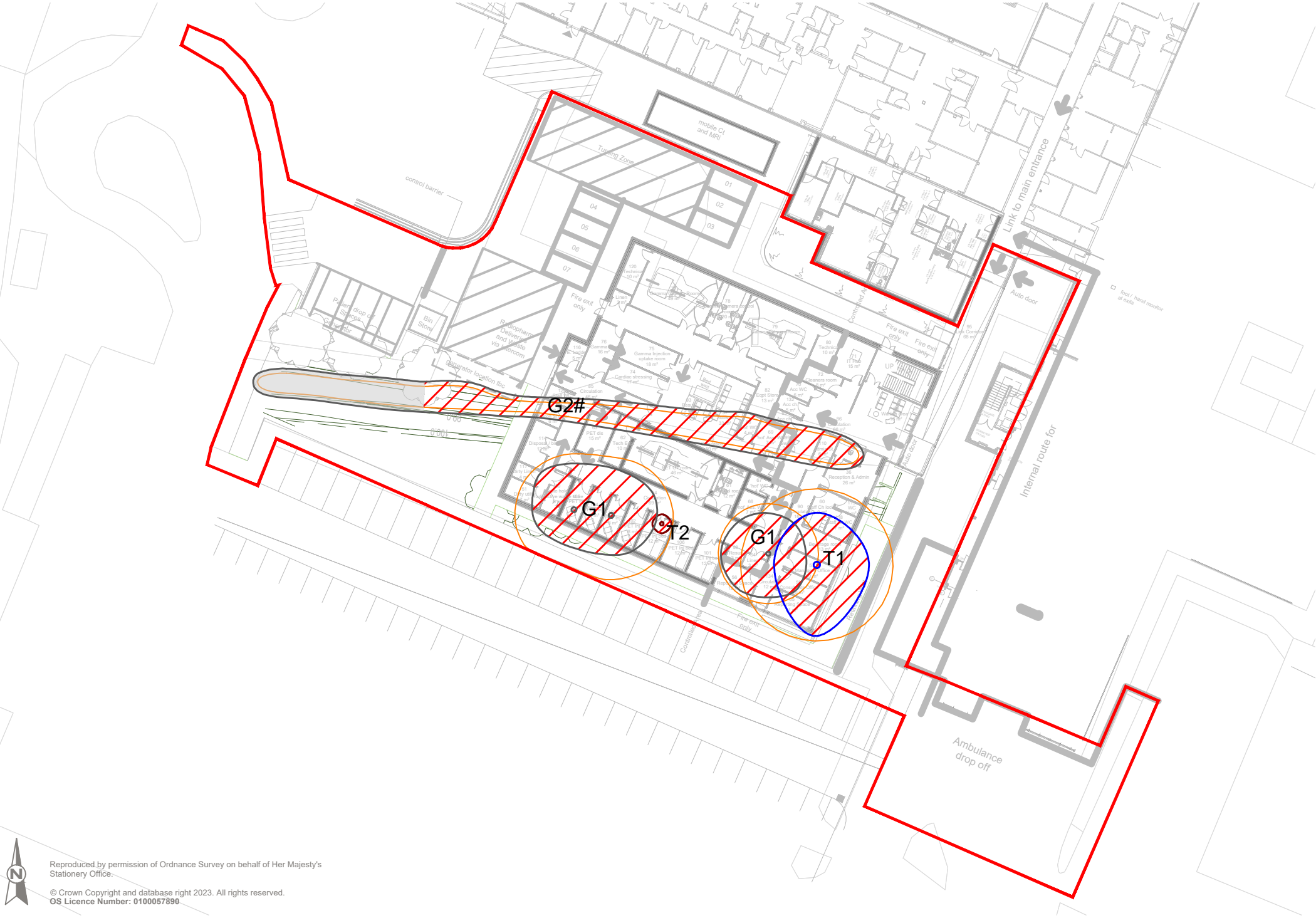
Proposed tree works

3.5. A reasonable worst case assessment of the requirement to prune or remove trees has been made on the basis of BS 5837, the proposed construction methods, and professional judgement. The works listed below and illustrated opposite form part of the proposed development, and would be permitted by the grant of planning consent:

- 3.5.1. Removal of trees T1 and T2.
- 3.5.2. Full removal of group G1 equating 3 trees.
- 3.5.3. Partial removal of group G2 equating to c. 149m² of canopy loss/47 linear metres.
- 3.6. The removal of all features listed above is necessary to accommodate the proposed building, with the exception of a small section of group G2 which is necessary to accommodate a proposed generator, shown indicatively opposite.
- 3.7. The most significant loss associated with the development would be the removal of moderate quality (Category B) tree T1. This is one of the largest trees within the hospital grounds.
- 3.8. All other trees proposed for removal are of low quality (Category C), with the exception of T2 which is of poor quality (Category U). The removal of G1 will result in further loss of amenity. The partial removal of G2 will result in the loss of continuous linear habitat, albeit one containing trees susceptible to disease.
- 3.9. Tree T2 is a Category U feature and is recommended for removal irrespective of development due to its condition and proximity to the existing car park and footpath.

Effects on designated or protected features

- 3.10. Trees are a material consideration and the quality of trees, planning policies, and the presence of any special status or designation is likely to be considered by consenting authorities when determining a planning application.
- 3.11. The removal of trees, without mitigation, constitutes an adverse effect that is likely to be regarded by consenting authorities as contrary to the overarching environmental objective within national planning policy to protect and enhance the natural environment and biodiversity.
- 3.12. In consideration of the desktop search results described previously, there are no adverse effects that cannot be mitigated or offset within the wider hospital grounds and which therefore lead to potential grounds for a refusal of planning permission.
- 3.13. It will be for the consenting authority to evaluate the proposed development, including mitigation measures, in consideration of all relevant local and national planning policies and guidance.



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KEY

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- T1/G1 Trees and Groups

Root Protection Area (RPA)

Approximate Site Extent

Approximate location  
(Feature not shown on supplied topographical survey)

Trees to be retained and protected

- Category C  
(Low quality)

Proposed tree works

- Trees to be removed  
(Canopy outline denotes tree quality category)

NOTE: This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

Rev	Description	Drawn	Approved	Date
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Project  
Glan Clwyd Hospital, Bodelwyddan - Nuclear Medicine Consolidation Facility  
Title  
Arboricultural Impact Assessment [EFFECTS]

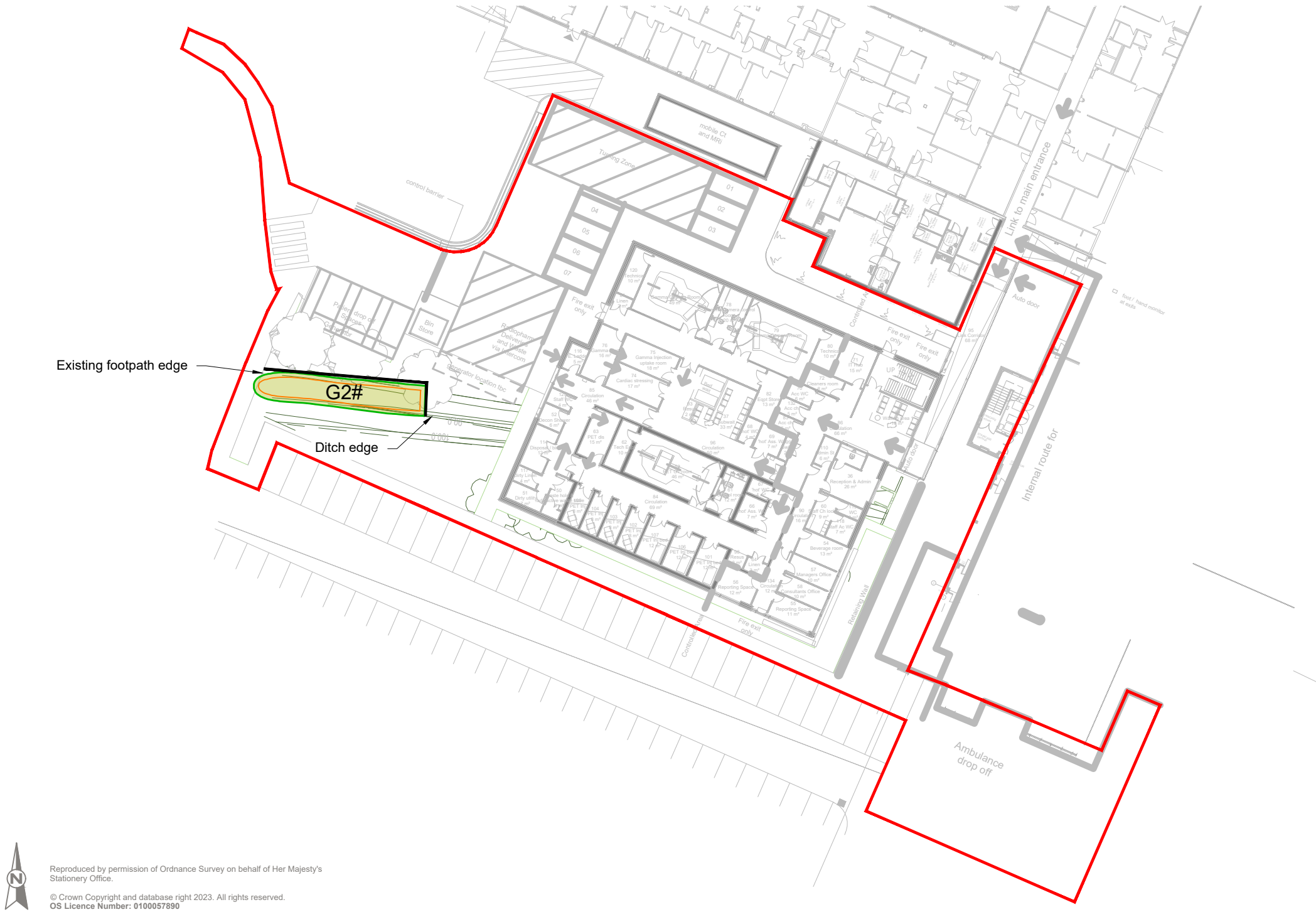
Drawing Number  
D8166.04.002

Drawn	Checked	Approved	Scale	Date
HEE	AAB	JGS	1:500 @ A3	05/06/2023

Arboricultural Impact Assessment

4.0 Mitigation





- 4.1. This drawing describes mitigation measures that are incorporated within the proposed development and would be secured by the grant of planning permission. It also outlines recommended measures, which are not proposed but which could be secured by planning condition or agreement and therefore relied upon to draw conclusions regarding overall effects in planning terms.
- 4.2. This information is presented in the format of a method statement, which describes actions to be completed by the site manager in chronological order.
- Proposed measures**
- 4.3. The site manager and all contractors must observe and implement everything in this section to avoid a breach of planning.
- Pre-start**
- 4.4. The site manager will read, understand and retain responsibility for implementing this document.
- 4.5. A copy of this document in colour and at A3 will be made available for inspection on site and introduced to all relevant contractors.
- 4.6. Arboriculturist and author of this document, Heather Eilbeck, can be contacted on 07767167503, if required to assist with the correct interpretation of this document and/or inspect tree works and tree protection measures.
- 4.7. An Arboricultural Contractor will be appointed to undertake tree works.
- 4.8. The alignment of temporary tree protection measures shown opposite will be marked out accurately.
- 4.9. Tree works shown on drawing D8166.04.002 will be completed in accordance with BS3998: 2010 Tree work - Recommendations.
- 4.10. Tree protection fencing will be installed as shown opposite as a **thick black line**.
- 4.11. The specification for tree protection fencing will be as per Appendix C.
- 4.12. The site manager will inspect and verify the correct installation of tree protection fencing and maintain a photographic record.
- 4.13. Tree protection fencing will not be removed or realigned; and storage, excavation, level change, and access is prohibited within areas of tree protection except as described by this document or an approved Arboricultural Method Statement.
- During construction**
- 4.14. Works will proceed in a careful and logical manner, to prevent accidental damage from cranes, booms and other plant/vehicles.
- 4.15. If major roots (>25mm diameter) are uncovered during construction, works liable to damage them will cease, they will be loosely covered, and arboricultural advice will be sought.
- 4.16. Following completion of all construction works and removal of vehicles, plant, compounds and materials, tree protection will be removed.
- Recommended measures**
- 4.17. The client, site manager and/or contractors should implement everything in this section; compliance may be specifically required by planning condition.
- Planting**
- 4.18. A scheme of tree planting should be produced and implemented to offset adverse effects associated with the proposed development and tree loss.
- 4.19. It is unlikely that all replacement planting could be undertaken within the immediate vicinity of the proposed building due to a lack of available land. It is reasonable however, to assume that there would be sufficient scope to provide replacement planting across the wider hospital site. If this is not possible, offsite planting may need to be considered.
- 4.20. The planting should aim to maintain or enhance the benefits provided by trees, particularly habitat and amenity.
- 4.21. Given the structure and composition of group G1, which comprises 3 trees, and G2, which comprises a linear boundary feature, it would be appropriate to replace these based on the number of trees lost (G1) or on length lost (G2). Therefore, a detailed scheme of planting should include:
- 4.21.1. 10 specimen trees of heavy or extra heavy nursery planting stock.
- 4.21.2. Specimen trees should comprise medium to large growing species to adequately replace the amenity and landscape value lost by removing larger and taller poplars.
- 4.21.3. Species should be suitable for the high target and frequency location. Examples of suitable species include Norway maple, pedunculate oak, common lime, common alder and silver or downy birch. Poplar and willow species should be avoided.
- 4.21.4. Native species hedgerow planting, including common hawthorn and blackthorn, equating to at least 100 linear metres.
- 4.22. Provision should be made for the maintenance of new planting in accordance with BS 8545:2014 Trees: from nursery to independence in the landscape - Recommendations, and replacement of failures for a period of at least 5 years.




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KEY


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-  G1 Retained Group
-  Root Protection Area (RPA)
-  Approximate Site Extent
-  Approximate location  
(Feature not shown on supplied topographical survey)

Tree Protection Measures

-  Tree Protection Fencing  
(c. 21m or 6 Heras Panels)  
(Must be installed prior to works commencement)

Rev	Description	Drawn	Approved	Date

	<b>THE ENVIRONMENT PARTNERSHIP</b>
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com	

Project				
Glan Clwyd Hospital, Bodelwyddan - Nuclear Medicine Consolidation Facility				
Title				
Arboricultural Impact Assessment [MITIGATION]				
Drawing Number				
D8166.04.003				

Drawn	Checked	Approved	Scale	Date
HEE	AAB	JGS	1:500 @ A3	05/06/2023



THE  
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PARTNERSHIP

## APPENDIX A: Arboricultural Data Sheets



## APPENDIX A: Arboricultural Survey Data Sheets

Surveyor Heather Eilbeck  
Survey Date 25.01.2023  
Site Glan Clwyd Hospital, Bodelwyddan - Nuclear Medicine Facility  
Drawing Ref D8166.04.001

*Italicised Feature Ref: Inspection of this feature was restricted*  
*Italicised Values: Feature value was estimated*

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
<b>Trees</b>																	
T1	Hybrid black poplar	14.0	3.5	670	1	5.5	7.5	5.5	4.5	1.7	SE	Mature	Fair	Large poplar tree in grass in close proximity to building and overhanging footpath, desire line and picnic table. Unsympathetically pruned and reduced heavily in height previously, with crown comprising subsequent regrowth stems and branches. Flush cuts with some occlusion. Moderate deadwood stub in upper central canopy.		B ,2	Medium
T2	Hybrid black poplar	8.0	0.0	390	1	1.0	1.0	1.0	1.0	0.0	N	Middle Age	Dead	Standing dead pole with hollowing and cracking of stem evident.	Remove due to proximity to car park and footpath.	U	Very Short
<b>Groups</b>																	
G1	Hybrid black poplar	11 to 13	3.5	440 to 540	3							Middle Age to Mature	Fair	3 trees forming part of former linear group totalling 8 trees previously; 3 of which have been felled and 1 is dead. All have been unsympathetically pruned and reduced in height with crowns now formed of subsequent regrowth stems and branches. Flush cuts with some occlusion.		C ,1, 2	Medium
G2	Blackthorn, Wych elm	3 to 7	0.0	40 to 100	65							Young to Middle Age	Mixed	Linear group of dense stems atop drainage ditch bank. Likely to succumb to Dutch Elms Disease as they mature, with some dead stems already evident. Some parts of group densely ivy clad.		C ,2	Short



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## APPENDIX B: Survey Method

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## Limitation

Trees are dynamic living organisms with a constantly changing structure; even healthy trees can change or decline. Survey information is presented as being correct at the time of survey. Limitations to the reliability of the survey data are noted within Appendix A and the main report text.

## Scope

All woody vegetation with a stem diameter exceeding 75mm is recorded. Below this threshold, vegetation may also be recorded at the discretion of the surveyor. The survey includes woody vegetation within a defined boundary, and on adjacent land where the characteristics, location or context of the tree mean that activity within the boundary could affect the tree, or be influenced by it. This is typically up to 15m outside the boundary.

## Resolution

Vegetation is recorded as either an individual *Tree*, *Group* of trees, *Woodland*, or *Hedgerow*. This is done at the discretion of the surveyor to provide a useful resolution to the survey data, to differentiate between features with varying attributes and group those with common attributes, and collective value or function.

Typically, *Trees* are recorded where they are arranged separately; different from adjacent trees; or where the assessment would benefit from greater detail. *Groups* are coherent arboricultural features comprising trees with a collective form, function, history or management opportunities. *Woodland* is recorded where areas of tree cover have the qualities of a woodland habitat, including age and species structure, natural regeneration, and associated non-arboreal features. *Hedgerow* describes linear features largely comprising woody vegetation that are under, or could be returned to, regular hedgerow management. It should be noted that these terms are also used in other assessment types, sometimes with different definitions.

## Tree locations

The location of trees is based on stem locations and canopy spreads taken from a topographical survey, where available. Where this information is not available, this is noted in Appendix A and locations should be regarded as approximate. Approximate locations are based on one or more of: GPS data captured during the survey; aerial photographs; and measurement from known points of reference. Approximate stem locations are typically accurate to within a few metres. Stem locations are shown for all *Trees*.

*Groups*, *Woodland* and *Hedges* are principally described in terms of their canopy outline, although stem locations may also be shown. Individual tree canopy outlines are projected on Drawings based on measurements taken as described below (see Crown Spread). *Groups*, *Woodland* and *Hedges* canopy outlines are projected based on the same hierarchy of source data as stem locations.

## Tree survey

The survey is conducted from ground level by an arboriculturist, taking account of the tree, and its context. The nature of the soil is not assessed. Non-invasive assessment tools may be used as appropriate, including hypsometer, measuring tape, probe and nylon mallet.

The following attributes are recorded for each feature (see Arboricultural Survey Data Sheets at Appendix A):

<b>Reference Number</b>	A unique code per feature, typically but not necessarily a chronological sequence, in the form <i>Tn</i> for <i>Trees</i> ; <i>Gn</i> for <i>Groups</i> ; <i>Wn</i> for <i>Woodlands</i> ; and <i>Hn</i> for <i>Hedgerows</i>
<b>Species</b>	The common name is given. All species are listed for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> . The Latin name may also be given if further clarification is required.
<b>Height</b>	Top height recorded in metres, or the range for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i>
<b>Canopy Ground Clearance</b>	The height of the canopy above ground level in metres
<b>Stem Diameter</b>	A measurement taken at 1.5 metres above ground level, or the nearest representative point below, in millimetres. For multi-stemmed trees a single figure is calculated according to BS5837 4.6. For <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> , the range of diameters

<b>No. of Stems / Individuals</b>	The number of stems arising below a height of 1.5 metres, or for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> an estimate or count of the number of trees
<b>Crown Spread</b>	Radial branch spread in metres at cardinal points (N, S, E, W) from the location of the <i>Tree</i> stem at ground level (for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> , see <i>Tree Locations</i> )
<b>Lowest Branch Height</b>	The height of the first significant branch at the point of attachment ( <i>Trees</i> only)
<b>Lowest Branch Direction</b>	The direction of growth of the first significant branch from the point of attachment ( <i>Trees</i> only)
<b>Maturity</b>	<p>Classification describing age relative to the species, and size and growth potential, in order to inform management decisions</p> <ul style="list-style-type: none"> <li>• <b>Young</b> means small and/or recently planted and could be relocated, or replaced on a like for like basis</li> <li>• <b>Middle Age</b> means established and independent, within the growth stage of life, and with potential to continue increasing in height and/or spread</li> <li>• <b>Mature</b> means having reached ultimate height and/or spread, given the location and surroundings; further increases will be slow or limited</li> <li>• <b>Mixed Age</b> (<i>Groups</i>, <i>Woodland</i> and <i>Hedgerows</i> only) means comprising all three maturity classes</li> </ul>
<b>Condition</b>	<p>An overall assessment of a feature's physiological and structural state, informing longevity and quality categorisation, and supported by <i>Comments</i></p> <ul style="list-style-type: none"> <li>• <b>Good</b> condition means with vitality and resilience commensurate with species and age, and without significant defects or pathogens</li> <li>• <b>Fair</b> condition means with tolerable reduction of vitality and resilience, and/or remediable or tolerable defects and/or pathogens</li> <li>• <b>Poor</b> condition means with declining or significant loss of vitality and resilience, and/or significant and irreparable defects and/or pathogens</li> <li>• <b>Dead</b> condition means without photosynthetic or metabolic capacity, or moribund and in imminent terminal decline</li> <li>• <b>Mixed</b> (<i>Groups</i> and <i>Woodland</i>) means comprising more than one condition class</li> <li>• <b>Veteran</b> means trees of exceptional value, meeting recognised criteria including age, size and characteristics. Classification is partly informed by the sustained presence of structural defects, physiological decline, and pathogens, and their contribution to biodiversity. Undesirable characteristics in ordinary trees may be desirable in veteran trees, therefore <i>Veteran</i> can be understood as a superlative <i>Condition</i> that supersedes other categories (excluding <i>Dead</i>).</li> </ul>
<b>Comments</b>	A description of all significant characteristics of the feature and its context that are not described by other attribute fields; including observations to support the classification of <i>Condition</i> , <i>Quality Category</i> and <i>Estimated Remaining Contribution</i> as appropriate
<b>Management Recommendations</b>	Recommendations for arboricultural works based on the current land use, in the interests of good arboricultural practice. These are incidental to the primary survey purpose, and not a comprehensive schedule in pursuit of any particular objective.
<b>BS 5837 Quality Category</b>	Tree quality assessment based on Table 1 of BS 5837:2012 (see below) comprising quality categories <b>A</b> , <b>B</b> , <b>C</b> and <b>U</b> and sub-categories <b>1</b> , <b>2</b> and <b>3</b>
<b>Estimated Remaining Contribution</b>	<p>A forecast of the durability of the feature in its current form and context, and therefore the reliance that can be placed on any benefits or functions it provides. This is influenced by <i>Species</i> and <i>Condition</i>, and is not necessarily a forecast of life expectancy.</p> <ul style="list-style-type: none"> <li>• <b>Long</b> means more than 40 years</li> <li>• <b>Medium</b> means 20 to 40 years</li> <li>• <b>Short</b> means 10 to 20 years</li> <li>• <b>Very Short</b> means less than 10 years</li> </ul>

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)				
<b>Category U</b> 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"><li>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)</li><li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li><li>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</li></ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
<b>Category A</b> 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
<b>Category B</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
<b>Category C</b> 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

**Table 1:** Extract from **British Standards Institution (2012) BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations**, page 9

### Note on Root Protection Areas:

Data is captured during the survey to inform the design of Root Protection Areas (RPA). These are a design tool, representing the area around a tree in which restrictions to some activities may be required to avoid significant harm, particularly to roots and soil. The RPA is a function of *Stem Diameter*, and additional considerations including management history, barriers to root growth, topography, ground conditions and tree characteristics. These factors are combined by an arboriculturist to produce a buffer zone for each feature from which the exclusion of construction activities would ensure the continued reliability of the survey data at Appendix A, including *Condition*, *BS 5837 Quality Category* and *Estimated Remaining Contribution*.

For *Trees*, RPA is defined as a circle with a radius 12 times the *Stem Diameter*, which may be modified to reflect the considerations above.

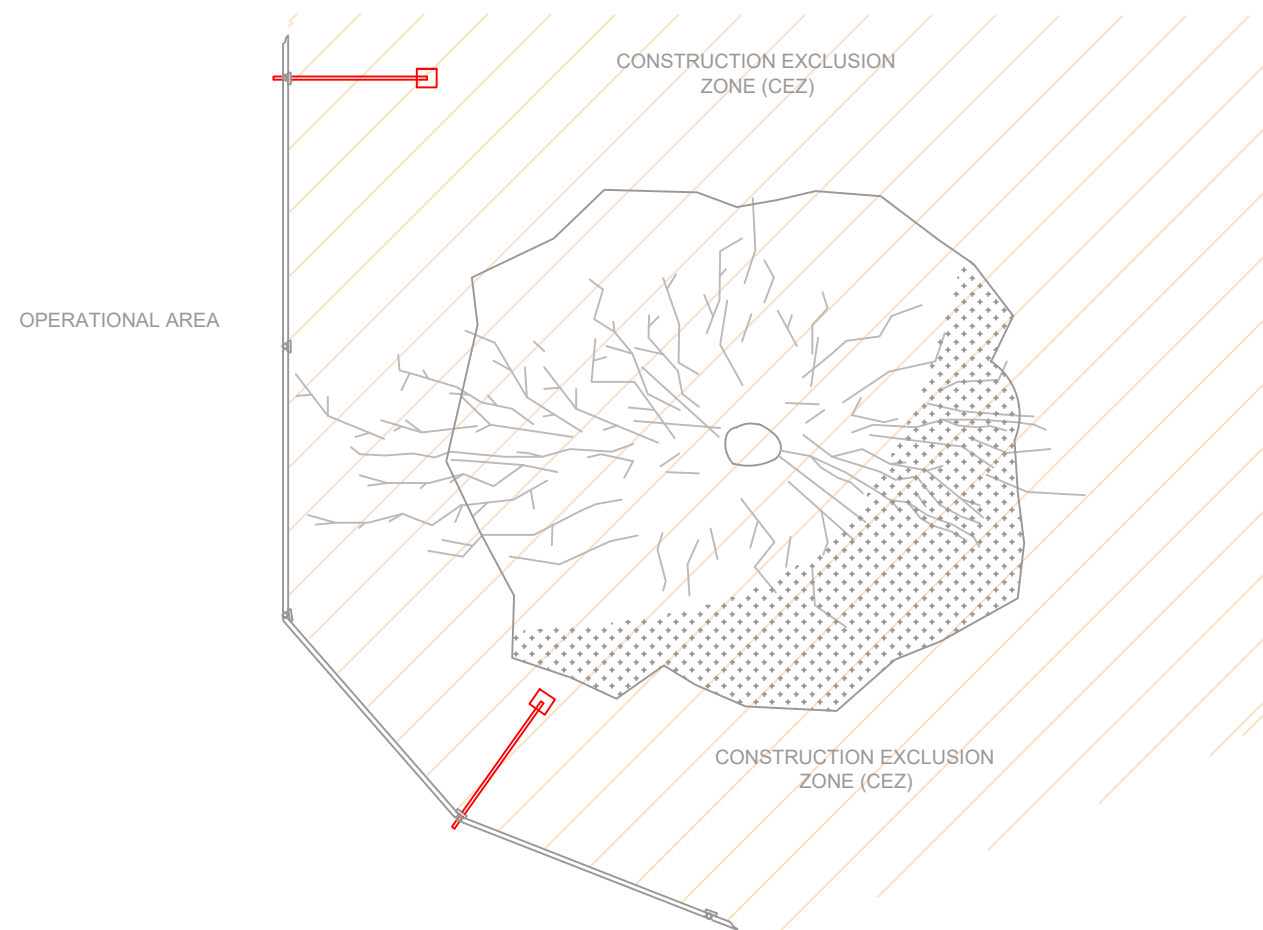
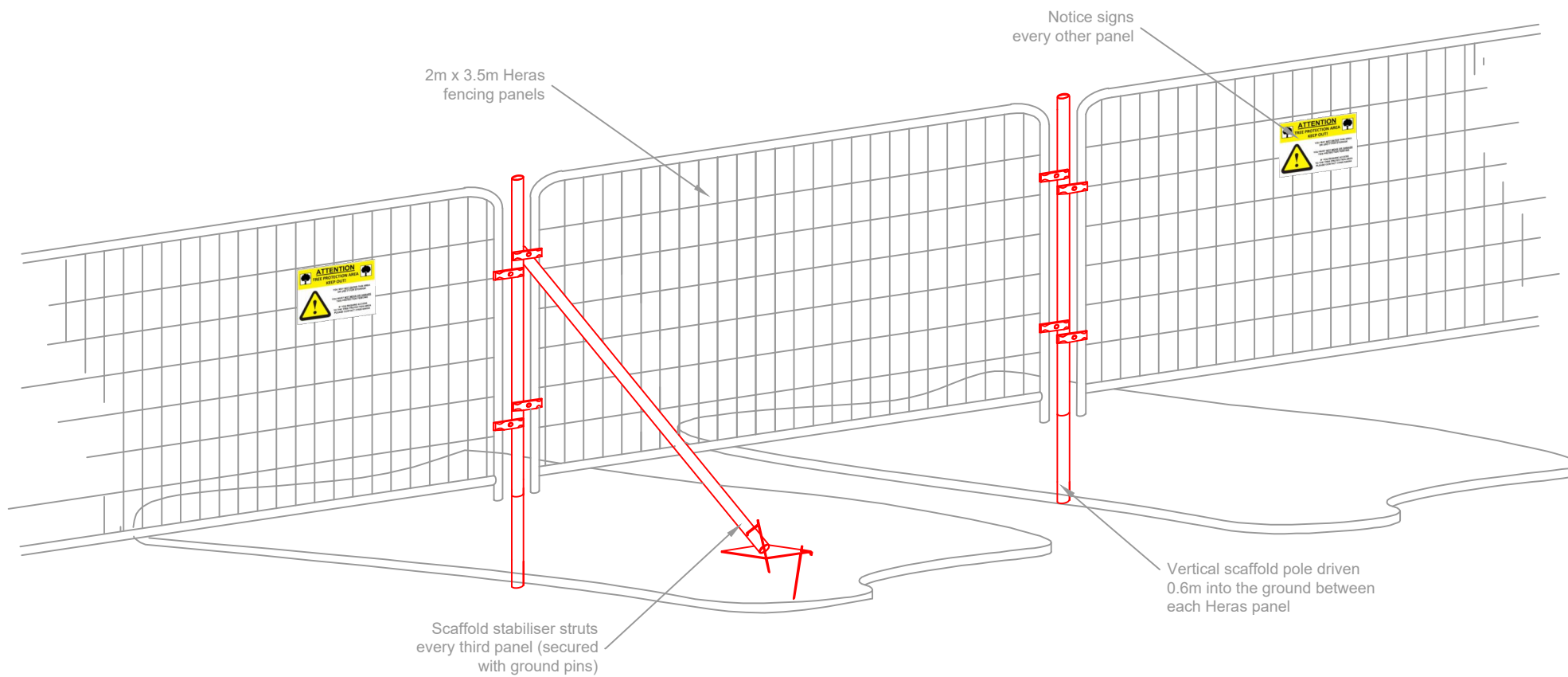
For *Groups* and *Woodland* RPA is based on the size and location of peripheral constituent trees, and presented as an offset from the canopy edge giving equivalent or greater protection to all trees of any size, or modified to reflect significant variation in constituent tree sizes and/or the considerations above.

For *Hedgerow*, no RPA is shown. Typically, hedgerow requires a smaller stand-off than trees due to reduced crown dimensions. Any stand-off should include sufficient space for access and ongoing management and should therefore normally be based on the canopy spread rather than root spread.



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## APPENDIX C: Specification Drawings



Per 3No. Heras panels (10.5m)	
Component	Quantity
2m x 3.5m Standard Heras panels	3
3m Galvenised steel scaffold pole	3
Heras fecurity fence clip	12
Heras stabilising support bar	1
Stabilising pin	2
Tree protection notice	2

Notes:

Rev	Description	Drawn	Approved	Date
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TEP

THE ENVIRONMENT PARTNERSHIP

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH  
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project

Title  
Temporary tree protection fencing for use on soft surfaces

Drawing Number  
TEP.ARB.FEN.001

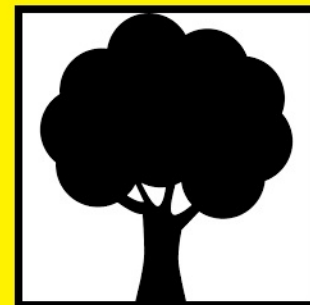
Drawn	Checked	Approved	Scale	Date
TDP	RMG	JGS	(not to scale) @ A3	08/07/2019





# **ATTENTION**

**TREE PROTECTION AREA  
KEEP OUT!**



**YOU MAY NOT ENTER THIS AREA  
OR USE IT FOR STORAGE**

**YOU MUST NOT MOVE OR DAMAGE  
THIS PROTECTION FENCING**

**IF YOU REQUIRE ACCESS  
TO THE TREE PROTECTION AREA  
PLEASE CONTACT 01925 844004**

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