



BROAD STREET MALL
READING
ARBORICULTURAL IMPACT ASSESSMENT
JANUARY 2024

TEP
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Document Control

Document Title	Arboricultural Impact Assessment
Prepared for	McLaren (Broad Street Mall) Ltd and UREF III LP
Prepared by	The Environment Partnership (TEP) Ltd
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0.2	08/12/23	AAB	RMG	Approval	Draft
1.0	10/01/24	AAB	RMG	Approval	Issue

Arboricultural Impact Assessment

1.0 Scope

- 1.1. TEP has been commissioned by McLaren (Broad Street Mall) Ltd and UREF III LP to conduct an arboricultural survey of land at Broad Street Mall, Reading 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 December 2022 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 (drawing reference: S7150357P0028-P0035). 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 date of survey. 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. Broad Street Mall is located in Reading town centre, approximately 100m to the east of the A329 road and 500m to the south of the railway station. It is bounded by Oxford Road to the north, St. Mary's Butts to the east, Dusseldorf Way to the south and Queen's Walk to the west.

Survey results

- 2.3. 5 individual trees and 2 groups of trees were recorded within influencing distance of the application site.
- 2.4. The tree population predominantly comprises individual trees and tree groups located to the south of the existing Broad Street Mall building along Dusseldorf Way. A small number of individual trees are located to the east of the site along Hosier Street.
- 2.5. The most prominent trees on site are located within tree group G2 along Dusseldorf Way. The group comprises 8 trees growing in a raised grass area divided by pedestrian paths and have been previously crown raised, but are in good condition generally. They provide good visual amenity and screening of nearby buildings. Species comprise Norway maple, sugar maple and London plane. The western compartment of this group is bordered by a retaining wall to the north which will have restricted root growth in this direction.
- 2.6. A dense group of trees (G1) is growing on a steep bank down to the road along the southern edge of the site. The group provides good screening of the buildings and road to the south.
- 2.7. Two individual maple trees (T4 and T5) are located in a grassed area to the south west of the site. Both trees are in good condition with some minor epicormic growth and bark inclusion.
- 2.8. Two middle aged London plane trees (T1 and T2) in good condition are located to the east of the site along Hosier Street, adjacent to St. Mary's Butts. A small cherry tree (T3) is also located to the back of the buildings along Hosier Street but is growing in close proximity to an existing building.
- 2.9. 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.
- 2.10. 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.
- 2.11. 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

- 2.12. The Reading Borough Council Tree Preservation Order Directory confirmed that no trees on or adjacent to the site are protected by Tree Preservation Order or within a Conservation Area.
- 2.13. Natural England's Ancient Woodland Inventory (Provisional) for England contains no records for the site.
- 2.14. There are no veteran trees which could be affected by development of the site.
- 2.15. The site is not within a Community Forest.
- 2.16. There are no mapped Habitats of Principal Importance (Hedgerow, Deciduous Woodland, Wood Pasture and Parkland, and Traditional Orchard) on the site. Observations made during the site survey support this.
- 2.17. 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.
- 2.18. 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.



KEY

[This drawing must be reproduced in colour]

- T1/G1 Trees
- Root Protection Area (RPA)
- Survey Boundary
- 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).



Rev	Description	Drawn	Approved	Date
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Project
Broad Street Mall, Reading

Title
Arboricultural Impact Assessment [BASELINE]

Drawing Number
D9758.001

Drawn	Checked	Approved	Scale	Date
REC	HEE	AAB	1:1,000 @ A3	09/01/2023

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 a mixed-use scheme of 644 dwellings and 1354m² commercial space. The proposed layout is shown opposite and is based on drawings 332110742_5500_SK0044 and SK0045 P01 provided by Stantec. The development is proposed along the southern edge of Broad Street Mall and will involve the partial demolition and replacement of existing buildings in this location.

3.4. Works to enable construction to take place will require the demolition of part of Dusseldorf Way and construction of an access ramp from the basement level.

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. G2 - canopy reduction of approximately 2.5m along northern edge of western compartment

3.5.2. T3 - remove to accommodate construction access and scaffolding

3.6. Two trees located within the western compartment of group G2 will require crown management in the form of reduction to ensure a 2.5m clearance from the proposed building facade to allow adequate space for the erection of scaffolding.

3.7. One tree (T3) will be removed to allow construction access to the east and ensure a 2.5m clearance from the proposed building facade for scaffolding erection. At present, the tree is growing in an unsuitable location directly adjacent to an existing building. This poor location means the tree would never reach its full potential in terms of amenity and habitat provision, and the consequence of its removal is negligible.

3.8. Demolition of Dusseldorf Way and construction of an access ramp has the potential to affect the rooting environment of trees in group G2. This element has been designed to minimise the impact on these trees by ensuring retention of the existing retaining wall and restricting construction activities to within the footprint of Dusseldorf Way.

3.9. Further detail of construction activities is described on page 4.

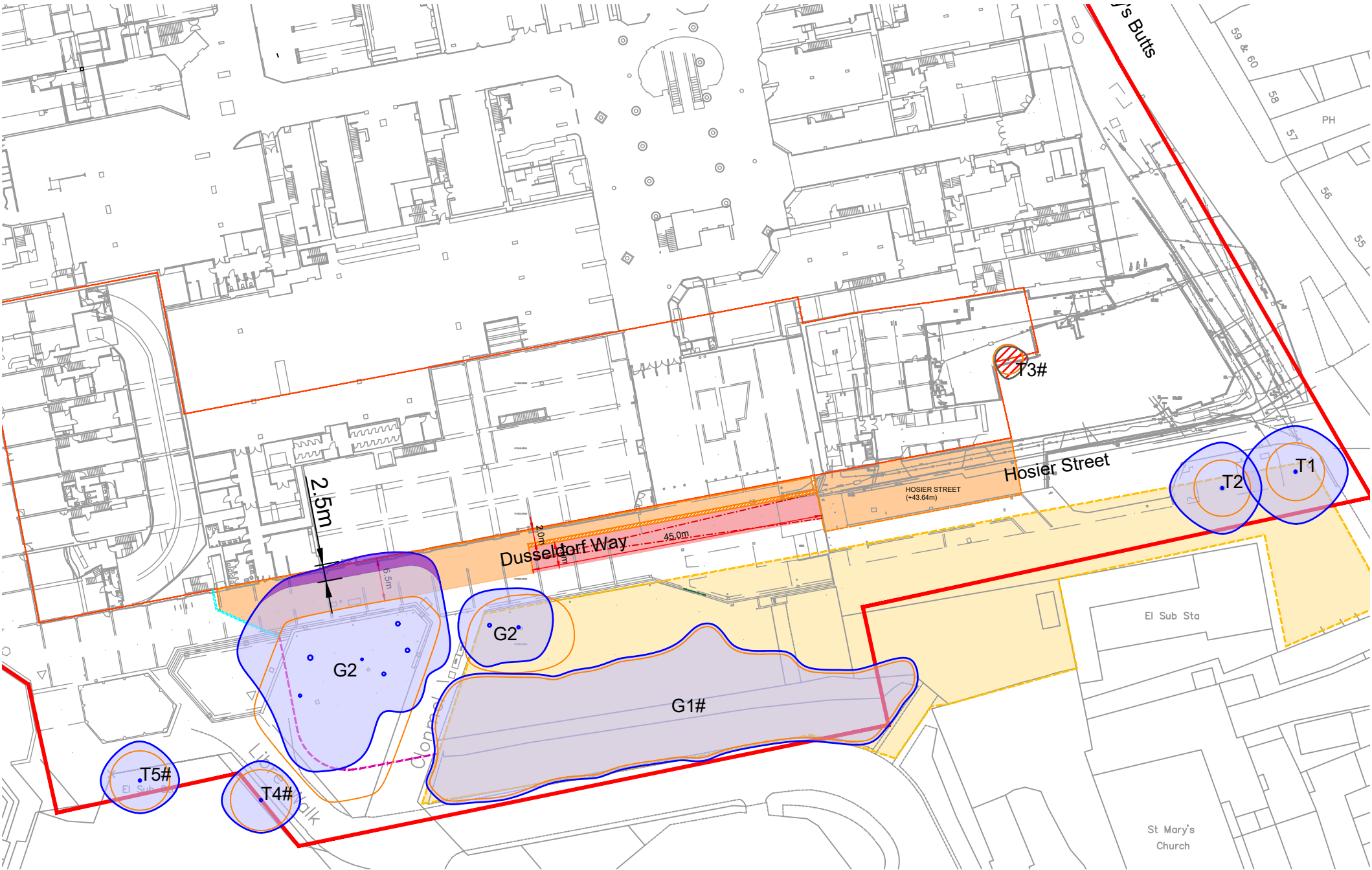
Effects on designated or protected features

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 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.



KEY

[This drawing must be reproduced in colour]

- T1/G1 Trees
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location (Feature not shown on supplied topographical survey)

Trees to be retained and protected

- Category B (Moderate quality)
- Category C (Low quality)

Proposed tree works

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

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



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Project
Broad Street Mall, Reading

Title
Arboricultural Impact Assessment [EFFECTS]

Drawing Number
D9748.002

Drawn	Checked	Approved	Scale	Date
AAB	HEE	RMG	1:750 @ A3	20/11/2023

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, Angus Blankenstein, can be contacted on 07767 167506, 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 fencing, shown opposite as a **thick black line**, will be marked out accurately.
- 4.9. Where a **thick dashed blue line** is shown on the plan opposite, existing fencing is to be retained in situ throughout construction and will provide adequate protection in lieu of tree protection fencing. Should this be removed, temporary tree protection fencing must be installed at the same alignment.
- 4.10. Tree works shown on drawing D9758.002 will be completed in accordance with BS3998: 2010 Tree work - Recommendations.
- 4.11. Tree protection fencing will be installed as shown opposite.
- 4.12. The specification for tree protection fencing will be as per Appendix C.
- 4.13. The site manager will inspect and verify the correct installation of tree protection and maintain a photographic record.
- 4.14. 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

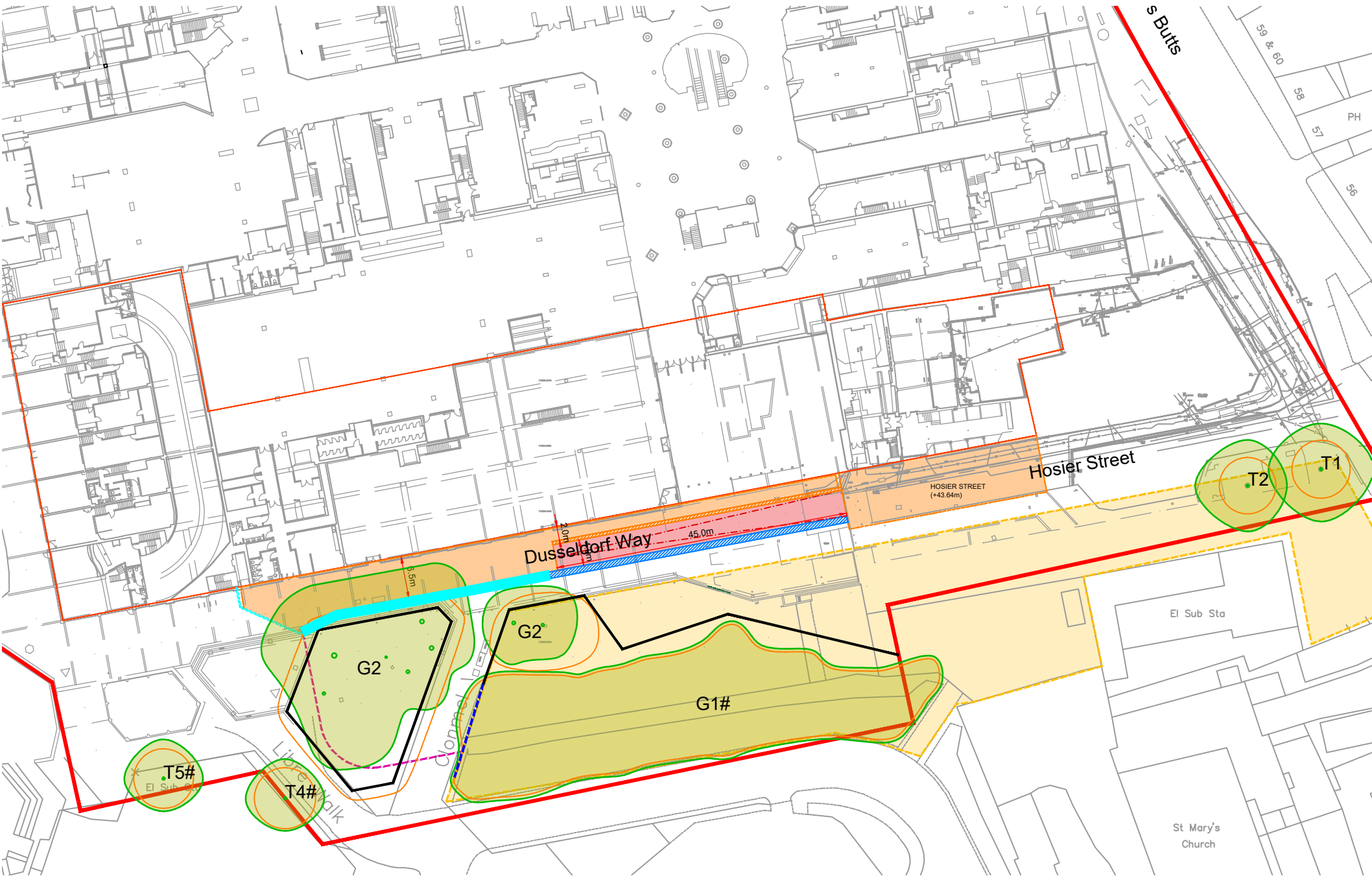
- 4.15. The demolition of Dusseldorf Way and construction of an access ramp will take place within the existing footprint of Dusseldorf Way and retain the existing wall on the northern edge of the podium where group G2 is situated. A new temporary retaining wall will be constructed during these works which will be situated north of the podium edge.
- 4.16. Existing retaining structures and the hard surfacing on Dusseldorf Way means that roots are unlikely to be present in the working area and construction can proceed without constraint.
- 4.17. Works will proceed in a careful and logical manner, to prevent accidental damage from cranes, booms and other plant/vehicles.
- 4.18. 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.
- 4.19. Following completion of all construction works and removal of vehicles, plant, compounds and materials, tree protection will be removed.

Recommended measures

- 4.20. The client, site manager and/or contractors should implement everything in this section; compliance may be specifically required by planning condition.

Planting

- 4.21. A scheme of tree planting should be produced and implemented to offset adverse effects associated with the proposed development and tree loss.
- 4.22. The planting should aim to maintain or enhance the benefits provided by trees, particularly visual amenity. It should include:
- 4.22.1. A minimum of 15 no. trees as indicated to roof gardens on the proposed layout to ensure a net gain of canopy cover at the site
- 4.22.2. Wherever possible, trees with at least a medium mature size to enhance ecosystem services provision
- 4.22.3. Species which are suitable for planting in urban conditions such as Ginkgo biloba and Liquidambar styraciflua
- 4.23. 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.



KEY

[This drawing must be reproduced in colour]

- T1/G1 Retained Trees
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location (Feature not shown on supplied topographical survey)
- Temporary retaining wall
- Tree Protection Fencing (c. 161m or 46 Heras Panels) (Must be installed prior to works commencement)
- Existing Fencing (Must be retained in situ throughout construction in lieu of tree protection fencing)
- Proposed Trees



Rev	Description	Drawn	Approved	Date
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Project
Broad Street Mall, Reading

Title
Arboricultural Impact Assessment [MITIGATION]

Drawing Number
D9758.003

Drawn	Checked	Approved	Scale	Date
AAB	HEE	RMG	1:750 @ A3	20/11/2023



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APPENDIX A: Arboricultural Data Sheets



APPENDIX A: Arboricultural Survey Data Sheets

Surveyor Angus Blankenstein
Survey Date 12.09.2023
Site Protos Carbon Capture Facility
Drawing Ref D10026.001

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
Trees																	
T1	Sycamore	13.0	1.0	794	7	7.0	7.0	7.5	8.0	2.0	NW	Mature	Good	Large multistemmed tree next to ditch. Possibly 2 trees but unable to confirm. Broad spreading crown. Good vigour and no major defects		B ,1, 2	Long
T2	Sycamore	9.0	1.0	431	2	4.0	4.0	3.5	6.0	2.0	W	Middle Age	Fair	Large twin stemmed tree growing on ditch bank. Access restricted. Numerous longitudinal wounds on stems and branches with varying levels of decay. Dense ivy into crown. Suppressed to east by large willow. Good vigour		B ,2, 3	Medium
T3	Sycamore	5.0	0.5	140	1	1.5	1.0	2.0	1.5	0.5	W	Middle Age	Good	Small probably self set tree on edge of ditch.		C ,1	Long
Groups																	
G1	Crack willow	7 to 8	1.0	350 to 700	2							Middle Age to Mature	Fair	Pair of failed willows in ditch. Very vigorous regrowth typical for species. Large wounds, splits and cavities to main stems. Canopies comprised of smaller stems. Excellent vigour		C ,2, 3	Medium
G2	Sycamore, Common hawthorn, Crack willow	3 to 6	0.0	75 to 210	30							Middle Age	Fair	Linear group along edge of track and ditch. Some multistemmed forms. Dense undergrowth in places.		C ,2	Long
G3	Silver birch, Common dogwood, Common hazel, Common hawthorn, Spindle, Aspen, Blackthorn, Goat willow, Crack willow, Elder, Wych elm, Guelder rose	1.5 to 5	0.0	50 to 75	300							Young to Middle Age	Good	Extremely dense group of native tree planting. High species diversity. Good habitat feature		C ,1, 2	Long
G4	Sycamore, Common hawthorn, Pedunculate oak, Goat willow	1.5 to 4.5	0.0	30 to 50	20							Young	Fair	Small self set trees forming broken linear group. Some multistemmed forms		C ,2, 3	Long
G5	Common hazel, Common hawthorn, Common ash, Elder	2 to 4.5	0.0	50 to 160	40							Middle Age	Fair	Fragmentary linear group or outgrown hedge. Dense in places. Some multistemmed forms.		C ,2	Medium
G6	Sycamore, Common hawthorn, Common ash, Goat willow, Elder	2 to 8	0.5	50 to 300	40							Middle Age	Fair	Linear group along ditch. Slightly sparse in places. Somewhat effective screen. Some multistemmed forms. Dead wood throughout		C ,2	Long
G7	Sycamore, Common hawthorn, Common ash, Crack willow, Elder	2 to 14	1.0	75 to 650	100							Middle Age	Fair	Large group of tree with of Marsh Lane. Large ash and sycamore with good understory. Dead wood throughout. Overhangs track in places but canopies quite high. Some cavities and decay pockets. Good screen and habitat feature		B ,2, 3	Long



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APPENDIX B: Survey Method

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):

Reference Number	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>
Species	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.
Height	Top height recorded in metres, or the range for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i>
Canopy Ground Clearance	The height of the canopy above ground level in metres
Stem Diameter	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

No. of Stems / Individuals	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
Crown Spread	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>)
Lowest Branch Height	The height of the first significant branch at the point of attachment (<i>Trees</i> only)
Lowest Branch Direction	The direction of growth of the first significant branch from the point of attachment (<i>Trees</i> only)
Maturity	Classification describing age relative to the species, and size and growth potential, in order to inform management decisions • Young means small and/or recently planted and could be relocated, or replaced on a like for like basis • Middle Age means established and independent, within the growth stage of life, and with potential to continue increasing in height and/or spread • Mature means having reached ultimate height and/or spread, given the location and surroundings; further increases will be slow or limited • Mixed Age (<i>Groups</i>, <i>Woodland</i> and <i>Hedgerows</i> only) means comprising all three maturity classes
Condition	An overall assessment of a feature's physiological and structural state, informing longevity and quality categorisation, and supported by <i>Comments</i> • Good condition means with vitality and resilience commensurate with species and age, and without significant defects or pathogens • Fair condition means with tolerable reduction of vitality and resilience, and/or remediable or tolerable defects and/or pathogens • Poor condition means with declining or significant loss of vitality and resilience, and/or significant and irreparable defects and/or pathogens • Dead condition means without photosynthetic or metabolic capacity, or moribund and in imminent terminal decline • Mixed (<i>Groups</i> and <i>Woodland</i>) means comprising more than one condition class • Veteran 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>).
Comments	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
Management Recommendations	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.
BS 5837 Quality Category	Tree quality assessment based on Table 1 of BS 5837:2012 (see below) comprising quality categories A , B , C and U and sub-categories 1 , 2 and 3
Estimated Remaining Contribution	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. • Long means more than 40 years • Medium means 20 to 40 years • Short means 10 to 20 years • Very Short means less than 10 years

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	- 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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			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

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.

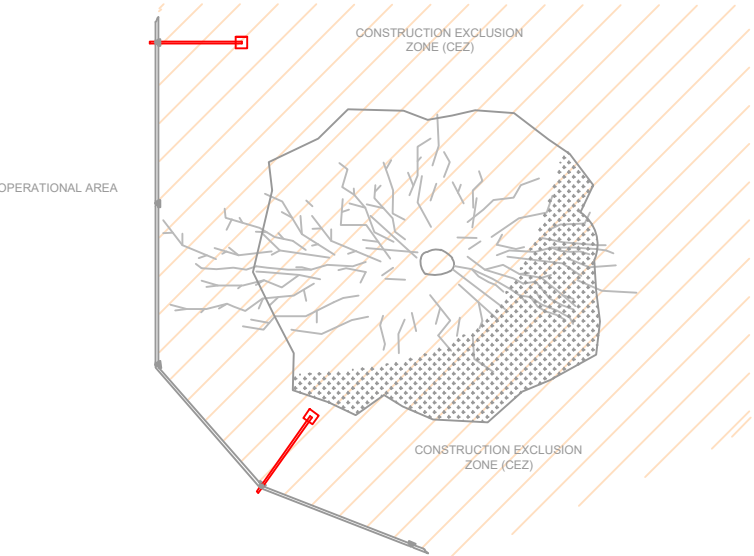
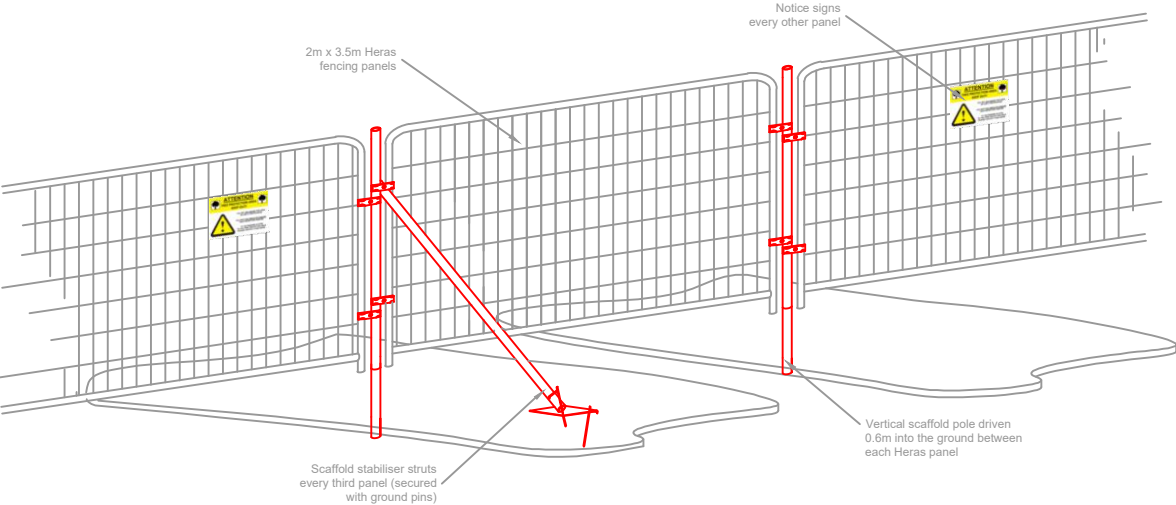
For *Hedgerow*, no RPA is shown. Typically, hedgerow requires a smaller stand-off than trees due to reduced crown dimensions. Any stand-off should include sufficient space for access and ongoing management and should therefore normally be based on the canopy spread rather than root spread.



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APPENDIX C: Specification Drawings

Tree Protection Fencing for use on soft surfaces

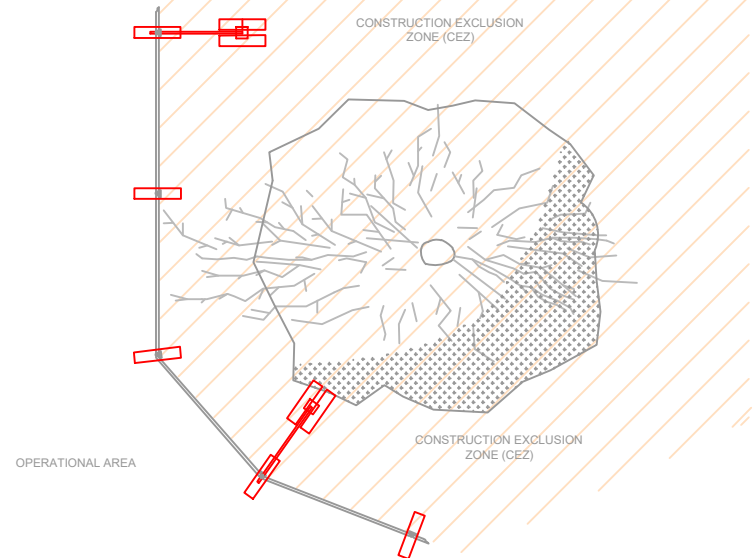
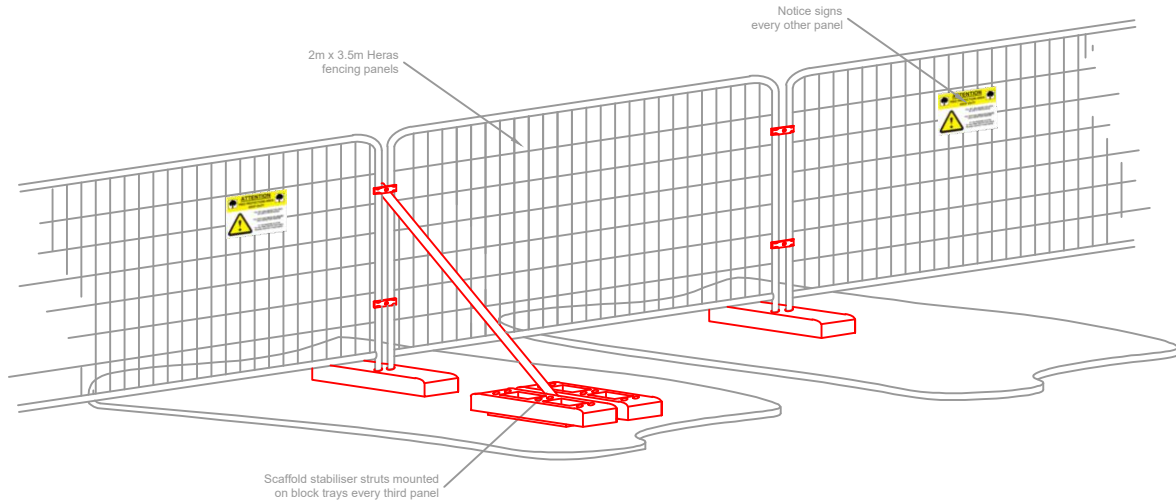


Per 3No. Heras panels (10.5m)

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:

Tree Protection Fencing for use on hard surfaces



Per 3No. Heras panels (10.5m)

Component	Quantity
2m x 3.5m Standard Heras panels	3
Rubber fencing block tray (footing)	5
Scaffold clamp double coupler	6
Heras stabilising strut support bar	3
Tree protection notice	2

Notes:

Rev	Description	Drawn	Approved	Date
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Project

Title
Temporary tree protection fencing specifications

Drawing Number
TEP.ARB.FEN.003

Drawn	Checked	Approved	Scale	Date
TDP	RMG	JGS	(not to scale) @ A3	09/07/2019

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