



PHOENIX PARK
THURNSCOE
ARBORICULTURAL IMPACT ASSESSMENT
JULY 2024

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Document Control

Document Title	Arboricultural Impact Assessment
Prepared for	Land Trust
Prepared by	The Environment Partnership (TEP) Ltd
Document Ref.	10590.001
Date	June 2024
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Amendment History					
Version	Date	Modified by	Approved by	Reason(s) for issue	Status
0.1	09/07/24	TDP	HEE	Checking	Draft
1.0	12/07/24	TDP	HEE	Approval	Superseded
2.0	26/07/24	TDP	HEE	Red line boundary update	Final

Arboricultural Impact Assessment

1.0 Scope

- 1.1. TEP has been commissioned by Land Trust to conduct an arboricultural survey of land at Phoenix Park, Thurscoe 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 June 2024 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 (Ellam Land Surveys drawing reference: 8536_2D/1). Where trees were not shown on the topographical survey, their locations were estimated.
- 1.6. Trees at inaccessible locations were surveyed insofar as was practicable. Most trees are in dense groups within which movement on foot is difficult or impossible. Whilst reasonable effort has been made to ensure the accuracy and comprehensiveness of 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. 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

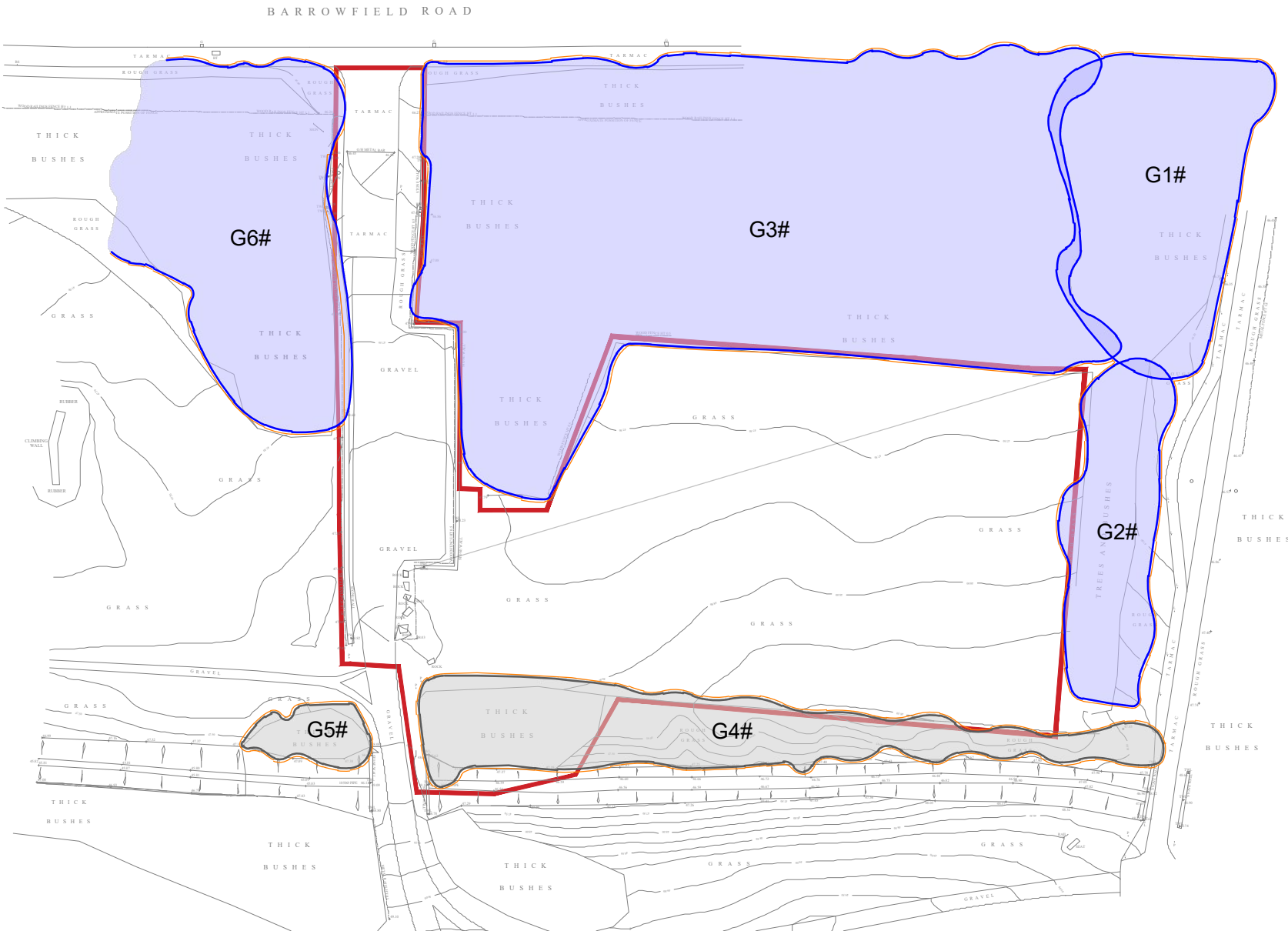
2.2. The site is within Phoenix Park, Thurnscoe. The park is on the site of the former Hickleton Colliery, which closed in the 1990s and is now owned by Land Trust, and managed in partnership with The Conservation Volunteers. It includes woodland, grassland, paths, sculptures, and play equipment. The application site includes a vehicle access off Barrowfield Road, a car park, and parts of the two adjacent field parcels to the east and west.

Survey results

- 2.3. 6 tree groups were recorded within influencing distance of the application site.
- 2.8. These were planted as part of the site's remediation, following the closure of the colliery. The trees therefore comprise groups of woodland and structure planting that are not yet functionally mature, or at their full height or spread.
- 2.11. Trees along Barrowfield Road (G6 and G3) are mostly shrubby, with significant proportions of common dogwood, blackthorn, and hazel, as well as tall ruderal herbs and dog rose, particularly along the southern edge. The occasional taller trees are mostly birch, and a few larch that have all died. The groups provide excellent screening and a backdrop for the park, as well as habitat opportunities. There are few trees with large potential size, although the birch, rowan, sycamore and crab apple will increase from their current modest size.
- 2.12. Taller trees are confined to groups G1 and G2, alongside a public footpath into the park from Barrowfield Road. The change in composition moving eastwards from G3 to G1 is relatively abrupt. This may indicate two different planting schemes, although they now form a single contiguous area. Species with larger mature size such as field maple, sycamore and oak are present, as well as a significant proportion of ornamental, non-native black locust, and a birch-leaved maple. They mark the entrance to the park, and delineate the trail and field parcels, as well as providing habitat and connectivity.
- 2.13. Groups G4 and G5 comprise relatively small and low density scrub along a swale. Most of the species are relatively small, including a large proportion of osier, common dogwood and hawthorn, as well as red twig variegated dogwood and ornamental privet. There are also turkey oak planted occasionally along the swale. Although these are still similar to the surrounding herbs and scrub, they have the potential to grow significantly.
- 2.14. 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.
- 2.15. Root Protection Areas (RPA) have been calculated in accordance with BS 5837, based on tree stem diameter at 1.5 metres, and adjusted as necessary to most accurately represent the likely spread of roots in consideration of prevailing conditions. The RPA represents the minimum area that must be left undisturbed to ensure tree survival. Due to the size and age of these trees, protecting the *canopy spread* is at least equivalent to protecting the RPA. In most cases, the true RPA for individual trees would be smaller than this.
- 2.16. 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

- 2.17. There are no Tree Preservation Orders, Conservation Areas, ancient woodland, or ancient or veteran trees which could be affected by development of the site. The site is not within a Community Forest.
- 2.18. There are no mapped Habitats of Principal Importance (Hedgerow, Deciduous Woodland, Wood Pasture and Parkland, and Traditional Orchard) on the site. However, the groups have the potential to develop into Deciduous Woodland.
- 2.26. No assessment of the presence of protected species has been made during the production of this report. 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.
- 2.27. The site is within the Greenbelt, and is allocated as Greenspace in the Local Plan. It is also within the Dearne Valley Green Heart Nature Improvement Area, which is a key ecological asset for Barnsley.
- 2.22. Policy BIO1 says that developments should protect and improve sites of ecological value, maximise biodiversity, and conserve and enhance the form, character and distinctiveness of natural assets.
- 2.26. Policy GI1 references landscape character, biodiversity and climate change, the latter two being cited as priorities that are specifically supported by tree planting in the Biodiversity and Geodiversity SPD.
- 2.27. Local Plan Policy GD1 references landscaping and existing landscape features, and consideration of overshadowing by trees. This is particularly relevant to the site, which contains mostly immature trees.
- 2.25. The Trees and Hedgerows SPD says that trees should be retained and protected wherever possible, and that offsets must be adequate to prevent overshadowing, seasonal nuisances and future pressure to remove trees.



KEY

[This drawing must be reproduced in colour]

- G1 Tree groups
- Root Protection Area (RPA)
- Survey Boundary
- Approximate location
(Stem locations not shown on topographical survey)

Tree Quality Categorisation

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

- Category A (none)
(High quality)
- Category B
(Moderate quality)
- Category C
(Low quality)
- Category U (none)
(Unsuitable for retention)

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



A	Update to red line boundary	TDP	HEE	26/07/24
Rev	Description	Drawn	Approved	Date



401 Faraday Street, Birchwood Park, Warrington WA3 6GA
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Project
Phoenix Park, Thurnscoe

Title
Arboricultural Impact Assessment [BASELINE]

Drawing Number
D10590.001

Drawn	Checked	Approved	Scale	Date
TDP	HEE	HEE	1:750 @ A3	24/06/2024

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

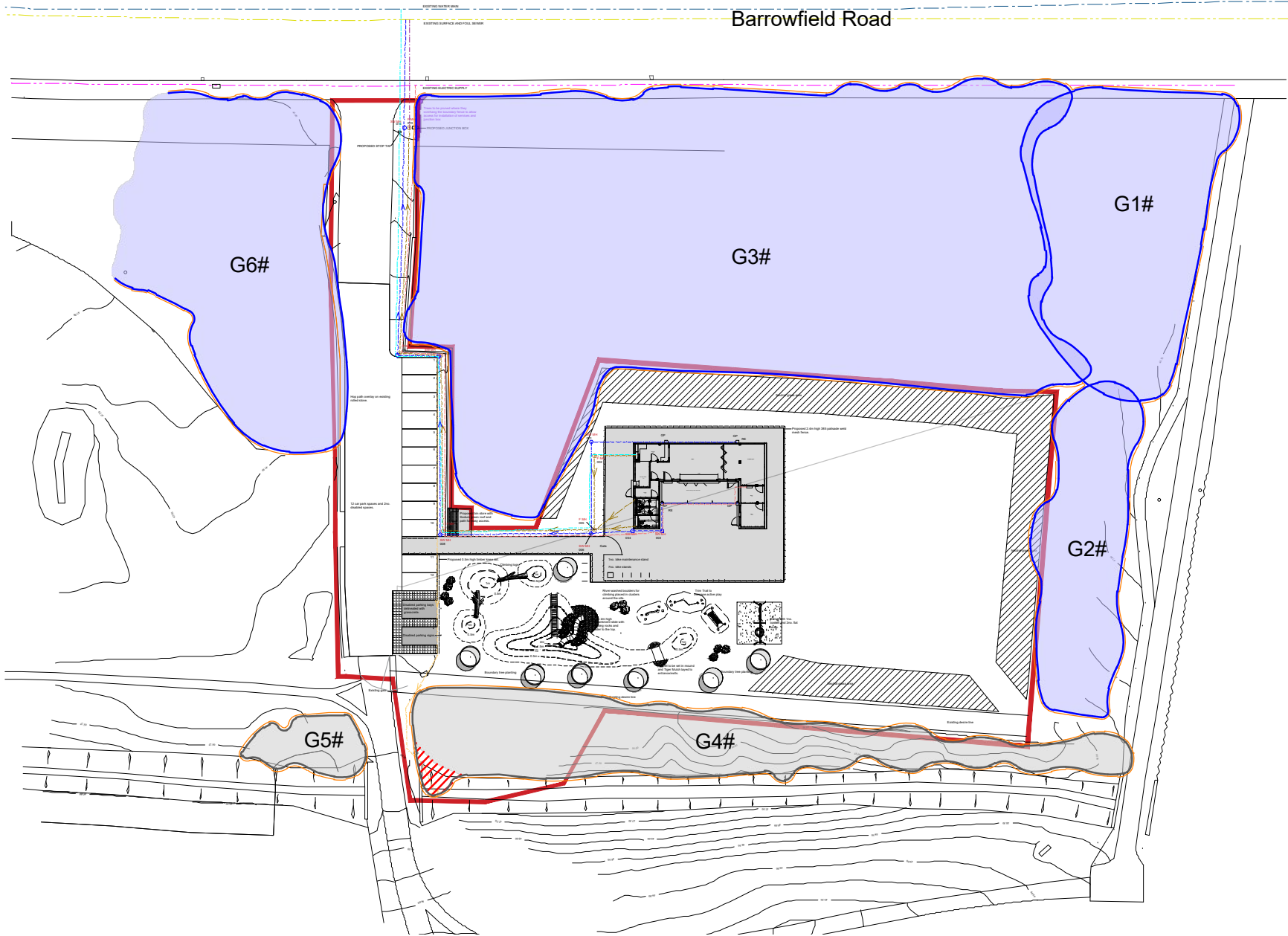
- 3.3. The proposed development comprises a cafe in existing field parcel within Phoenix Park. It would be accessed from the existing car park via a new path. The existing car park would be extended to the south-east, resurfaced and bays would be remarked, including two disabled parking spaces. A low wall around the car park would be largely preserved, except for a new opening to allow overflow parking in a field to the west, and the south-eastern corner, which would be removed. Cycle parking would be installed within the paved apron around the cafe, which would be enclosed by a 2.4m weldmesh palisade fence. The proposed layout is shown opposite and is based on Groundwork Yorkshire drawing *PROPOSED SITE PLAN 002 Rev B*.

Proposed tree works

- 3.4. 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 described below and illustrated opposite form part of the proposed development, and would be permitted by the grant of planning consent.
- 3.5. The proposed layout mainly utilises existing open space, currently comprising grassland and car park.
- 3.6. The proposed services corridor runs adjacent to trees in group G3. Very minor pruning of these small trees may be required to allow access for installation. They will quickly recover with no material detriment. A photograph of the trees to be pruned is included at Appendix D.
- 3.7. The surface water drainage outfall in the south west corner would connect to an existing ditch. Small trees grow along the bank top in G4 up to a bridge that crosses the ditch. In order to install a drain, it will be necessary to remove a small part of this group. The drain would be adjacent to the bridge, which will minimise the impact. The tree removal would be limited to one or two small trees. A photograph of the location is included at Appendix D.
- 3.8. Creation of neutral grassland habitats for biodiversity offsetting purposes is proposed and areas for this are illustrated approximately opposite, based on Groundwork drawing Landscape Layout with Neutral Grassland Areas for BNG 002 Rev D (10.07.24). These areas are adjacent to the retained trees and there are some minor overlaps opposite. The exact design of the grass areas can be refined on site to follow the perimeter of the trees. There may be some requirement for future tree pruning to maintain optimal habitat conditions as the trees mature, but this would be part of normal routine management.
- 3.9. The immediate effects of the development on trees would be negligible. In the longer term:
- 3.9.1. Periodic pruning of the trees within G3 may be required in order to maintain clearances for the new path.
- 3.9.2. It may also be necessary to remove fallen apples from the path during late summer and autumn, and leaves during autumn to prevent trip hazards. As the trees grow, they will overhang the path and this may increase maintenance requirements.
- 3.9.3. There could be a risk to trees in G6 from soil compaction caused by overflow parking. This could be avoided by controlling the arrangement of parking with a permanent or temporary fence. The root protection area of these trees will increase as they mature.
- 3.10. The presence of a cafe in this location may increase the use of existing desire lines that connect this field parcel to the trail to the east. These pass tree belt G2 at its northern and southern ends. It is unlikely that either will cause harm to the trees. However, this should be monitored and improvements should be made if footfall begins to cause any degradation.
- 3.11. In all other respects, the proposed development would not have any interaction with trees that is materially different from the existing site use and arrangement.

Effects on designated or protected features

- 3.12. 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.
- 3.13. 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.
- 3.14. 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.
- 3.15. 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]

- G1 Groups of trees
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location
(Stem locations not shown on topographical survey)

Trees to be retained and protected

- Category A
(High quality)
- Category B
(Moderate quality)
- Category C
(Low quality)
- Category U
(May be retained for habitat value)

Proposed tree works

- Trees to be pruned (G3)
(Canopy outline denotes tree quality category)
- 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).



A	Update to red line boundary	TDP	HEE	26/07/24
Rev	Description	Drawn	Approved	Date



401 Faraday Street, Birchwood Park, Warrington WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Phoenix Park, Thurnscoe

Title
Arboricultural Impact Assessment [EFFECTS]

Drawing Number
D10590.002

Drawn	Checked	Approved	Scale	Date
TDP	HEE	HEE	1:750 @ A3	09/07/2024

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, Tom Popplewell, can be contacted on 01925 844 069, 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.
- 4.9. Tree pruning shown opposite and described on drawing D10590.002 will be completed in accordance with BS3998: 2010 Tree work - Recommendations.
- 4.10. Tree protection fencing will be installed as shown by a **thick black line** opposite.
- 4.11. Sections of existing wall that are highlighted in a **solid light blue hatch** opposite will be retained and will act in lieu of tree protection fencing. If they are removed, tree protection fencing will be installed at the same alignment.
- 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

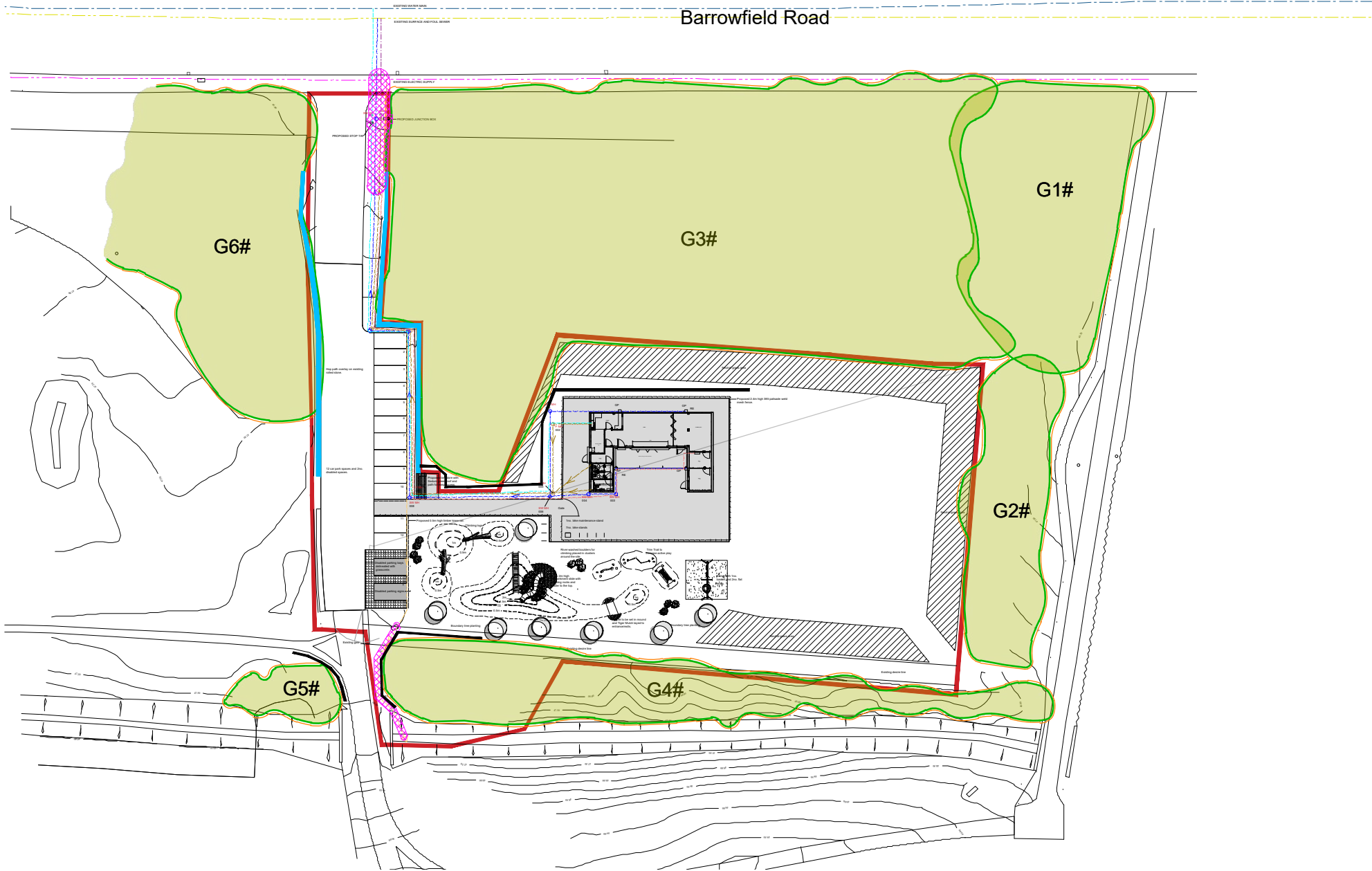
- 4.15. Two sections of excavation for services will be completed under an **Arboricultural Watching Brief** (see **pink cross hatch** opposite).
- 4.15.1. Excavation of a shared service corridor containing drainage, electricity and water connections to the east of the access off Barrowfield Road (adjacent to G3) will be supervised by an arboriculturist. There is no existing boundary wall in this section to protect the trees, but an existing post and rail fence will be maintained. The supervising arboriculturist will ensure that the working area is minimised and/or to the western side of the trench only, and will identify and prune any major roots that are uncovered.
- 4.15.2. Excavation and installation of a surface water drain and outfall and around the western end of G4 will be supervised by an arboriculturist. The supervising arboriculturist will ensure that the working area and tree removal are minimised, and will identify and prune any major roots that are uncovered.
- 4.16. Works will proceed in a careful and logical manner, to prevent accidental damage from cranes, booms and other plant/vehicles.
- 4.17. 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.
- 4.18. Following completion of all construction works and removal of vehicles, plant, compounds and materials, tree protection will be removed.

Recommended measures

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

Planting

- 4.20. A scheme of tree planting should be produced and implemented to offset adverse effects and deliver a high quality design.
- 4.21. The layout indicates six new trees on the southern side of the play area. This is more than would be removed, and the proposed tree works will quickly recover naturally with no overall long-term adverse effects. Therefore, the proposed development represents an increase in the number of trees on the site.
- 4.22. Although not necessary to offset tree loss or in association with the development. Further planting is suggested to augment the treescape and associated habitats and amenity:
- 4.22.1. Hedgerow and/or trees to soften the appearance of the palisade fence to the east and south of the cafe building.
- 4.22.2. Specimen tree planting to the west of the car park to screen it from views across the field parcel to the west.
- 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]

- G1 Retained trees
- Root Protection Area (RPA)
- Survey Boundary
- Approximate location
(Stem locations not shown on supplied topographical survey)
- Tree Protection Fencing (c. 100m)
(Must be installed prior to works commencement)
- Wall to be retained in lieu of tree protection fencing
(Temporary fencing to be installed if wall removed)
- Works under arboricultural supervision
(Use of hand tools and root pruning as instructed by supervising arboriculturist)



A	Update to red line boundary	TDP	HEE	26/07/24
Rev	Description	Drawn	Approved	Date

THE ENVIRONMENT PARTNERSHIP
401 Faraday Street, Birchwood Park, Warrington WA3 6GA
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Phoenix Park, Thurnscoe

Title
Arboricultural Impact Assessment [MITIGATION]

Drawing Number
D10590.003

Drawn	Checked	Approved	Scale	Date
TDP	HEE	HEE	1:750 @ A3	09/07/2024



THE
ENVIRONMENT
PARTNERSHIP

APPENDIX A: Arboricultural Data Sheets



Surveyor Tom Popplewell
Survey Date 24th June 2024
Site Phoenix Park, Thurnscoe
Drawing Ref D10590.001

APPENDIX A: Arboricultural Survey Data Sheets

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
Groups																	
G1	Maple species, Field maple, Sycamore, Silver birch, Common dogwood, Black locust, Dog rose, Elder	5 to 18	0.0	75 to 350	50							Middle Age	Good	Ornamental structure planting along path at entrance to park. Interesting species mix, including birch leaved maple (Acer stachyophyllum). High amenity value. Sycamore and black locust the tallest individual trees. Taller than adjacent trees within group G3.		B ,1, 2	Long
G2	Field maple, Sycamore, Silver birch, Sessile oak, Black locust	7 to 15	0.0	75 to 360	40							Middle Age	Good	Extension of G1 along path and field boundary. Principally a row of trees along a bank top. With branches to ground level.		B ,1, 2	Long
G3	Sycamore, Silver birch, Common dogwood, Common hazel, Common hawthorn, Larch species, Crab apple, Blackthorn, Dog rose, Osier, Rowan	5 to 15	0.0	75 to 400	500							Middle Age	Good	Dense shrubby roadside group. Smaller trees and shrubs to south. Mostly dogwood and blackthorn. Taller birch with some dieback and small number of larch, which are all dead. Margin vegetation is unmown and with tall herbs. Crab apples at south western tip. Attractive feature with good potential to develop into woodland.		B ,2, 3	Long
G4	Silver birch, Dogwood species, Common dogwood, Common hawthorn, Common ash, Privet species, Turkey oak, Dog rose, Osier	2 to 5	0.0	20 to 200	30							Young to Middle Age	Good	Shrubby group along ditch or swale. Dense herb layer. Turkey oaks have potential to increase significantly in size and will change the group significantly over the next 30 years. Dense cluster of trees at the western end, otherwise gappy. Ornamental varieties including red twig variegated dogwood.		C ,2, 3	Long
G5	Dogwood species, Common dogwood, Common hazel, Common hawthorn, Privet species, Turkey oak, Dog rose, Osier	2 to 7	0.0	20 to 100	30							Young to Middle Age	Good	Shrubby group along ditch or swale. Dense herb layer. Turkey oaks have potential to increase significantly in size and will change the group significantly over the next 30 years. Dense cluster of trees at the eastern end, by bridge.		C ,2, 3	Long
G6	Silver birch, Common dogwood, Common hawthorn, Blackthorn, Dog rose, Goat willow, Osier, Rowan	3 to 6	0.0	75 to 150	100							Young to Middle Age	Good	Dense shrubby roadside group. Mostly hazel at the roadside and mostly dogwood on the south-western edge. Taller species mostly yet to emerge from shrub layer, except occasional taller birch. Good potential to develop into woodland.		B ,2, 3	Long

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.

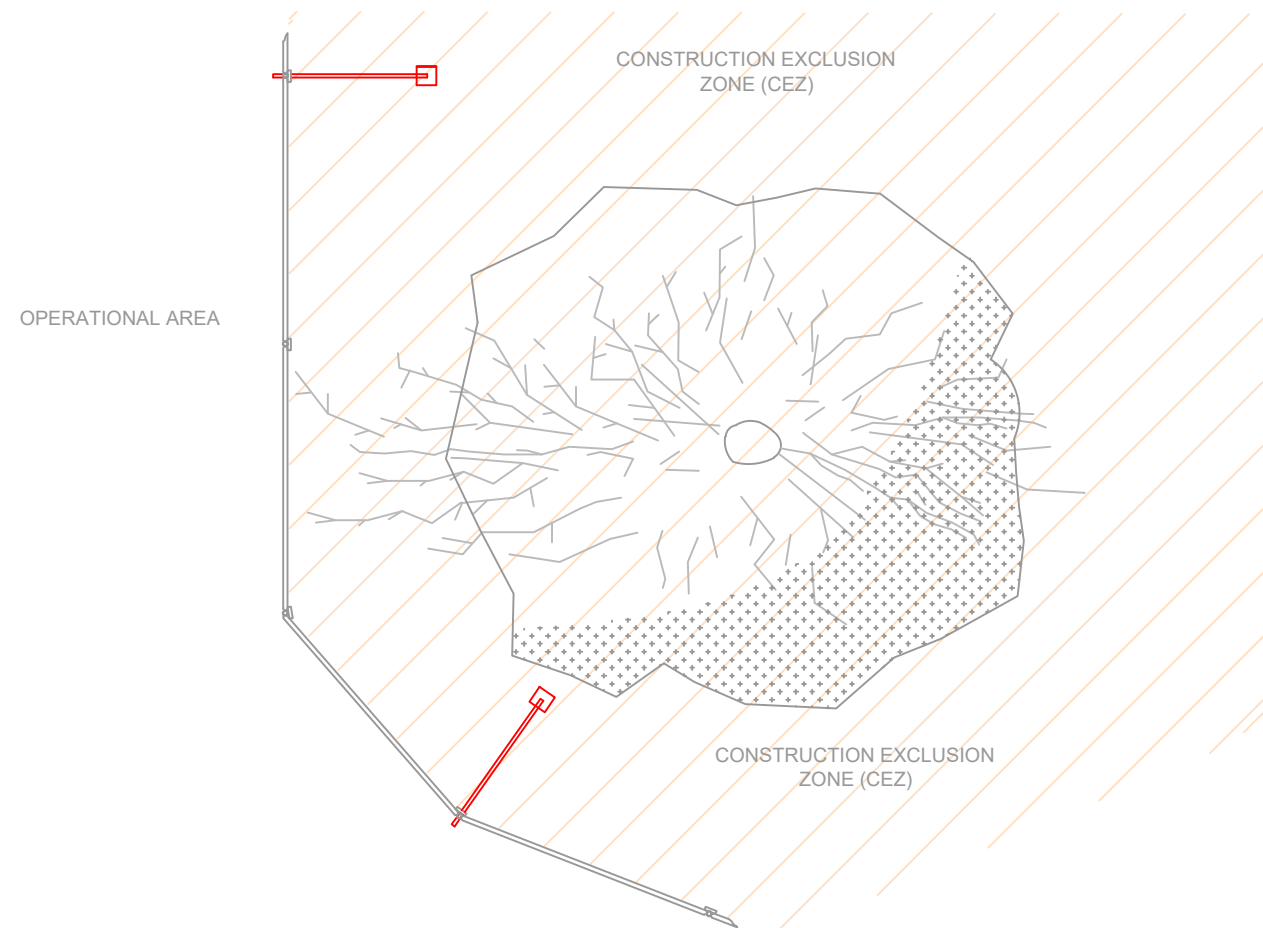
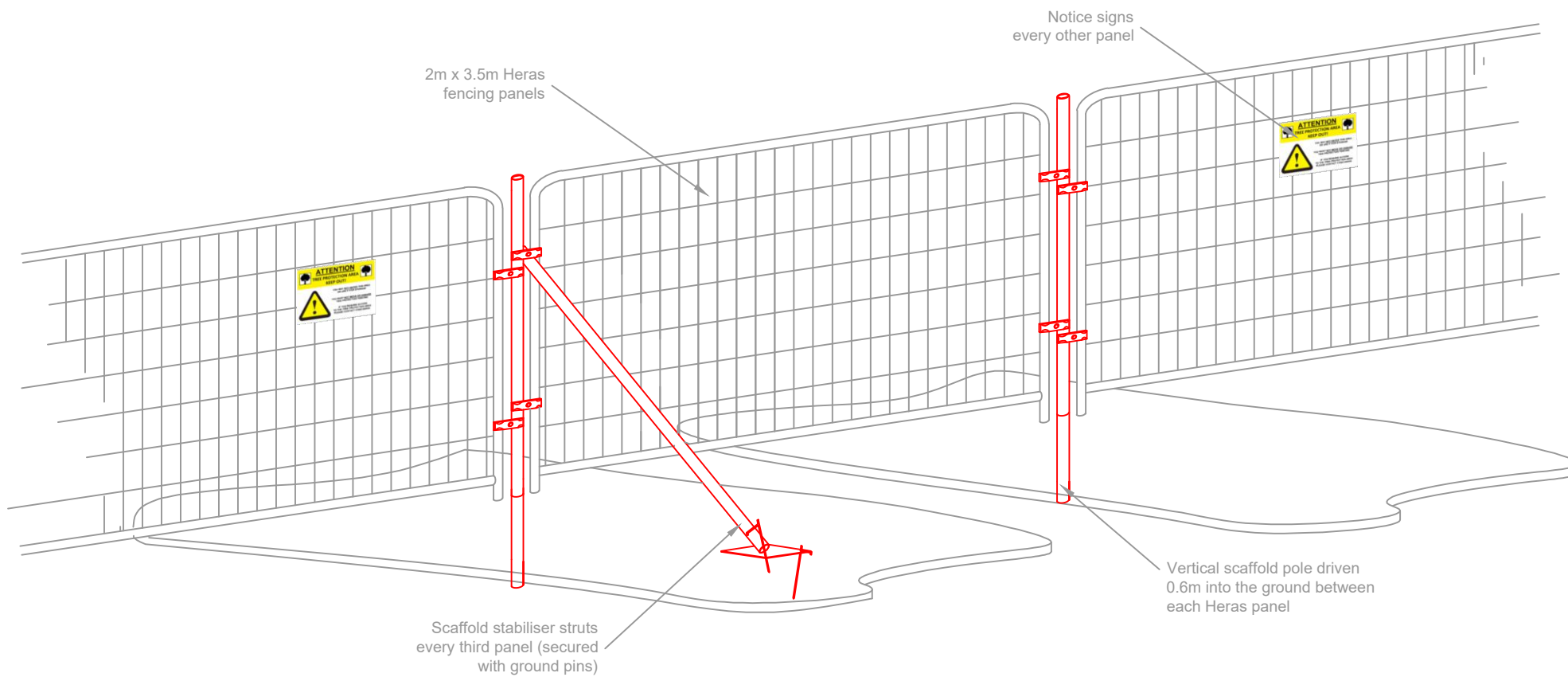
For *Groups* and *Woodland* RPA is based on the size and location of peripheral constituent trees, and presented as an offset from the canopy edge giving equivalent or greater protection to all trees of any size, or modified to reflect significant variation in constituent tree sizes and/or the considerations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



Per 3No. Heras panels (10.5m)	
Component	Quantity
2m x 3.5m Standard Heras panels	3
3m Galvanised steel scaffold pole	3
Heras security 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

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Project

Title
Temporary tree protection fencing for use on soft surfaces

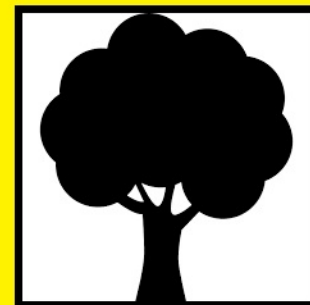
Drawing Number
TEP.ARB.FEN.001

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**

APPENDIX D: Photographs

**G3: Small trees to be cut back and location of watching
brief for service corridor excavation (left of frame)**



G4: Location of supervised excavation for surface water drain between trees and track (right of frame)



G4: View west from bridge at location of proposed surface water outfall
Vegetation removal and excavation (to left of frame) to be supervised



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