PLANNING DESIGN ENVIRONMENT



BLACKLEY NEW ROAD, MANCHESTER
TREE SURVEY AND CONSTRAINTS REPORT
(Report Ref: TEP.3111.001)
December 2011

for

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VERSION 2

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1.0 INTRODUCTION

1.1 TEP has been commissioned by United Utilities to conduct an arboricultural survey on land located at Blackley New Road in Manchester. This report details the arboricultural constraints of developing the aforementioned site.

1.2 The survey was carried out in December 2011 by means of inspection from ground level by a qualified Arboricultural Consultant. The inspection was restricted in cases where trees were surrounded by vegetation. It was windy and raining heavily during the survey.

1.3 Under *BS 5837:2005 Trees in Relation to Construction - Recommendations* the assessment of trees is made objectively. The tree categorisation method identifies the quality and value of the existing tree stock, allowing informed decisions to be made concerning development design layout.

1.4 The standard recognises that there are many additional factors that will ultimately determine development design layout. Information in this report is not meant to be interpreted rigidly and is presented in order to allow an informed judgement on tree retention and removal.

1.5 A topographical survey drawing detailing tree stem locations was used to record the position of existing trees and vegetation (Ref: DG5048_OLO2_00). For the purposes of this report we have assumed that detail on the drawing is accurate. A number of surveyed tree features were not included on the topographic drawings and their location on Drawing 1 should be regarded as approximate. Where the age distribution and species mix of tree cover was relatively uniform, trees were plotted as groups.

1.6 A total of 33 individual trees (T1-T33) and 5 tree groups (G1-G5) were surveyed and mapped (refer to Drawing 1). All arboricultural information recorded during the survey is presented at Appendix 1.

1.7 The nature of the soils on site was not assessed during the survey. The possibility of minor soil movement due to tree root activity cannot be discounted.

1.8 This report provides the results of the survey and includes the following:

- A schedule of all trees located within, or in close proximity to, the proposed development site (Appendix 1);
- An assessment, based on *BS 5837:2005 Trees in Relation to Construction - Recommendations*, of trees in terms of their potential value within any future development. On the basis of this tree quality assessment, trees have been categorised into one of four categories: A, B, C or R (see Appendices 1 and 2);
- Advice on removal, retention and management of trees (Sections 4 & 5);
- A Tree Constraints Plan detailing *BS 5837:2005* quality categories, canopy spreads and Root Protection Areas (Drawing 1).

2.0 SITE DESCRIPTION AND PROPOSALS

Site and Surroundings

2.1 The survey was conducted on two separate sites off Blackley New Road, located in a residential area to the north of Crumpsall, north Manchester.

2.2 The northern site lies on the southern fringes of the Blackley Forest community woodland. It is centred around a disused car parking area between two electric sub stations on the northern side of Blackley New Road. The topography is flat and contains an open area of grass and rubble, broadleaved trees, a tarmac footpath, pedestrian access gate and two large, carved tree stumps.

2.3 The southern site is a narrow strip of land to the rear of residential properties on Blackley New Road (Numbers 265 to 297). The southern boundary of the site is marked by the River Irk and the northern boundary by the rear gardens of the properties. The topography is flat until the land drops abruptly by approximately 1.5m at the riverbank. Within the site boundary are a short access road to the properties, garden sheds, small garages and a line of broadleaved trees along the riverbank.

Proposals

2.4 The proposals include the construction of a new below ground detention tank at the site of the disused car parking area on the northern site. Upsizing of the existing sewer is also proposed.

3.0 STATUTORY PROTECTION

Tree Preservation Orders & Conservation Area Designations

3.1 Consultation with Manchester City Council confirmed that at the time of survey there are no Tree Preservation Orders (TPOs) or Conservation Area Status protecting trees within the site.

Protected Species

3.2 Mature trees often contain cavities, crevices and hollows that offer potential habitat for species such as bats and birds. Both are afforded protection under the Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), as well as under Schedule 2 of the Conservation (Natural Habitats) Regulations 1994 (as amended).

3.3 No trees on site were found to have feature suitable for roosting bats.

3.4 Should the presence of a bat roost be suspected whilst undertaking any works on trees and groups on site, operations must be halted until a licensed bat handler or ecologist can provide advice.

3.5 Nesting birds, their nests and eggs are protected under the *Wildlife and Countryside Act 1981* (as amended). It is an offence to intentionally or recklessly, damage or destroy nests and all tree work should ideally be undertaken outside the bird nesting season (March to August inclusive).

3.6 If this is not possible then a detailed inspection of each tree should be undertaken by a qualified ecologist immediately prior to the arboricultural works. Should an active nest be found (being built, containing eggs or chicks) then any work likely to affect the nest must be halted until the nest becomes inactive.

4.0 TREE POPULATION AND DEVELOPMENT IMPLICATIONS

4.1 A schedule of all trees and tree groups in terms of species, condition, age management recommendations and *BS 5837:2005* quality categories is provided at Appendix 1.

4.2 Tree and Group locations, their retention categories, canopy spreads and Root Protection Areas are shown on Drawing 1.

Tree Population on the Northern Site

4.3 The tree population on the northern site is predominantly associated with the fence lines of the two electrical sub stations and the southern margin of the wider wooded area of Blackley Forest.

4.4 9 tree features of moderate value were identified on or within influencing distance of this site. Trees T1 (sycamore), T8 (whitebeam) and T10 (birch) are all middle aged and positioned alongside Blackley New Road. They all make a modest contribution to the local treescape and display only minor defects. Trees T4 (middle aged oak), T12 and T18 (mature ash) and group G2 (middle aged ash) are situated beside the disused car park area. Although minor defects are present, they have the potential, with appropriate management, to develop into valuable mature trees. Furthermore, they attain moderate landscape value by serving as effective screening against the electrical facilities beyond.

4.5 A row of 3 middle aged beech to the north of the site fall outside but within influencing distance of the development area. Although with minor defects they have increased amenity value as being components of the wider beech woodland that continues to the north.

4.6 Trees T19 to T21 (middle aged Norway maple) and T22 (middle aged ash) are located alongside a desire line that leaves the main footpath and travels through the north east of the site. Tree T20, T21 and T22 all display tall, slender, top-heavy form; typical of woodland grown trees and minor to moderate die-back and dead wood in their lower crowns. Tree T19 is a more dominant tree with a broader crown and is in better physiological condition. These trees have caused abundant sapling regeneration in the immediate vicinity.

4.7 A tall hybrid poplar (T7) to the north of the car park area has recently failed at its root plate. Its collapse has caused mechanical damage to tree T12 and two trees in group G2.

4.8 The remaining trees on the northern site display irremediable defects, poor form or are inappropriately located, denoting a low arboricultural value.

Tree Population on the Southern Site

4.9 With the exception of two ornamental garden trees (T32 and T33), the tree population on this site is entirely associated with the northern bank of the River Irk.

4.10 One tree (T27), a middle aged sycamore, is of moderate arboricultural merit. It is the dominant tree in the linear group on the riverbank and has a healthy and reasonably balanced crown. As with a number of trees in the group, riverbank erosion has resulted in minor exposure of primary roots on the southern side of the stems.

4.11 The remaining trees along the riverbank included birch, sycamore, goat willow, hawthorn and cultivated apple; the majority of which display stem wounds and associated fungal decay, poor form and/or crown die-back.

Proposed Development and Associated Implications

4.12 Table 1 lists the categorisation criteria as stipulated in the *Cascade chart for tree quality assessment* as laid out in *BS 5837:2005*.

4.13 Table 2 details which trees on surveyed come under each tree quality category. The categories are the result of objective assessment.

Table 1: *BS 5837:2005* Tree Quality Categories

Category A	Trees of high value and include those that are particularly good examples of their species and/or those that are visually dominant within the landscape.
Category B	Trees of moderate value and include those that do not qualify as Category A due to minor remedial defects and/or those that collectively form distinct landscape features, thereby attracting a higher rating than they might as individuals
Category C	Trees of low value and their retention should not unreasonably constrain development.
Category R	Trees unsuitable for long-term retention and should ideally be removed prior to the commencement of construction unless otherwise advised

Table 2: *BS 5837:2005* Quality Categorisation for surveyed trees

A	B	C	R
-	T1, T4, T8, T10, T12, T18, T19, T27, G2, G5	T2, T3, T6, T9, T11, T13-T17, T20-T22, T24, T25, T26, T28-T33, G1, G3, G4, G6	T5, T7, T23,
TOTAL: 0	TOTAL: 10	TOTAL: 26	TOTAL: 3

Below Ground Constraints: Root Protection Areas (RPA)

4.14 As per *BS 5837:2005* the **RPA** is calculated using the trees diameter at 1.5m (refer to Appendix 1) and delineates a sufficient area necessary for ensuring enough root and the soil structure are protected to successfully retain trees post-construction.

4.15 Tree roots spread two to five times the width of the crown. The majority of tree roots are found in the top 600 mm of soil and most of the fine roots that absorb water and nutrients are found in the top 100 mm.

4.16 The morphology of roots is influenced by past and present site conditions (the presence of roads, structures and underground services), soil type, topography and drainage. This means that a tree's roots may not be uniform in their extent and the **RPA** may not be a circular area centred on the tree stem.

4.17 The **RPA** shown on Drawing 1 is at this stage illustrative, whereby the placement of protective fencing will be decided at a latter stage in a Tree Protection Plan to define a **Construction Exclusion Zone (CEZ)**. Details of the recommended protective heras fencing are shown in Drawing 2.

4.18 The **CEZ** must be considered sacrosanct during site development to ensure successful protection of retained trees. A detailed Arboricultural Method Statement (**AMS**) will be required where construction works are to occur within the **CEZ** of any retained tree.

Above Ground Constraints: Operational Stand-Off

4.19 The Tree Constraints Plan (Drawing 1) shows the existing canopy spreads of all trees on site. The operational standoff should include the canopy of all retained trees to avoid direct mechanical damage during operations.

5.0 ARBORICULTURAL RECOMMENDATIONS

Table 3 - Recommended Arboricultural Works

Tree/Group Reference	Works Required
T7	Clear failed tree
T12	Prune broken branch back to main stem
G2	Selectively thin group. Remove poorly formed, damaged/suppressed individuals (approx. 3 trees)

5.1 Table 3 details all arboricultural recommendations. The works detailed are not for the purposes of facilitating development but for of hazard abatement and silvicultural management.

5.2 All tree work should be carried out by qualified arboricultural operatives working in accordance with BS 3998: 2010 *Tree Work- Recommendations*

Mitigation Planting & Landscaping

5.3 Replacement tree planting will be required in the event trees are lost. Subsequent to works, restocking of the operation areas should be carried out where practicable.

5.4 The choice of species should reflect those which are lost. It is recommended that species consistent with the vegetation of the area are used for the benefit of the local ecology, such as birch, beech, alder, oak, ash, sycamore, willow, hawthorn and hazel.

Post Development Management

5.5 Hazard recommendations are based on observations at the time of visit. Trees are dynamic living organisms whose structure is constantly changing; even those in good condition can suffer from damage or stress. Following site development, regular – annual or biennial – inspections of all retained trees should be undertaken by a qualified Arboricultural Consultant.

6.0 SUMMARY

6.1 Based on an objective assessment made in accordance with *BS 5837:2005*, there are 10 Category B, 26 Category C and 3 Category R tree features on or within close proximity to the two sites.

6.2 The tree locations, their quality categories and Root Protection Areas are shown on Drawing 1 - Tree Constraints Plan.

6.3 The tree population is entirely broadleaved and varies from low value natural regeneration to moderate value middle aged and mature trees.

6.4 There are no Tree Preservation Orders protecting trees within the sites.

6.5 No trees on either of the two sites were found to have features that are suitable for bat roosting.

6.6 Root Protection Areas (**RPA**) will need to be defined as a Construction Exclusion Zone (**CEZ**) in a Tree Protection Plan as part of the operational planning process.

6.7 Replacement tree planting will be required as mitigation in the event of the loss of trees and associated habitats.

APPENDIX 1

ARBORICULTURAL DATA SHEETS

APPENDIX 1: Arboricultural Survey Data Sheets

Surveyor RNT
Date 09.12.2011
Town Manchester
Site Blackley New Road
Dwg Ref D3111.001A

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
Trees																	
T1	Sycamore	10.0	390.0	1.0	4.0	5.0	3.0	4.0	3.0	Middle Age	Fair	Good balanced form. Roots cracking and lifting tarmac pavement. Future growth restricted by iron fence. Crown raised previously with reasonable wound callusing. Woolly aphid presence.	B,1	4.7	68.8		Medium
T2	Sycamore	7.0	130.0	5.0	1.0	1.0	1.0	1.0	1.0	Young	Fair	Self-seeded tree. Growing through palisade fence. Basally multi-stemmed. Poor form. Rubble and litter around base.	C,1	1.3	5.3		Short
T3	Buddleia	4.0	120.0	9.0	2.0	2.0	2.0	1.0	1.0	Middle Age	Fair	Growing alongside palisade fence. Vigorous. Typical form for species.	C,1	1.2	4.5		Short
T4	Oak	7.0	240.0	1.0	2.0	3.0	3.0	2.0	1.0	Middle Age	Fair	Moderate vigour. Minor previous failures. Slight westerly lean (5 degrees). Rubble and litter around base.	B,1	2.9	26.1		Long
T5	Norway maple	10.0	410.0	2.0	2.0	5.0	3.0	2.0	1.0	Middle Age	Poor	Basally bifurcate. Poor, leaning form over palisade fence. Considerable die-back in upper crown. Bleeding lesions on lower stem.	R				Short
T6	Sycamore	9.0	380.0	2.0	3.0	1.0	3.0	3.0	2.0	Middle Age	Fair	Basally bifurcate. Poor, asymmetric form. Chlorotic, small sized foliage. Growing beside fence.	C,1	3.8	45.4		Medium
T7	Hybrid poplar		410.0	3.0		13.0	3.0			Middle Age	Poor	Recent root plate failure. Upper crown hung up against neighbouring ash tree.	R			Clear failed tree.	Short
T8	Whitebeam	9.0	330.0	1.0	2.0	3.0	4.0	2.0	3.0	Middle Age	Fair	Slight asymmetric form due to proximity to T9. Minor buttress decay. Tight branch unions and included bark. Reasonable physiological condition.	B,1	4.0	49.3		Medium
T9	Ash	10.0	390.0	2.0	3.0	5.0	1.0	4.0	3.0	Middle Age	Fair	Basally bifurcate with included bark at union. Root exposure. Roots cracking tarmac pavement. Poor, asymmetric form. Minor die-back in inner crown. Growing alongside chain link fence.	C,1	3.9	47.8		Short
T10	Birch	12.0	340.0	1.0	1.0	3.0	1.0	3.0	4.0	Middle Age	Fair	Tall slender form through competition. Good vigour. Branches rubbing against T11. Minor (5 degree) stem lean to the west.	B,1	4.1	52.3		Medium

APPENDIX 1: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
T11	English elm	8.0	310.0	3.0	1.0	2.0	1.0	3.0	1.0	Middle Age	Fair	Poor form due to proximity to T10. Multi-stemmed form. Included stem unions. Prolific suckering shoots around base.	C,1	3.1	30.2		Short
T12	Ash	16.0	430.0	1.0	5.0	5.0	5.0	4.0	5.0	Mature	Good	Good balanced form. Good physiological condition. Crown raised previously. Minor dead wood central crown. Vigorous. One damaged branch from failed poplar (T7)	B,1	5.2	83.6	Prune broken branch back to main stem.	Medium
T13	Hybrid poplar	14.0	740.0	6.0	6.0	6.0	6.0	5.0	3.0	Mature	Fair	Basally multi-stemmed. Moderate basal wound and decay. Included bark at stem unions.	C,1	7.4	172.0		Medium
T14	Oak	8.0	390.0	1.0	4.0	4.0	3.0	4.0	2.0	Middle Age	Fair	Recent trenching to the west and waterlogged ground. Sparse crown. Minor tip die-back. Branch stubs. Epicormic growth throughout crown. Good balanced form.	C,1	4.7	68.8		Medium
T15	Hybrid poplar	12.0	520.0	5.0	2.0	3.0	3.0	3.0	6.0	Middle Age	Fair	Basally multi-stemmed. Minor basal decay. Two stems died back to base. Minor die-back. Branch stubs.	C,1	5.2	84.9		Medium
T16	Whitebeam	8.0	470.0	2.0	2.0	3.0	4.0	4.0	1.0	Mature	Fair	Bifurcate at base. Minor dead wood in lower crown. No significant visible defcts. Reasonable physiological condition.	C,1	4.7	69.4		Medium
T17	Beech	14.0	760.0	3.0	3.0	6.0	3.0	4.0	1.0	Mature	Fair	Poor form. Multi-stemmed at base. Cambium dysfunction on northern side of base. Included bark at main stem union. Minor branch failures. Branch stubs and dead wood in lower crown.	C,1	7.6	181.5		Medium
T18	Ash	14.0	520.0	1.0	4.0	5.0	4.0	4.0	3.0	Mature	Good	Vigorous tree. Excellent physiological condition. Good balanced form. Ivy on lower stem. Bifurcate at 6m.	B,1	6.2	122.3		Long
T19	Norway maple	12.0	430.0	1.0	3.0	3.0	3.0	3.0	7.0	Middle Age	Fair	Minor root exposure. Tall and slender form. Moderate dead wood in lower crown through shading. Multi-stemmed mid-stem.	B,1	5.2	83.6		Medium
T20	Norway maple	10.0	290.0	2.0	3.0	4.0	2.0	3.0	2.0	Middle Age	Fair	Significant root girdling. Moderate die-back and dead wood in lower crown. Poor, asymmetric form.	C,1	2.9	26.4		Medium
T21	Norway maple	10.0	320.0	1.0	3.0	4.0	2.0	4.0	2.0	Middle Age	Fair	Tall and slender form. Moderate dead wood in lower crown. Branch stubs. Girdling root. Asymmetric form.	C,1	3.8	46.3		Medium

APPENDIX 1: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
T22	Ash	12.0	310.0	1.0	3.0	2.0	2.0	2.0	4.0	Middle Age	Fair	Tall , slender and top-heavy form. Sudden expsoure through failure of neighbouring poplar. No significant defects.	C,1	3.7	43.5		Long
T23	Sycamore	8.0	280.0	3.0	2.0	3.0	3.0	1.0	1.0	Middle Age	Poor	Basally trifurcate. Basal wounding and decay. Sparse crown. Die-back throughout crown.	R				Short
T24	Goat willow	8.0	440.0	1.0	3.0	5.0	3.0	2.0	1.0	Mature	Poor	Basal decay. Previous failure. Longitudinal column of decay on main stem. Fungal brackets on main stem (Phellinus igniarius). Leaning form and signs of root plate heaving.	C,1	5.3	87.6		Short
T25	Hawthorn	6.0	160.0	1.0	2.0	1.0	2.0	2.0	2.0	Middle Age	Fair	Slightly asymmetric form due to proximity to T14. Stems wounds and subsequent decay. Branch stubs.	C,1	1.9	11.6		Medium
T26	Hawthorn	6.0	120.0	1.0	2.0	2.0	1.0	1.0	2.0	Middle Age	Fair	Reasonable form. Several nails in main stem. Rope attached around base. Minor butress decay.	C,1	1.4	6.5		Medium
T27	Sycamore	14.0	390.0	1.0	3.0	6.0	4.0	3.0	3.0	Middle Age	Good	Good vigour and healthy crown. Growing out of steep river bank resulting in minor root exposure.	B,1	4.7	68.8		Medium
T28	Birch	10.0	360.0	1.0	3.0	4.0	3.0	1.0	2.0	Middle Age	Fair	Poor form due to competition from T17. Taphrina betulina (witch's broom) infection in crown. Growing out of steep riverbank resulting in minor root exposure. Leaning stem (10 degrees).	C,1	4.3	58.6		Medium
T29	Sycamore	12.0	410.0	3.0	4.0	4.0	2.0	3.0	2.0	Middle Age	Fair	Basally trifurcate. Slight crown asymmetry due to proximity to T20. Sparse foliage cover. Stubs. Minor dead wood.	C,1	4.1	52.8		Medium
T30	Sycamore	10.0	450.0	2.0	4.0	6.0	2.0	5.0	2.0	Middle Age	Fair	Basally bifurcate. Stem wounds and minor decay through wounds. Asymmetric crown due to proximity to T19.	C,1	4.5	63.6		Medium
T31	Cultivated apple	3.0	190.0	1.0	1.0	2.0	1.0	2.0	1.0	Middle Age	Fair	Stubs and minor stem decay. Poor form. Crossing branches. Growing alongside chain link fence.	C,1	2.3	16.3		Medium
T32	Bird cherry	2.0	110.0	2.0	1.0	1.0	1.0	1.0	1.0	Middle Age	Fair	Growing in garden. Balanced form. Crossing stems. Recent ground disturbance.	C,1	1.1	3.8		Medium
T33	Common pear	3.0	290.0	1.0	1.0	1.0	1.0	1.0	1.0	Middle Age	Fair	Previously topped with untidy, whippy regrowth. Bifurcate mid stem. Minor butress decay. Minor die back.	C,1	3.5	38.0		Medium
Groups																	
G1	Ash	to 3	to 90	approx 20					1.0	Young	Good	Vigorous natural regeneration.	C,1		0.5m from canopy edge		Medium

APPENDIX 1: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
G2	Ash, hawthorn	to 12	to 400	7 trees					3.0	Middle Age	Fair	Generally reasonable physiological condition. Two supressed individuals. Growing alongside chain link fence. Damage to branches from failed poplar (T7). Tall slender form through dense spacing.	B,1		1m from canopy edge	Selectively thin. Remove suppressed, poorly formed or damaged individuals (approx. 3 trees).	Medium
G3	Goat willow, hawthorn	to 9	to 350	approx 12					1.0	Middle Age	Fair	Dense scrub. Moderate dead wood beneath canopy. Moderate vitality. Debris and rubble around base. Growing over palisade fence.	C,1		1m from canopy edge		Medium
G4	Norway maple, hawthorn,	to 8m	to 230	20+					1.0	Young to Middle Age	Fair	Prolific regenation of Norway maple. Mainly multi-stemmed form. Included stem unions. Hawthorn in reasonable condition.	C,1		0.5m from canopy edge		Medium
G5	Beech	to 14	to 340	3 trees					4.0	Middle Age	Good	3 trees. Part of wider beech woodland that stretches to the north. Easternmost tree with minor basal decay. No other significant defects. Tall and slander woodland form.	B,1		1m from canopy edge		Long
G6	Ash, Norway maple, hawthorn	to 10	to 300	approx. 20					1.0	Young to Middle Age	Fair	Prolific regeneration of ash. Often multi-stemmed form. Hawthorn in reasonable condition.	C,1		0.5m from canopy edge		Medium

APPENDIX 2

SURVEY METHODOLOGY & GLOSSARY

APPENDIX 2: ARBORICULTURE SURVEY METHOD

Arboricultural surveys are conducted from ground level only. The nature of the soils on site is not assessed during the survey. The possibility of minor soil movement due to the root activity of the trees cannot be discounted; therefore, the advice of a structural engineer should be sought with regard to appropriate foundation depths.

Trees are dynamic living organisms with a constantly changing structure; even trees in good condition can suffer from damage or stress. Regular annual or bi-annual inspections by a qualified arboriculturalist can help to identify potential problems before they become acute.

The following features of each tree, group of trees or wood may have been recorded in the Arboricultural Data Sheets (Appendix One).

Species The common name is given. The Latin name may also be given if further clarification is required.

Height Top height of tree recorded in metres.

Stem Diameter For single-stemmed trees the measurement is taken at 1.5 metres above ground level and recorded in millimetres.
For multi-stemmed trees the measurement is taken directly above the root flare in millimetres.
For tree groups the measurement is taken in the same way as with single-stemmed trees and is recorded in millimetres as a range from minimum to maximum diameters.

No. of Stems A count of stems arising below a height of 1.5m.

Crown Spread The N, S, E and W branch spreads are recorded in metres to provide a representative crown shape.

Height of Lowest Branch Crown clearance above ground level recorded in metres.

Tree Age	**Young**	Trees than can reasonably be relocated or replaced like for like, without undue cost;
	Middle Age	Trees in the established growth stage of their life with the potential to continue increasing in size;
	Mature	Trees that have reached their ultimate size, given their location and surroundings;
	Veteran	A tree recognised by features of a biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Condition
An overall assessment of a tree's physiological and structural state in which factors that may increase its susceptibility to the effects of development are taken into account.

Comments
A brief evaluation and description of the tree with comments on the form, vitality, health and any significant defects that may be present.

Trees are surveyed without reference to any proposed development. The implications of any development are discussed in the Arboricultural Implication Assessment.

Tree Quality Assessment
The tree quality assessment is based on Table 1 of BS 5837:2005 (See below). Four categories (A, B, C and R) are used to denote tree quality (A = High, B = Moderate, C = Low, R = Unsuitable for retention). Subcategories (1-3) denote the specific function value of the trees and the reasoning behind the assessment (the subcategories may be used in combination but do not accumulate collective weight).

BS 5837 Root Protection Area (RPA)
The Root Protection Area (RPA) is allocated to ensure that a sufficient area is left undisturbed during development to prevent direct and indirect damage to tree roots and the soil structure.

The RPA is calculated using a mathematical equation included in BS 5837:2005 (Table 2) and is based on a trees stem diameter. In some cases the RPA may need to be adapted to ensure survival based on criteria such as the tree's condition, species and crown spread. Any alteration should be justifiable but is made at the arboriculturists discretion.

The surrounding RPA should remain undisturbed and be treated as a sacrosanct Construction Exclusion Zone (CEZ) until development completion and removal is approved by an arboriculturist.

APPENDIX 2: ARBORICULTURE SURVEY METHOD

Recommendations
Recommendations for arboricultural works, etc. are based on the **current** land use, and take into account the tree or group attributes without bias to the proposed development.

Estimated Remaining Contribution
An estimation of the trees useful life expectancy.

Long > 40 years
Medium 20 – 40 years
Short 10 – 20 years
Very Short < 10 years

Table 1 — Cascade chart for tree quality assessment

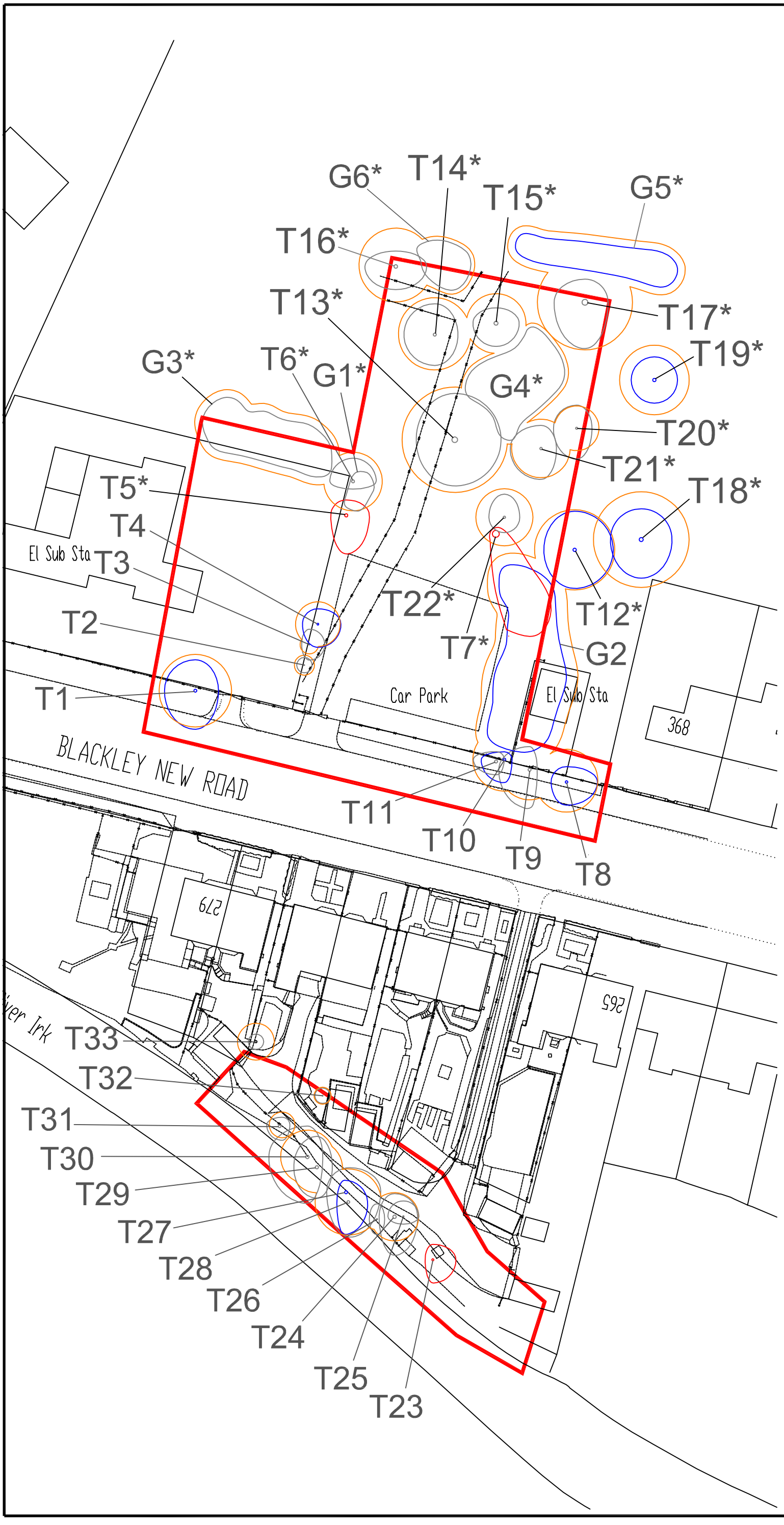
TREES FOR REMOVAL				
Category and definition	**Criteria**			**Identification on plan**
Category R Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	**Criteria — Subcategories**			**Identification on plan**
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B **Those of moderate quality and value:** those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.			

British Standards Institute 2005, p.6

NOTE: All young trees are assessed as category 'C' quality but this does not preclude their retention within a development; all retention and removal recommendations will be detailed within the Arboricultural Implications Assessment report.

DRAWING 1

TREE CONSTRAINTS PLAN



KEY

- T1 — Individual trees
- G1 — Groups of trees
- Root protection area
- * — Approximate Tree Location (not marked on supplied TOPO)
- Tree Survey boundary

Quality Values

Based on BS 5837:2005 Trees in Relation to Construction - Recommendations

- Category B Trees/Groups — Trees of moderate quality and value
- Category C Trees/Groups — Trees of low quality and value
- Category R Trees — Trees unsuitable for long term retention

NOTE: see Arboricultural Data Sheets (Appendix 1) for further information.

Rev	Description	Drawn	Approved	Date
A	Additional area to northern site	RNT	JGS	09/12/11

TEP
Genesis Centre
Birchwood Science Park Warrington
WA3 7BH
Tel 01925 844004
Fax 01925 844002
e-mail tep@tep.uk.com

Project

Blackley New Road, Manchester

United Utilities

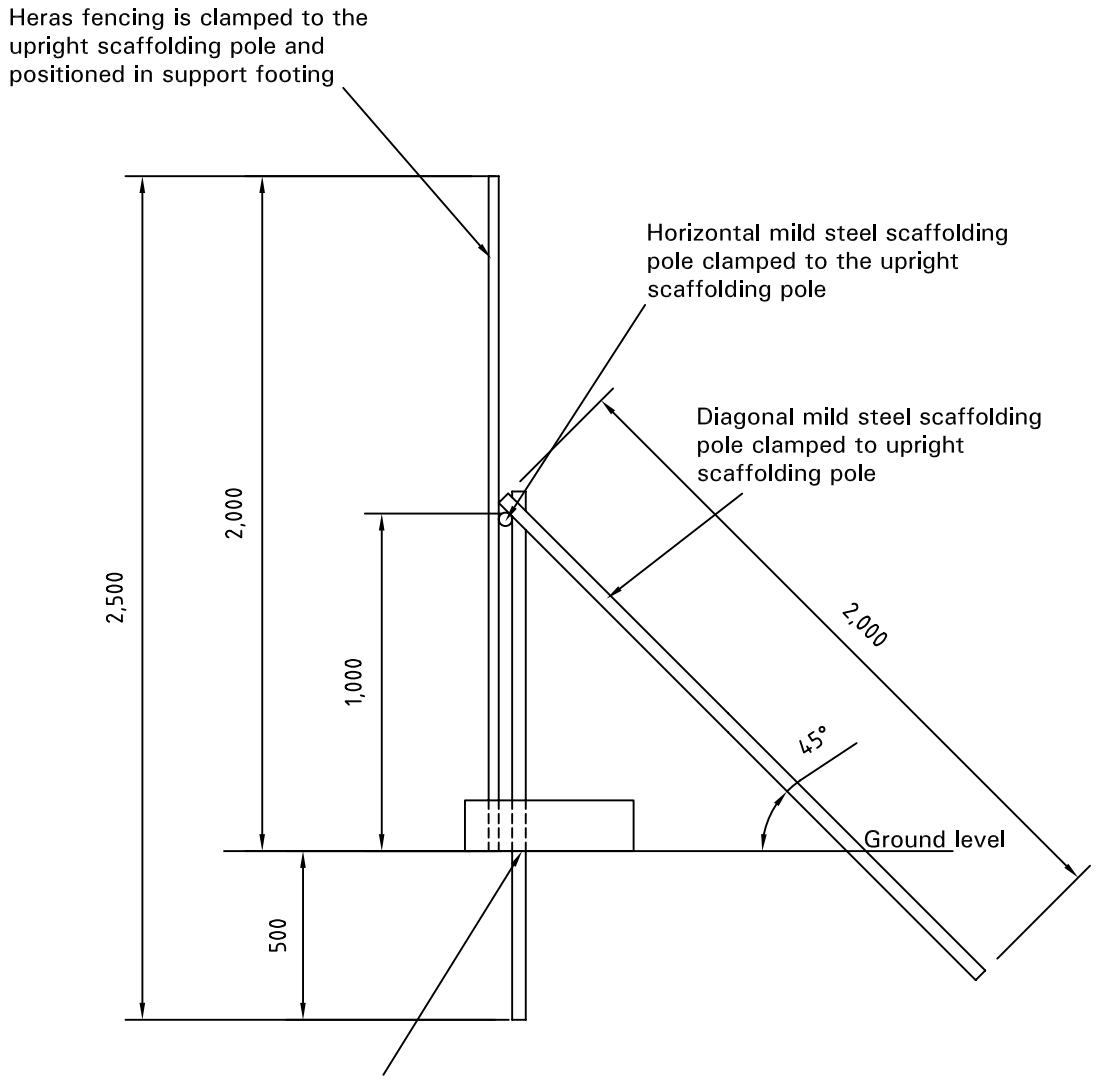
Title

Tree Constraints Plan

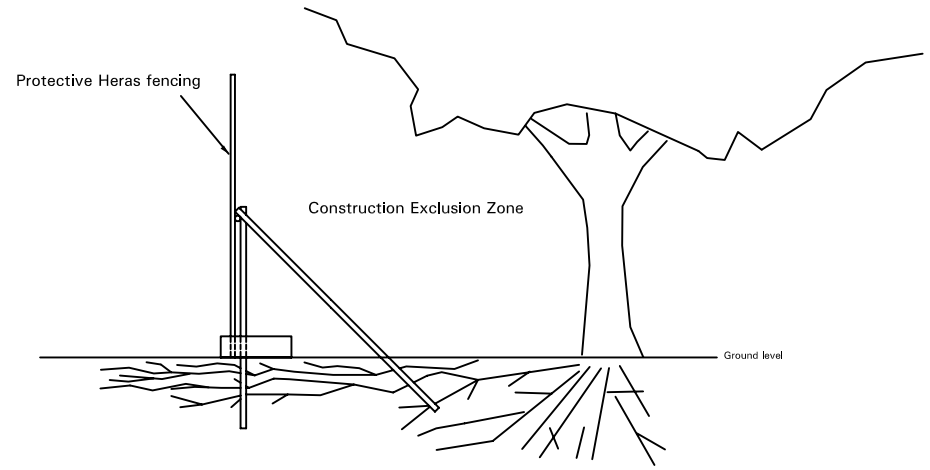
Drwg No		
D3111.001A		
Scale: 1:500@ A3		Date: 09/12/11
Drawn: RNT	Checked: JGS	Approved: JGS

DRAWING 2

TREE PROTECTIVE FENCING



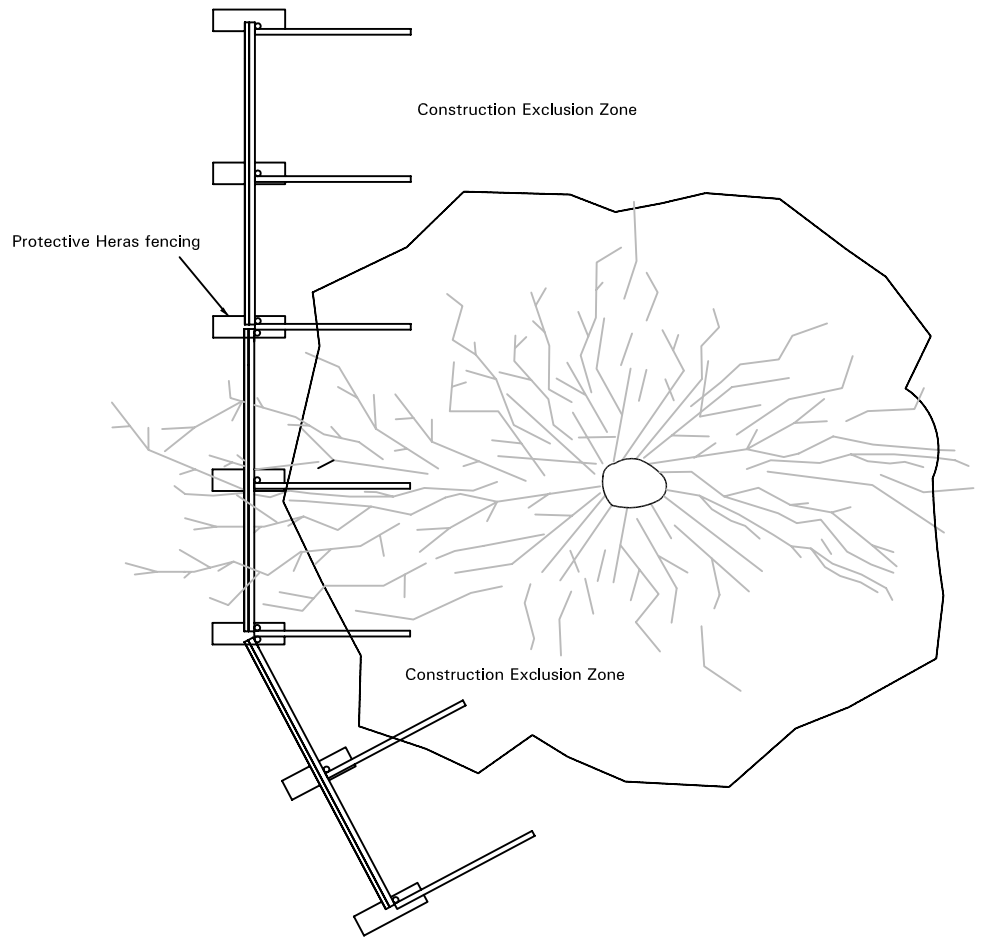
Upright scaffolding pole continues through Heras fence support footing and into the ground



Indicative section of the fence detail in relation to the protection of existing trees



Tree Protection Notice is to be attached to the fencing 1.5m from the ground, facing out of the Construction Exclusion Zone located at regular intervals along the fence line. The notice must be at least A4 in size



Indicative Plan view of the fence detail in relation to the protection of existing trees

Rev	Description	Drawn	Approved	Date
A	Change to annotation text	JS	RR	15/02/10

TEP
Genesis Centre
Birchwood Science Park Warrington
WA3 7BH
Tel 01925 844004
Fax 01925 844002
e-mail tep@tep.uk.com

Project

TEP Standard Detail

Title

Temporary supported Heras Fence Detail for Tree Protection around designated Root Protection Area / Construction Exclusion Zone.

Drwg No TEP.HERAS.003A

Scale	Date
NTS @ A3	26/01/10

Drawn	Checked	Approved
LG	JS	PM