Silkstone Environmental Ltd

C.Soar and Sons

Tree Assessment Report

Novemeber 2008

fpcr

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1.0 INTRODUCTION

1.1 This report has been prepared by Faulks Perry Culley and Rech on behalf of Silkstone Environmental Ltd to present the findings of a survey of the mature trees within existing C.Soar and Sons site and area of land to the west, Tank Row, Barnsley, see Figure 1 for site location (hereafter referred to as "the assessment site").

1.2 The purpose of the report is assess the arboricultural value of trees based on their current quality and to make an assessment in accordance with *BS 5837 Trees in Relation to Construction – Recommendations (2005).* The survey has focused on the major trees within the site that would be directly affected by any proposed development.

1.3 The site is part of an industrial estate and is currently being used as an industrial plant and machinery base. The area of land to the west of C.Soar and Sons' is a relatively new plantation of mixed broadleaved trees.

1.4 It is being proposed that C.Soar and Sons expand their existing ground space into the adjoining land in order to provide extra storage for plant and machinery.

1.5 The only trees present on the assessment site were within the mixed broadleaf plantation on the land to the west of the existing C.Soar and Sons site.

1.6 Following consultation to Barnsley Metropolitan Borough Council there are no Tree Preservation Orders or Conservation Areas affecting the site.

1.7 Suitable Tree Protection Measures are included in the scope of the report where retention of trees has been recommended.

2.0 METHODOLOGY

Trees

2.1 Trees have been broadly assessed based on guidance set out within the *British Standard BS 5837: (2005) Trees in Relation to Construction – Recommendations.* This standard provides recommendations and guidance on the principles to be applied to achieve successful integration of development with trees, shrubs and hedgerows. Where development (including demolition) is to occur, the standard provides guidance on the approach needed to decide which trees are appropriate for retention, on the means for protecting these trees during the development (including demolition and construction work) and on the means of incorporating trees into the developed landscape.

2.2 Trees have been divided into one of four categories (based on the cascade chart for tree quality assessment). These are classed as A, B, C or R (Section 4.3 of BS 5837). This gives an indication as to the tree's importance in relation to the site and the local landscape and, also, the value and quality of the existing trees on site. This assists informal decisions concerning which trees should be removed or retained should development occur. For a tree to qualify under any given category it should fall within the scope of that category's definition (see below). Categories A, B and C cover trees that should be a material consideration in the development process, each with three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural (nature conservation) values. Category R trees are those which would be lost in the short term for reasons connected with their physiology or structural condition. They are for this reason not considered in the planning process. In assigning trees to the A, B or C categories, the presence of any serious disease or tree – related hazards are taken into account. If the disease is considered fatal and / or irremediable, or likely to require sanitation for the protection of other trees it may be categorised as R, even if they are otherwise of considerable value.

Category (A) – (Light Green): are trees whose retention is most desirable and are of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years) and may comprise:

(i) Trees which are particularly good examples of their species especially 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);

(ii) 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);

(iii) Trees or groups or woodlands of significant conservation, historical, commemorative or other value (e.g. Veteran or wood-pasture trees).

Category (B) – (Blue): are trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years) and may comprise:

(i) Trees that might be included in the high category but because of their numbers or slightly impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage), are downgraded in favour of the best individuals;

(ii) Trees present in numbers such that they form distinct landscape features and attract a higher collective rating than they would as individuals. Individually these trees are not essential components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site and have little visual impact beyond the site;

(iii) Trees with clearly identifiable conservation or other cultural benefits.

***Category (C) – (Grey)*:** are trees that could be retained and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 150mm and may comprise:

(i) Trees not qualifying in higher categories;

(ii) 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;

(iii) Trees with very limited conservation or other cultural benefits.

***Category (R) – (Dark Red)*:** Trees for removal are those trees 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 within this category are:

(i) 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 R trees;

(ii) Trees that are dead or are showing signs of significant, immediate or irreversible overall decline;

(iii) Trees infected with pathogens of significance to the health and or/safety of other trees nearby trees or very low quality trees suppressing adjacent trees of better quality.

2.3 Species has been recorded by common and botanical name. Height has been estimated in metres and stem diameter measured at 1.5 metres in centimetres.

2.4 In the assessment particular consideration has been given to:

(a) the health, vigour and condition of each tree;

(b) the presence of any structural defects in each tree and its life expectancy;

(c) the size and form of each tree and its suitability within the context of the proposed scheme;

(d) the location of each tree relative to existing site features, e.g. its value as a screen or as a skyline feature.

2.5 Age class is assessed according to the age class categories referred to in BS 5837.

YNG ; Young trees age less than 1/3 life expectancy.

SM : Middle age trees 1/3 – 2/3 life expectancy.

M : Mature trees over 2/3 life expectancy.

OM : Over mature – declining or moribund trees of low vigour.

2.6 The overall condition of the tree, or group of trees, has been referred to as one of the following. A more detailed description of condition has been noted in the Tree Schedule and discussed in the Tree Assessment Report (Results and Discussion)

G **Good**: A sound tree, trees, needing little, if any, attention.

F **Fair**: A tree, trees, with minor but rectifiable defects or in the early stages of stress, from which it may recover.

P **Poor**: A tree, trees, with major structural and physiological defects or stressed such that it would be very expensive and inappropriate to retain.

D **Dead**: A tree, trees, no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or are / have become dangerous.

2.7 Major defects or diseases and relevant observations have also been recorded. Dead wood has been defined as the following:

Twigs and small branch material	Up to 5cm in diameter
Minor dead wood	5cm to 10cm in diameter
Major dead wood	10cm in diameter and above

2.8 Site plan & Tree schedules

The individual positions of trees and groups of trees recorded in the Tree Assessment Report have been shown on a combined Tree Location Plan, Tree Quality Plan and Tree Constraints, Figure 2. The tree quality element shows the relevant BS 5837 (2005) categories for retention considered for each tree and groups of trees. The positions of trees are based on aerial photographs of the site. Positions of individual trees within the site should be verified on the ground prior to commencing any works. The Root Protection Areas to be required by the individual trees are indicated by the Tree Constraints element of Figure 2. The Root Protection Areas are formulated as described below in 2.11.

2.9 A summary table of all the trees included in the Tree Assessment Report, detailing further information on each tree and group of trees is shown in Appendix I. Within the summary table individual RPAs (m^2) have been included, as well as a calculated corresponding radii of a circle for that RPA.

Root Protection Area (RPA)

2.10 Below ground constraints to development are represented by the root plate around a tree which needs protecting in order for the tree to be incorporated into a proposed scheme, without adverse harm to the tree or structural integrity of buildings. This area is illustrated by the Root Protection Area (RPA) and is calculated according to the formula set out in Clause 5, BS 5837 (2005). This area is equivalent to a circle with a radius 12x the stem diameter for single stem trees and 10x the basal diameter for trees with more than one stem arising less than 1.5 metres above ground level.

Table 1: Formula for calculating Root Protection Area

RPA (m^2) = (stem diameter (mm) x 12 / 1000) ^{2} x 3.142
This figure should be capped to 707m^2, that is, equivalent to a circle with a radius of 15m, or a square with approximately 26m sides

Taken from Table 2: Calculating the RPA , BS5837 (2005).

3.0 RESULTS

3.1 Trees and tree groups have been recorded see Appendix A.

3.2 There were no trees present within the existing C.Soar and Sons site itself. There was one tree group found within the assessment site located in land to the west of the existing site.

Groups of Trees

3.3 TG1 was a mixed broadleaf plantation comprising of species such as Common Ash *Fraxinus excelsior*, Crack Willow *Salix fragilis*, Field Maple *Acer campestre*, Italian Alder *Alnus cordata*, Hawthorn *Crataegus monogyna*, Goat Willow *Salix caprea*, Dogrose *Rosa canina*, Dogwood *Cornus sanguinea*, Hazel *Corylus avellana*, Silver Birch *Betula pendula*, Bird Cherry *Prunus padus*, Sycamore *Acer pseudoplatanus* and Hornbeam *Carpinus betulus*.

3.4 Individual specimens within this group had stem diameters ranging from 50 – 280mm and were between four and ten meters in height. Many specimens were multi-stemmed and the majority showed tall and drawn forms due to the close spacings within the plantation. Other than minor dead wood and occasional broken branch material there did not appear to be many significant defects within the group. There was however the occasional dead specimen which had been out competed for light and moisture and as such had died. Throughout the group tree stakes, ties and guards were still present from the initial planting of the plantation. Some ties were now tight and damaging the main stems and some stakes were becoming included into the bark of individual specimens. This group was considered a Category C (Low Quality) group due to the low quality of individual specimens and its overall low screening value and lack of management since planting.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 The only trees present on site was a small unmanaged young plantation which appeared to be approximately ten to fifteen years old. On the roadside of the plantation there was no boundary and subsequently there were high amounts of litter and possibly fly-tipped material amongst the planting. Overall the group appeared to be an intentional screening belt, which had not been developed to its full potential.

4.2 The single tree group, TG1, was considered Category C. Groups of trees can be considered Category C for a number of reasons. This group displayed low screening value, as the trees have yet to develop strong crowns. As individuals, the trees present in the group have potential to develop into better specimens over time, but alternatively could be replaced with higher quality trees immediately which would develop at a quicker rate, at suitable locations around the site.

4.3 The proposals are that an area of the banking, which is currently occupied by TG1, be removed to level with the existing neighbouring works site. Part of TG1 would need to be removed to facilitate this, but the trees on the most western edge of the plantation could be retained to give maturity to the replanting which would need to take place on the re-formed bank.

4.4 The removal of the bank would need to be done with care from within the existing site in order to avoid unnecessary damage to trees which are to remain. The trees of TG1 do not have large root protection areas RPA (3.4m) and as such the remaining trees would not be inhibitive to any ground works necessary to the proposals providing soil levels within these trees RPA are not altered.

4.5 <u>Mitigation for Tree Losses</u>

Having undertaken the tree assessment, it is obvious that tree losses will occur in order to accommodate the proposals. It is therefore recommended that a landscaping plan be secured, detailing replacement tree planting to mitigate for loss of tree cover and further enhance the local tree population for the future. Species would need to be selected to be suitable to the new site use. It would be recommended that a small management plan for enhancing TG1 be included as part of the proposals. This is because TG1 will not develop into a healthy woodland unless appropriate management is put in place.

4.6 Protection of Trees Close to the Site

Any trees that should be retained in close proximity to the development and whose roots would be extending into the site, such as those on neighbouring side boundaries, should be given adequate protection during the course of the development as indicated in the following section. Any trees which are to be retained and whose RPAs may be affected by the development should be monitored to identify any alterations in quality with time and to assess and undertake any remedial works required as a result. Trees retained should be subject to sympathetic management in the future to maintain their future health and vigour. All trees should be inspected annually and following major storms by an experienced arborist or tree surgeon to identify any potential public health and safety risks and to agree remedial works as required. All tree works should be undertaken in accordance with BS 3998 1989 Recommendations for Tree Works.

4.7 Vegetation Removal

All woody vegetation proposed for removal should be done so outside of the bird breeding season (April – August inclusive) as all birds are protected under the Wildlife and Countryside Act 1981 (as amended) whilst on the nest. Where this is not possible, vegetation should be checked for the presence of nesting birds prior to removal by an experienced ecologist.

5.0 TREE PROTECTION MEASURES

5.1 Any retained trees will need to be adequately protected during works. Measures to protect these should follow the best practice principles set out in *BS5837: Trees in Relation to Construction Recommendations (2005).* These have been broadly summarised below.

General Information

5.2 All trees retained on site should be protected by barriers or ground protection around the calculated Root Protection Area (RPA) and as indicated on any Tree Constraints Plan (TCP) that may be produced in association with the assessment (Clauses 5 and 7 of BS 5837).

5.3 Fencing should be erected prior to commencement of construction and before demolition including erection of any temporary structures. Once set up fences should not be removed or altered without prior consultation with the arboricultural advisor.

5.4 Arrangements should be made for an arboriculturist to supervise works and tree protection where trees are particularly vulnerable or sited close to access points.

5.5 Pre-development works may be undertaken prior to the installation of fencing with the agreement of the local planning authority.

5.6 Any trees that are not retained should be felled prior to the erection of protective fencing. Particular attention needs to be given by approved contractors to minimise damage or disturbance to retained specimens (good industry practice procedures should be followed at all times).

5.7 All tree works should follow best practice procedures as set out in BS 3998 (1989). All trees should be maintained in good condition on site and be regularly inspected annually (where overall condition requires) or every 2 years and after any major storm events, with safety a priority.

Barriers

5.8 Fencing should be strong and suitable for the location, type and proximity of construction activity. Barriers must remain rigid and complete.

5.9 In most situations fencing should comprise a scaffold framework comprising a vertical and horizontal framework. For particular areas where construction activity is anticipated to be intense higher fencing may be necessary. Fencing specifications are indicated at Figure 3 attached.

5.10 It may be appropriate on some sites to use temporary site offices as components of the protection barriers.

Protection outside the exclusion zone

5.11 Once the areas around trees have been protected by the fencing, any works on the remaining site area may be commenced providing activities do not impinge on protected areas. Notices should be placed on fencing to indicate that operations are not permitted within the fenced area.

5.12 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles, jibs, booms etc where this is in close proximity to retained trees.

5.13 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree bole. No concrete mixing should be done within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.

5.14 No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.

5.15 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.

5.16 Any trees which need to be felled adjacent to or are present within a continuous canopy of retained trees must be removed with due care (it may be necessary to remove such trees in sections).

5.17 All of the above precautionary measures should be applied to minimise the effect of any damage to long-term tree health and safety.



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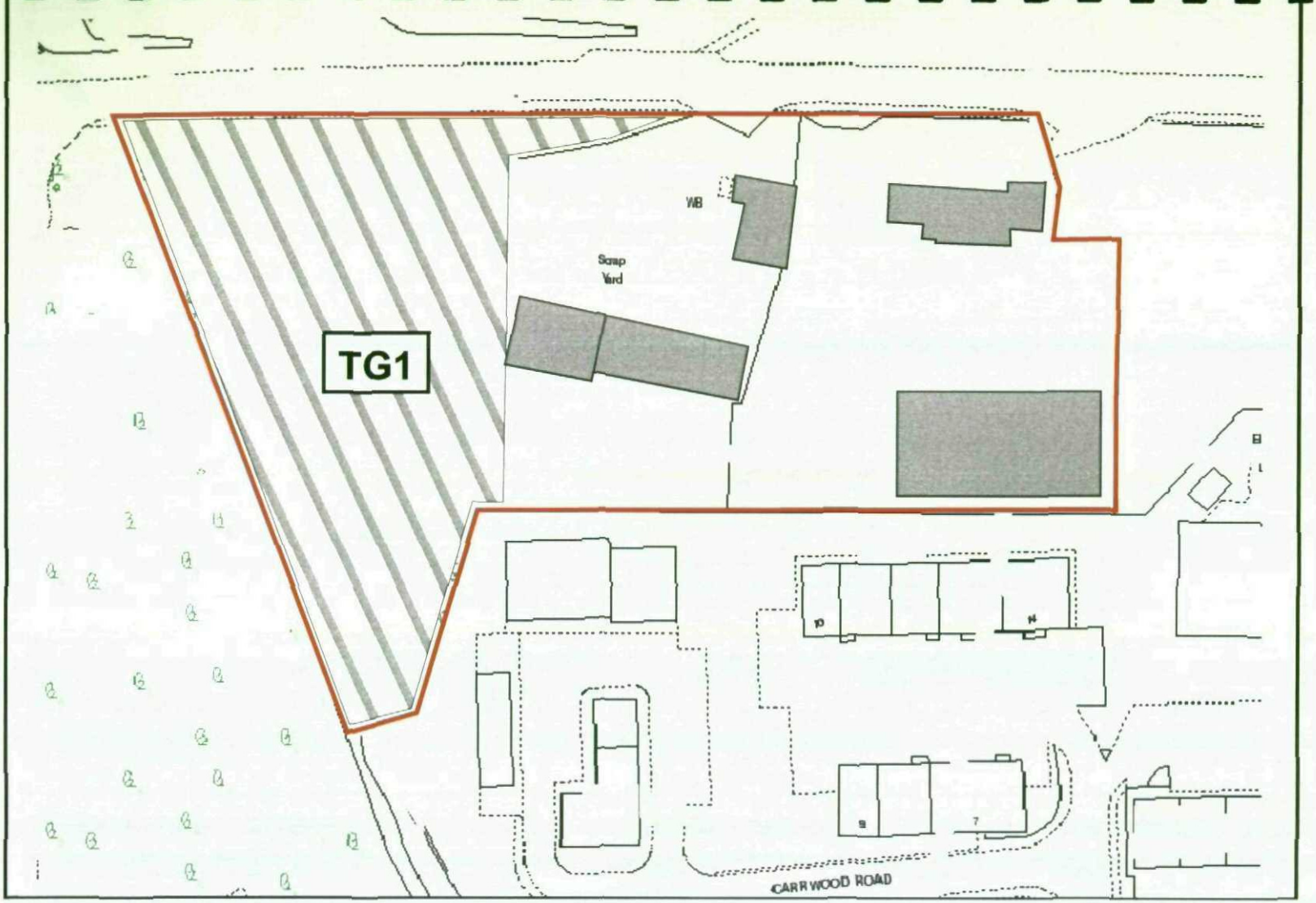
Silkstone Environmental Ltd

C. Soar and Sons, Tank Row, Barnsley

Protective Fencing Details

Figure 1

Not to Scale@ A4. November 2008



N

Retention Category C - Low (BS 5837:2005)

TG1 Tree Group Number

Site Boundary

Buildings

Silkstone Environmental Ltd

C. Soar and Sons

Tree Location and Quality Plan

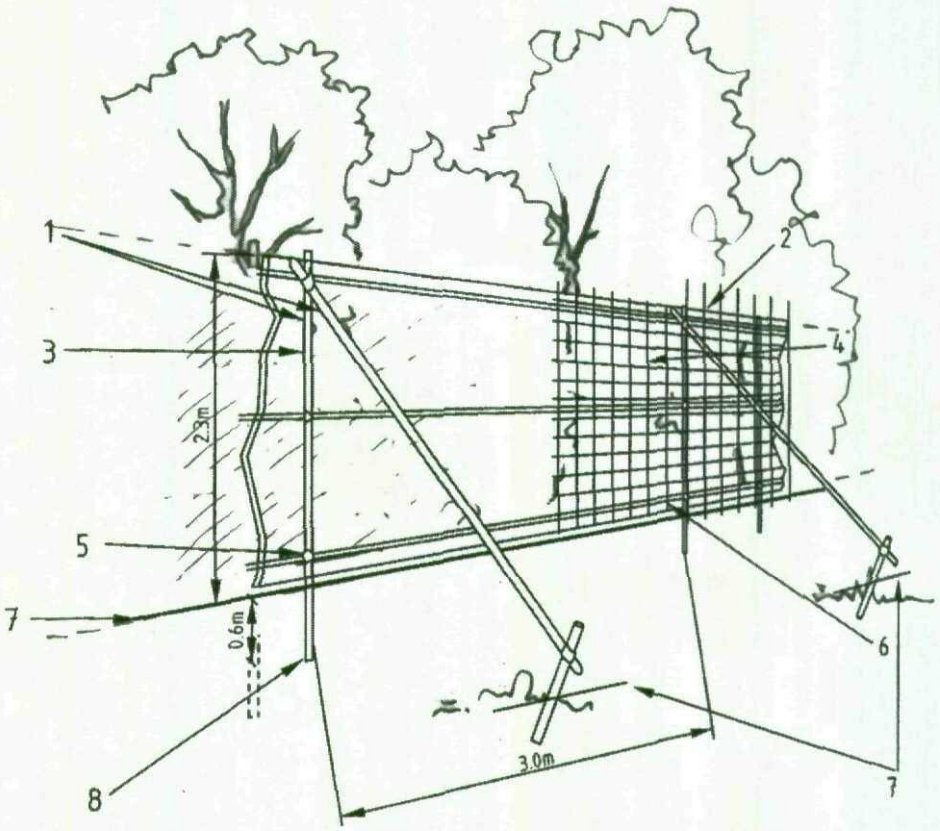
Figure 2

Not to Scale@ A4. November 2008

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1 Standard scaffold poles

2 Uprights to be driven into the ground

3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps

4 Weldmesh wired to the uprights and horizontals

5 Standard clamps

6 Wire twisted and secured on inside face of fencing to avoid easy dismantling

7 Ground level

8 Approx. 0.6 m driven into the ground

Protective barrier

Protective barrier (based on BS5837:2005)

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Silkstone Environmental Ltd

C. Soar and Sons, Tank Row, Barnsley

Protective Fencing Details

Figure 3

Not to Scale@ A4. November 2008

APPENDIX A - TREE SCHEDULE

Key:	Measurements	Age - Class	Overall condition	BS 5837 2005: Cascade Chart for Quality	Symbols:
	Ht - Height in Metres	YNG - Young	G - Good	A - High	< - Less than
	DBH - Stem Dia. at 1.5m	SM - Semi-Mature	F - Fair	B - Moderate	~ - Approximately
	Crown - Crown spread in meters	M - Mature	P - Poor	C - Low	> - Greater than
		OM - Over-Mature	D - Dead	R - Trees for removal	
				Sub-Categories: 1 - Mainly Arboricultural value 2 - Mainly Landscape value 3 - Mainly Cultural value	
RPA - Root protection area (equivalent to a circle with a radius 12x the stem diameter for single trees and 10x the basal diameter for trees with more than one stem arising below 1.5m above ground level					

Site: Tank Row, Barnsley **Job Number: 3912** **Date: 20th November 2008**

Tree No	Species	Height	DBH	Crown Spread	Age Class	Overall condition	Structural Defects	Comments	RPA m^2	RPA radius (m)	BS:5837 Category
TG1	Common Ash *Fraxinus excelsior* Crack Willow *Salix fragilis* Field Maple *Acer campestre* Italian Alder *Alnus cordata* Hawthorn *Crataegus monogyna* Goat Willow *Salix caprea* Dogrose *Rosa canina* Dogwood *Cornus sanguinea* Hazel *Corylus avellana* Silver Birch *Betula pendula* Bird Cherry *Prunus padus* Sycamore *Acer pseudoplatanus* Hornbeam *Carpinus betulus*	4 - 10	50 - 280	1 - 3	Yng - SM	F - P	Many species were multi-stemmed with some exceptions, namely Ash, Alder and Silver Birch. The majority of specimens were tall and drawn. Broken branches and minor dead wood was present throughout the group. Some poor past pruning had been affected to select specimens. There were the occasional dead specimen. Spacings between specimens was approx. 2 - 3m. Planting stakes, ties and guards were present throughout the group.	Located on banking to West of existing C.Soar and Sons site. No formal management scheme was evident.	35.5	3.4	C