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TURNLEE ROAD
GLOSSOP

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TREE SURVEY REPORT

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1.0 INTRODUCTION

1.1 The site comprises a section of an industrial park situated adjacent Turnlee Road, Glossop, though the park itself is accessed off the Charlestown Road (A624). The industrial park itself contains a number of small companies, generally light industrial in type, utilising a mix of buildings from old to new incorporating light metal container type units. The section of the site relevant to this report is a section of land between Turnlee Road and the main access road of the industrial park. The land comprises a compacted stone surface used as storage for cars and lorry containers, with a soil embankment beyond that rises up to the side of Turnlee Road (which is situated a few metres above the level of the industrial park). The trees subject to this report are situated on the embankment between the side of Turnlee Road and the industrial park. The trees are situated atop the embankment and are clearly visible landscape features within the surrounding landscape, but particularly to users of Turnlee Road. The findings of the survey can be found within the Tree Survey Schedule within section 9.0 of this report.

1.2 While this report primarily provides information on the trees as well as general information on tree retention and protection within development sites, at the time of the site visit, information was provided on the development proposals. It was noted that the proposals comprise the erection of a single prefabricated industrial unit within an area that comprises compacted stone. It was also noted that while the calculated Root Protection Areas of the trees extend into the compacted stone area, the actual presence of roots within the compacted stone is unlikely. In addition previous excavation of the embankment has occurred – this has clearly occurred some years previous and resulted in root severance. There are no indications that this excavation has had any significant impact on the trees (and is unlikely to have affected the structural stability of the root-system), but it does mean that there is unlikely to be any root spread beyond the edge of the previous excavated embankment. Surface excavation of the compacted stone layer found it to be virtually impenetrable with a hand trowel beyond a depth of 50mm. Although the prefabricated unit proposed for erection does not require trenching foundations, it will simply be constructed above existing ground levels. As such there appears to be no arboricultural grounds to prevent erection of such a structure within this location, however no excavations should take place within the existing embankment and a Tree Protection Plan should be provided.

1.3 This report is to act as an aid to layout design by identifying the better trees, specifying protective measures and also any work that might be necessary to maintain the trees in an improved or safer condition.

1.4 This survey complies with British Standard 5837:2005 *Trees in relation to construction - Recommendations*. All significant trees or groups within the site have been inspected, identified and detailed. An assessment of condition is included and any work considered necessary to put the trees into a safer or improved condition. Also recorded is the minimum recommended area of protection for each tree, within which no activity should take place (this is generally the position for protective fencing to be erected before development starts).

1.5 Site visit 20th September 2010. Surveyor: Mike Gregory HND Arb. (M.Arbor.A.). Weather conditions: Clear.

1.6 Limitations.

1) Due to the changing nature of trees – and possibly other site circumstances – this report and recommendations are limited to a two year period. Similarly, this report could be invalidated if any alterations are made to the property that could change the conditions as seen at time of inspection.

2) Under certain circumstances, roots can affect foundations, drains and other underground services. These issues have not been addressed by this report.

3) Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer occasional damage under only average weather conditions. A lack of recommended work does not imply that a tree will never suffer damage.

2.0 METHOD

2.1 Site. The survey was carried out from ground level and without the use of special diagnostic equipment (unless otherwise stated). Lower-grade material may be treated as numbered groups, for example where in rows or dense groupings.

Schedule. The following information is given in the schedule, to BS5837:

- Number.
- Tree Name. Species (common).
- Height (metres).
- Trunk diameter at 1.5m up (immediately above root flare for multi-stemmed trees) (millimetres).
- Crown spread N S E W (metres).
- Crown clearance (height of lower branches above ground) (metres).
- Age class (**Y**oung, **s**emi-**m**ature, **m**ature, **o**ver-**m**ature, **v**eteran).
- Physiological condition (**G**ood, **F**air, **P**oor, **D**ead). An assessment of vitality (leaf or bud size/colour/density, annual extension growth, lack of die-back etc).
- Estimated remaining contribution (years, 0-10 10-20 20-40 40+).
- Root Protection Area from BS 5837: 2005 (area in square metres and as a radius in metres). This is the basis of the Root Protection Area marked as a circle on the Tree Constraints Plan (may have been modified in light of site circumstances). This is generally the minimum position for protective fencing.
- Category grading:

  R = Remove (irremediable or with less than 10 years contribution).
  A = High quality and value, preferably with min. 40 years contribution.
  B = Moderate quality and value.
  C = Low quality and value. Also young trees with stem diameter below 150mm (these may be considered for relocation).

  Subcategory:
  1 = mainly arboricultural merit.
  2 = mainly landscape merit.
  3 = mainly cultural or conservation merit.

- Structural condition (eg defects) and any further detail of note including recommendations if necessary.

3.0 TREES AND CON STRUCTION: GENERAL OVERVIEW

3.1 Typically, about 80% of roots will be found in the upper half metre of soil and often extending well beyond the canopy spread. The threat to the trees by development comes from:

(a) root severance or fracture
(b) compaction of the soil, preventing gaseous exchange and moisture percolation
(c) possible change to moisture gradients due to surface water run-off or interception as well as
(d) physical damage to low branches and trunk.

The consequences for the tree of such damage are:

(i) instability, if severe enough
(ii) entry points for pathogenic fungi at wounds / fractures
(iii) loss of vitality due to reduced oxygen, mineral and moisture take-up; all leading to
(iv) root death and
(v) a general decline or possible death of the tree.

4.0 PROTECTION OF RETAINED TREES

4.1 Protection is afforded to the tree by defining a Root Protection Area (RPA) within which no development activity should take place. The size of the RPA is defined in the British Standard and relates to trunk diameter. The RPA is normally the minimum position for protective fencing.

4.2 Where considered appropriate by the arboriculturalist, and for individual open grown trees only, BS 5837 allows for a displacement of the Root Protection Area by up to 20%. The area may also vary from an exact circle, to allow for specific site conditions.

4.3 Where the LPA agrees to activity taking place within the RPA then it is likely that special measures will be required, such as a 'no dig' construction method for drives.

4.4 To give the best chance of continued good health of the retained trees, it will be essential to prevent root severance or compaction of the soil in the Root Protection Area. To achieve this, a stout fence should be erected at the position shown on the plan (or if this is not indicated, at the limit of the Root Protection Area). This should be done before any site materials or machinery are brought onto site, and should comprise a scaffold frame with steel mesh panels securely attached (eg Heras). Mesh is preferred to boarding as it can be seen through and should be re-useable. Use of rubber or concrete feet instead of a frame is not acceptable as these can easily be moved. Once in place, the fence must be regarded as sacrosanct with no storage of materials/spoil or access by machinery within the protected area.

4.5 All weather notices should be fixed to the barrier reading "Root Protection Area – No Access".

4.6 Where temporary access within the Root Protection Area is agreed, the fence may need to be re-aligned and the ground surface protected. For vehicular access this protection will need to be specifically detailed and agreed.

4.7 Site operations such as deliveries, site machines, crane jibs etc should be organised to avoid damaging the trunk or crown of trees. Where this conflict is unavoidable then facilitation pruning should be carried out in advance, rather than after damage has occurred. This may be required to allow demolition operations.

4.8 Material which could contaminate the soil eg concrete mixing, fuel, vehicle washings etc should not be discharged within 10m of the stem of any tree, and not on ground beyond sloping down to the tree.

4.9 Fires should either not be permitted, or else not lit where flames could extend to within 5m of the foliage, branches or trunk.

4.10 No notice boards, cables, nails or other items should be attached to any part of the tree.

5.0 ARBORICULTURAL METHODS

5.1 The arboricultural consultant (or local authority Tree Officer) should be consulted whenever an unexpected issue occurs that involves any tree on site including access within the Protection Area.

5.2 All tree work should be carried out to the highest standards, based on British Standard 3998:1989 *'Recommendations for Tree Work'* and current best practice.

5.3 To ensure standards are met it is recommended that a contractor from the Approved List of the Arboricultural Association be used (01794 368717 www.trees.org.uk).

5.4 It is recommended that when the final layout is agreed with the LPA, a final Arboricultural Method Statement and Tree Protection Plan be drawn up. This will bring together many of the items above in a simpler document.

6.0 WILDLIFE ISSUES AND TIMING OF OPERATIONS

6.1 Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat' (Countryside and Rights of Way Act 2001 and further strengthened by other legislation). Where work is being carried out and bats are present, or if the tree is a known roost, consultation must be made with the Statutory Nature Conservancy Organisation (English Nature, 01733 455101 www.english-nature.org.uk). A European Protected Species Habitat Regulations Licence is likely to be required. Work to trees with the potential for roosting bats is best done from late August to early October. March through to April is also suitable although this may conflict with nesting birds (see below).

6.2 Birds. It is also likely to be an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds should be avoided from late March to August.

6.3 The pruning of some species should avoid specific times. *Prunus* species (eg flowering and fruiting Cherry, Plum, Almond etc) should only be pruned during June – August in order to minimise the risk of infection by Silver Leaf disease. *Acer* (Maples including Sycamore), *Betula* (Birches) and, *Morus* (Mulberry) should not be pruned February – June due to sap bleeding; also *Juglans* (Walnut) from December – June.

7.0 PLANNING CONSIDERATIONS

7.1 If the site is subject to Tree Preservation Orders (TPO) at present, any pruning work to protected trees (or their removal) will have to be authorised by the Local Planning Authority, and should be the subject of a formal application. Any pruning of felling of trees within a Conservation Area requires a notification to the Local Planning Authority. Certain exemptions apply to these planning provisions. For any trees not already under a TPO, the Local Planning Authority may impose some tree protection as part of the planning process, either as a 'condition of planning' or by the placement of a TPO.

8.0 CASCADE CHART FOR TREE QUALITY ASSESSMENT

TREES FOR REMOVAL			
Category	**Criteria**		
'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 (ie 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 (eg Dutch Elm disease) or very low quality trees suppressing adjacent trees of better quality. **NOTE:** Habitat reinstatement may be appropriate (eg 'R' category tree used as a bat roost, installation of bat box in nearby tree)		
TREES TO BE CONSIDERED FOR RETENTION			
	1. Mainly arboricultural values	**2. Mainly landscape values**	**3. Mainly cultural values, including conservation**
'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 (eg 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 (eg avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (eg veteran trees or wood pasture)
'B' **Those of moderate quality and value:** 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 (eg 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 (eg 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
'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
	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		

9.0 SCHEDULE

Tree No.	Tree Species	Height	Trunk diameter single stem	Stem category multistem	North	East	South	West	Height to crown	Age class	Physiological condition	Structural condition	Est. age remaining	RPA (area)	RPA (radius)	BS Category	Structural defects & further detail
T1	Ash	22	910		8	7	8	7	3	M	G	G	40+	373	10.9	A2	Large prominent specimen with clear visibility within surrounding landscape, including Turnlee Road. Trunk bifurcates at some 4.5m height. Canopy contains some deadwood and broken branch stub though there were no indications of any significant defects at the time of survey.
T2	Lime	21	600		8	6	7	5	0	M	G	G	40+	163	7.2	A2	Prominent roadside tree offering excellent visual amenity.
T3	Norway Maple	19	730		9	8	8	5	6	M	G	G	40+	243	8.8	A2	Prominent roadside tree offering excellent visual amenity. Trunk bifurcates at 3m.