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SUMMARY

The purpose of this report is to make an appraisal of certain trees potential development land at 87 Chapel Road, Whaley Bridge with regard to their condition, amenity value and any constraints they may impose on a proposal to demolish the existing wooden cabin and derelict sheds and erect one detached dwelling and two semi-detached dwellings .The report advises on those trees that should be removed, on the trees that can be retained and how those being retained should be protected during the development process.

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1.0 Introduction

1.1 **Brief:** I am instructed by Mr. Michael Bromley to undertake a predevelopment appraisal (an 'arboricultural implication study') of the trees at 87 Chapel Road, Whaley Bridge in the context of a proposal to demolish the existing temporary structures and erect one detached dwelling and two semi-detached dwellings with associated parking and a new access point. The study considers the condition of the trees, their amenity value and any constraints they may impose on the proposal. It advises that all the trees can be retained and advocates measures that should be implemented to enable them to be integrated successfully into the proposal.

1.2 **Qualifications and experience:** I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture and list the details in Appendix 1.

1.3 **Documents and information provided:** I was provided with copies of the following documents:

- an existing topographical site plan - 1:100 @ A2,
- a proposed site layout plan - 1:100 @ A2 and,
- a copy of the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell - 2006

1.4 **Relevant background information:** Because there are protected trees on the site the local planning authority (High Peak Borough Council) will require a tree survey to ensure that proper consideration is given to the trees in the context of the proposal.

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2.0 SITE VISIT AND OBSERVATIONS

2.1 **Site visit:** I carried out a site visit on the morning of Tuesday March 22, 2011. All my observations were from ground level without detailed investigations. I estimated all dimensions unless otherwise indicated. The weather at the time of inspection was mild and still with bright sunshine. Visibility was reasonable. Subsequent to this visit, I had a meeting on the site with Monica Gillespie Arboricultural Officer for High Peak Borough Council on the afternoon of Monday July 11, 2001.

2.2 **Brief site description:** Whaley Bridge is a small town located in Derbyshire, England. It stands on the old A6 road 18 miles southeast of Manchester, 9 miles east of Macclesfield and 28 miles east of Sheffield. 87 Chapel Road is located to the south east of the town centre. It is the last property on the southern side of Chapel Road before it passes under the Stockport to Buxton railway line. The narrow irregular site is served by an access track that leads up from Chapel Road close to the railway bridge. It contains several temporary buildings set on and adjacent to an elevated concrete base with the land falling away steeply to the south. The general nature of the immediate locality is best described as rural fringe (photograph 1).



Photograph 1

2.3 **Identification and location of the trees:** I have illustrated the locations of the trees on the Tree Constraints Plan included as Appendix 4 and the Tree Protection Plan included as Appendix 5. These plans in the appendices are for illustrative purposes only and they should not be used for directly scaling measurements. Only the full sized plans accompanying the report should be for scaling measurements. All the relevant information on them is contained within this report and the provided documents.

2.4 **Tree observations:** I visually inspected the trees and recorded the information on the tree data table included as Appendix 3. The details of the report should be self-explanatory, however, abbreviations and certain terms used in the tree information schedule are explained in section 3.

3.0 TREE SURVEY INFORMATION

3.1 Information relating to the trees is recorded in the tree data table in Appendix 3. The data collected complies that recommended in section 4 of British Standard BS 5837:2005 ‘Trees in Relation to Construction - Recommendations’ (BS 5837).

3.2 Tree species has been recorded by both common and botanical name.

3.3 Height has been recorded in metres.

3.4 Stem diameter at 1.5 metres is recorded in millimetres.

3.5 Branch spread has been recorded in metres as a radius at four cardinal points as recommended in BS 5837.

3.6 Height of ground clearance has been recorded in metres.

3.7 'Age Class' has been recorded thus:

Yng - Young trees
Mid - Middle age trees
Mat - Mature trees
Om - Over-mature trees
Vet - Veteran trees

3.8 'Physiological condition' has been recorded (e.g. good, fair, poor, dead).

3.9 'Structural condition' has been recorded (e.g. collapsing, the presence of any decay and physical defect).

3.10 'Preliminary management recommendations' have been provided.

3.11 'Remaining contribution' has been estimated (e.g. less than 10, 10-20, 20-40).

3.12 Category grading (BS 5837 Class) has been recorded as R, A, B or C in accordance with Table 1 of BS 5837. This gives an indication as to the trees importance in relation to the characteristics of the site and its suitability for retention in the context of the proposed development on the site:

R - trees which should be removed irrespective of any development proposal
fell category - (dark red)

A - trees of high quality whose retention is most desirable
high category - (light green)

B - trees of moderate quality whose retention is desirable
moderate category - (mid blue)

C - trees low quality, which could be retained:
low category - (grey)

3.13 The subcategories 1, 2 and 3 used with the main categories are also based on those defined in table 1 of BS 5837.

4.0 APPRAISAL

4.1 **General observations:** British Standard BS 5837:2005 'Trees in Relation to Construction - Recommendations' (BS 5837) give recommendations and guidance of the principals that should be applied during the development process to achieve a

satisfactory juxtaposition of trees with structures. With regard to the design issues and the assessment of trees on development sites BS 5837 recognizes section 6.1 that:

"the competing needs of development mean that trees are only one factor requiring consideration".

4.2 BS 5837 adds in 6.2.1 that:

"Trees can impinge on many aspects of site development. Adequate consideration should be given to the requirements of trees by all members of the design team throughout the development process"

4.3 Furthermore, in 6.3 BS 5837 provides detailed advice on the juxtaposition of trees and structures:

"6.3.1 A realistic assessment of the probable impact of any proposed development on the trees and vice versa should take into account the characteristics and condition of the trees, with due allowance and space for their future growth and maintenance requirements.

6.3.2 The relationship of windows to trees, which may obstruct light, should be taken into account. Excessive shading by trees should be avoided particularly to rooms requiring light. This will vary with orientation and aspect of the building, proximity to the tree and the type of tree as foliage size and density varies with species.

6.3.3 Damage can occur to trees and structures by the continuous whipping of branches. Branch ends may have to be cut back repeatedly, possibly spoiling the shape of the tree. Trees should not be retained on the basis that their ultimate branch spread can be significantly controlled by periodic pruning, unless this is a desired management option (e.g. pollarded trees).

6.3.4 Large trees can cause apprehension to occupiers of nearby buildings especially during windy conditions.

6.3.5. Leaves of some species may cause problems, particularly in the autumn, by blocking gullies and gutters. Fruit can cause slippery patches and accumulation of honeydew may be damaging to surfaces and vehicles."

4.4 Clearly, BS 5837: advises that the physical size of trees can: dominate buildings and give rise to concern about safety, cause obstruction of light and views, and incite objections about falling leaves and debris. These factors are most important when taking into consideration the juxtaposition of trees and new development, and usually this can only be resolved by allowing sufficient space for the trees or by removing the trees.

4.5 **The trees:** For the purposes of this report the trees have been treated as ten individual specimens and five groups of trees.

4.6 **Tree 1 and Group 2 – *sycamore:*** These trees stand close to the existing site entrance close to the railway bridge that crosses Chapel Road. They stand well away from the development window and will not be directly affected by the current proposal. I deduce that the four sycamore trees in Group 2 correspond to those described as G1 in the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006 (photograph 2).



Photograph 2

4.7 Irrespective of the proposed development, it would be beneficial to crown clean these trees to alleviate the risk of falling deadwood. The ivy growing up the stems of these trees should also be severed and stripped up to a height of around 1.5 metres. Ivy is not parasitic and does not directly affect the health of the trees it climbs. In addition, the dense mass of foliage and intertwining stems around the trunks of trees, provide shelter for birds to build their nests, and places where bats can roost through the day. Usually therefore, it is not considered necessary or appropriate to remove ivy from trees. However, a dense covering of ivy up the stems and into the crowns of a mature tree can inhibit safety checks.

4.8 **Tree 3 and Tree 4 – *ash and sycamore:*** These two trees stand on the southern side of the track that leads up to the development area. I deduce that these trees correspond to those described as Tree 2 and Tree 3 in the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006 (photograph 3).



Photograph 3

4.9 These trees stand away from the development window and will not be directly affected by the proposals. As for Tree 1 and Group 2 these trees would benefit from crown cleaning operations and removal of ivy growing up their stems.

4.10 **Tree 5 and Tree 7 – *hawthorn and ash:*** Tree 5 hawthorn stands at the top of the track leading up to the development window from Chapel Road just east of the derelict garage. Tree 7 ash stands on the steep banking to the south of the derelict garage. I deduce that these trees are not protected by the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006 (photograph 4).



Photograph 4

4.11 It may be necessary to remove Tree 5 in order to accommodate plot 3. However, it is a relatively insignificant specimen in comparison to the adjacent trees and its loss will not be especially significant. Tree 7 is a poor specimen that has been pollarded at some time in the past. In addition its crown is swamped by heavy ivy growth that severely limits its potential. It will be necessary to remove this tree to accommodate plot 3.

4.12 **Group 6 – *hawthorn and holly:*** This group of small trees stands on the banking to south west of the derelict garage. They should not be affected by the proposed development. I deduce that the trees in this group are not protected by the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006.

4.13 **Group 8 – *ash, sycamore, hawthorn and spruce:*** The trees in is large group stand on the steeply falling ground to the south of the log cabin and parking area. Following my meeting with Monica Gillespie on the afternoon of Monday July 11, 2011 I construe that the trees described as T8, T9 and G2 in the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006 correspond with the large mature ash and sycamore that stand at the bottom of the banking adjacent to the canal feeder channel. It appears that T9 is incorrectly described as a sycamore in the Tree Preservation Order. This tree is an ash. During my visit on July 11, 2011, I noted a young fruiting body (bracket) of the decay fungi 'shaggy polypore' *(Inonotus hispidus)* fresh fruiting body on the stem of this tree (photograph 5).



Photograph 5

4.14 The presence of ‘shaggy polypore’ signifies the likelihood of structural weakness/decline in the near future. Lonsdale states in ‘Principles of Tree Hazard Assessment and Management’ - Research for Amenity Trees that:

“Since I. hispidus weakens the wood of F. excelsior at an early stage of decay, its presence on this species, and perhaps also on walnut, often indicates that breakage of the affected branch or trunk could be imminent. In Britain the fungus is commonly found in hedgerow and on roadside trees of F. excelsior.”

4.15 Therefore, whilst the foliage cover on the tree indicates that it is in fair physiological condition, the presence of the principal decay fungus ‘shaggy polypore’ determines that it should be removed irrespective of the proposed development. In addition, the presence of a principal decay fungus in this tree may render it exempt from the normal requirement to apply for works on protected trees under section 198(6)(a) of the Town and Country Planning Act 1990. The remaining protected sycamore and ash trees along the bottom of the banking can be retained and protected within the current development layout.

4.16 However, the lesser trees that stand further up the banking will need to be removed to accommodate the current layout. Generally, these trees constitute a mix of self-seeded ash, sycamore and hawthorn that have emerged as an understory beneath the larger protected trees (photograph 6).



Photograph 6

4.17 The most visible trees in this part of Group 8 are the ash and sycamore that stand on the top of the banking adjacent to the level parking area. The crowns of these pollarded trees are swamped by heavy ivy growth severely limiting their potential. Because of this their loss will not be especially significant (photograph 7).



Photograph 7

4.18 **Group 9, Tree 10, Tree 11 and Group 12 – *ash and sycamore:*** All these early-mature trees stand on the road side of the narrow bund that runs along the Chapel Road frontage. I deduce that these trees are not protected by the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006 (photograph 8).



Photograph 8

4.19 I will be necessary to remove Tree 10, Tree 11 and most probably all the trees in Group 12 to enable the provision of appropriate access into the new development. However, it should be possible to retain and protect all the trees in Group 9.

4.20 **Tree 13, Tree 14 and Tree 15 – *ash and sycamore:*** These 3 three trees stand on the Chapel Road frontage between the track leading up the development window and he highway. I deduce that these trees correspond to those described as Tree 4, Tree 5 and Tree 6 in the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006 (photograph 9).



Photograph 9

4.21 These trees stand away from the development window and should not affected by the proposed development.

4.22 **Protective barriers:** Barriers for the protection of trees on development sites should be fit for the purpose of excluding construction activity and appropriate to the type and proximity of the work. In particular attention should be paid to ensure that such barriers remain rigid and complete during all phases of development. In most instances barriers should consist of rigid framework comprising vertical post and horizontal rails well braced to resist impacts. An appropriate fence type should then be securely fixed to this framework with clamps or wire. Fences secured with concrete or rubber feet are not resistant to impact and should not be used. The protection of the subject tree and its subsequent health and future potential is totally dependent upon all persons

operating within the site. Communications are vitally important to ensure that all parties understand the reasons for tree protection and its continued existence.

4.23 **Location of protective barriers:** Table 2 of British Standard BS 5837:1991 'Trees in Relation to Construction' recommended minimum distances for protective fencing around trees based on their age, vigour and trunk diameter. However, the use of these categories has now been superseded by a new and revised BS 5837:2005 which was introduced on September 16, 2005. The new standards requirement for the use "root protection areas" (RPAs) formed by calculating a circle 12 times the stem diameter for single stem trees and (10 times for multiple stemmed trees).

4.24 The appropriate stem diameters, RPA radiuses, RPA areas and equivalent square RPA side dimensions for the retained trees on the site are indicated in table 1 below.

RPA information for retained trees

Tree No.	Stem dia. at 1.5	RPA equates to an approximate area of:	RPA equates to a circle with a radius of:	RPA equates to a square with approximate sides of:
T1.	400mm	72 m²	4.8m	9m
G2.	<900mm	366 m²	10.8m	19m
T3.	400mm	72 m²	4.8m	9m
T4.	500mm	113m²	6.0m	11m
T5.	300mm	41m²	3.6m	6m
G6.	<200mm	18m²	2.4m	4m
T7.	600mm	163m²	7.2m	13m
G8.	<1000mm	452m²	12.0m	21m
G9.	<250mm	28m²	3.0m	5m
T10.	<300mm	41m²	3.6m	6m
T11.	350mm	55m²	4.2m	7m
G12.	<250mm	28m²	3.0m	5m
T13.	500mm	113m²	6.0m	11m
T14.	400mm	72 m²	4.8m	9m
T15.	300mm	41m²	3.6m	6m

Table 1

4.25 The possible locations of the tree protection barriers are indicated on the Tree Protection Plan in Appendix 5. However, I would advocate that to avoid any ambiguity, the precise location of the tree protective barriers be agreed on site with the local authority arboricultural officer and then marked out clearly on the ground. It is imperative that these barriers 'as specified in British Standard BS 5837:2005 'Trees in Relation to Construction' should be put up around the retained trees prior to the commencement of any construction operations.

4.26 **Specification for the protective barriers:** In this case the specification for the protective barrier should be:

2.1m high Weldmesh panels ('Heras' type fencing) securely fastened to a rigid framework as outlined below.

Posts: 2.7m x 150mm x 150mm posts securely driven in to 0.6m deep, 150mm augured holes at a minimum 3.6m spacing.

Top and Bottom Rails: 3.6m x 100mm x 50mm softwood nailed twice to the uprights.

Support Struts: 100mm x 50mm softwood nailed to the uprights at every third post and at each corner or change of direction.

4.27 No storage of materials or any construction operations should occur within any of the fenced areas. Additionally, when finalising the site layout, account should be taken of the route/installation method of underground services/drains and, the route / construction method of new access roads/driveways in relation to the retained trees. Ideally notice similar to that shown below (figure 1) should be attached to the fencing at appropriate intervals.

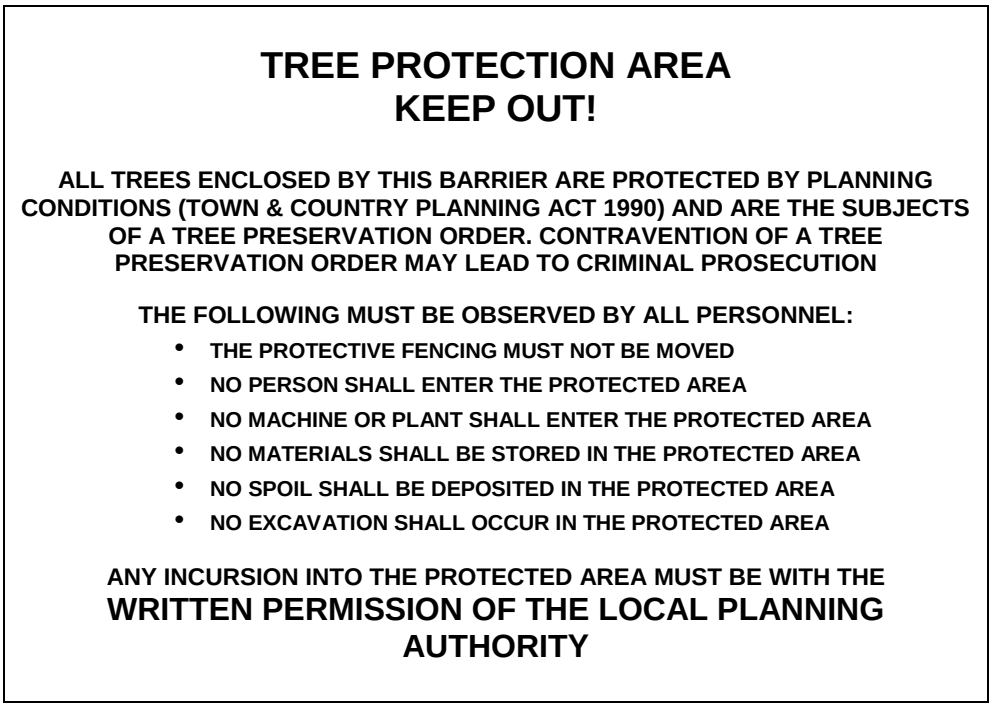

Figure 1

4.28 It is expected that the erection of tree protection barriers will be conditional on the approval of a planning application that calls for their use.

4.29 **Ground protection within RPAs**: In some situations it may be impossible for the construction works to be carried out without vehicular or pedestrian access through the RPA of a tree intended for retention. Any such access is likely to result in changes to

the existing soil structure with corresponding damage to the health and condition of the tree root systems.

4.30 **Position of Underground Utility Services**: Mechanical trenching for the installation of underground services will sever any roots presence and may cause changes to ground conditions in a way which adversely affects tree health. Underground services should, where possible, be routed outside of the prescribed RPAs of retained trees. If routing of a service within an RPA is unavoidable, at all times it is likely that tree roots will be encountered during excavation for the pipe works within the RPAs of the retained trees. The extent of such root loss is difficult to predict, but it is probable that root loss would occur.

4.31 Consequently, it may be necessary to undertake excavation by hand (or use trench less installation techniques), where the trenches pass close to the retained trees, thus allowing the extent of root loss to be determined. As a general rule tree roots with a diameter of 25 mm or less can be severed cleanly (by use of a saw) without any detrimental affect on the health and stability to the tree. However, if roots of a diameter greater than 25mm are encountered, the local authority Arboricultural Officer and/or Arboricultural Consultant should be consulted as to implications their severance would present to the health and stability of the tree.

4.32 If this method is employed it would be prudent to prepare a simple method statement based on guidance taken from National Joint Utilities Group (NJUG) Publication Volume 4 : 2007 ‘Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees’. Ideally the route of any underground services should run beneath the pathway that will lead to the classroom.

4.33 **Special surfaces:** Where new parking spaces are to be installed in close proximity to any retained trees, it is likely that roots will encountered. In these areas any possible root injury could be mitigated by the utilisation of ‘special surfaces’ incorporating a ‘no dig’ methodology as recommended in Arboricultural Practice Note 12: 2007 “Through the Trees to Development ” (APN 12).

4.34 Cellular confinement systems such as ‘Geoweb’ and ‘Cellwebb’ can be used to implement the principals of APN 12. When utilised correctly with free draining aggregates and a permeable surface coating these cellular confinement systems provide a shallow and free draining base that support the passage of vehicles whilst allowing water and oxygen to permeate down to tree roots. This enables a ‘no dig’ construction technique to be used avoiding the severance of trees roots and preventing soil compaction around retained trees. Therefore, provided the ‘no dig’ methodology recommended in APN 12 is adhered to, the implementation of the new parking spaces should not have a detrimental impact upon the retained trees within and adjacent to 13 Park Road.

4.35 **Structural damage:** The potential risk for any direct or indirect structural damage to the proposed development being associated with the trees on and adjacent to the site is

dependant on diverse factors, such as: tree species and age, soil type, foundation depth, climate, etc. This complex interaction of tree, soil, building and other influencing factors is so inherently unpredictable, that any accurate prediction of such incidence is impractical without detailed investigation and is outside the remit of this report and it is recommended that a structural engineer be consulted on this matter. Further information on this can be found in the following papers:

(i) National House Building Council (NHBC) Standards Chapter 4.2
Building near trees

(ii) Building Research Establishment (BRE) Digest 63
Soils and foundations: 1

(iii) Building Research Establishment (BRE) Digest 64
Soils and foundations: 2

(iv) Building Research Establishment (BRE) Digest 67
Soils and foundations: 3

(v) Building Research Establishment (BRE) Digest 240
Low-rise buildings on shrinkable clay soils: Part 1

(vi) Building Research Establishment (BRE) Digest 241
Low-rise buildings on shrinkable clay soils: Part 2

(vii) Building Research Establishment (BRE) Digest 242
Low-rise buildings on shrinkable clay soils: Part 3

(viii) Building Research Establishment (BRE) Digest 298
Low-rise building foundations; the influence of trees in clay soils

4.36 **Conclusion:** The proposal to demolish the existing temporary structures and erect one detached dwelling and two semi-detached dwellings with associated parking and a new access point at 87 Chapel Road, Whaley Bridge should not necessitate the loss of any significant trees. All the mature trees that stand on the eastern part of the site are located well away from the development window. These include Tree 1 sycamore, Group 2 sycamore, Tree 3 ash, Tree 4 sycamore, Tree 13 ash, Tree 14 sycamore and Tree 15 ash. All these trees are protected by the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006.

4.37 It may be necessary to remove Tree 5 hawthorn because it stands in close proximity to plot 3. If the loss of this relatively small tree should occur, it would not be especially significant in the context of the surrounding tree cover. It will also be necessary to remove Tree 7 ash and the lesser trees in Group 8 that stand on the upper part of the banking to accommodate the new houses. The significant mature trees that stand along

the canal feeder channel at the bottom of the banking can be retained and protected. These trees are also protected by the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006. Although the large ash at the western extremity of Group 8 should be removed because of its condition irrespective of the proposed development. This tree is described as T9 Sycamore in the High Peak Tree Preservation Order No. 228 – 87 Chapel Road/1 The Dell – 2006. It will also be necessary to remove the early-mature ash and sycamore Tree 10, Tree 11 and Group 12 on the site frontage to accommodate the new access. However, it should be possible to retain the trees in Group 9. All these trees are not protected by the Tree Preservation Order.

4.38 Clearly therefore, the current proposal or any other future development at 87 Chapel Road, Whaley Bridge should acknowledge the presence of the significant trees on the site, and be designed and appropriately orientated to avoid any conflict with them. The layout of the current development proposal acknowledges the presence of the trees on the site and has been designed and appropriately orientated to minimise any conflict with them. Therefore, if the suggested tree protection measures and methodologies advocated in the report are implemented and adhered to, the current proposed development should be feasible within the constraints the trees impose on the site.

4.39 Details of the pruning works recommended for the subject trees are listed in the 'tree data table' in Appendix 3.

5 RECOMENDATIONS

5.1 Prior to Development:

(i) consider general design requirements in respect of retained trees, soil type, etc.,
(ii) implement recommended tree works in tree data table and;
(iii) erect tree protective barriers to BS 5837:2005.

5.2 During Development:

(i) monitor condition of retained trees / tree protective barriers.

5.3 On Completion of Development:

(i) remove tree protective barriers,
(ii) undertake any appropriate remedial tree works (if applicable) and;
(iii) implement landscape plan (if applicable).

5.4 **Implementation of works:** When appointing a tree contractor, only suitably qualified and experienced companies should be used. Always ensure that the contractor carries adequate Public and Products Liability Insurance, along with appropriate Employer's Liability Insurance. Ideally, the contractor should be approved by the Arboricultural Association. Their Register of Contractors is available free from them at Ullenwood Court, Ullenwood, Cheltenham, Gloucestershire, GL 53 9QS (Tel: 01242 522152, Email: admin@tree.org Web: www.trees.org.uk). The contractor should carry out all tree works to BS 3998 *Recommendations for Tree Work* (1991) as modified by research that is more recent.

5.5 **Future considerations:** Ideally, all the trees remaining on the site should be inspected on a regular basis by a qualified arboriculturalist. Trees are living organisms whose health and condition can change rapidly. The conclusions and recommendations of this report are valid only for a period of one year. This period of validity maybe reduced in the case of any change in conditions to, or in proximity to, the trees.

6 OTHER CONSIDERATIONS

6.1 **Trees subject to statutory controls:** If the trees are covered by a tree preservation order or located in a conservation area it will be necessary to consult the local authority before any pruning works other than certain exemptions can be carried out. The works specified above are necessary for reasonable management and should be acceptable to the local authority. However, tree owners/managers should appreciate that they may take an alternative point of view and have the option to refuse consent.

6.2 **Trees outside the property:** If any of the trees indicated on the plans are found to be located outside the site it may not be possible to easily carry out any recommended works without the full co-operation of the tree owners. The implications of non co-operation requires legal interpretation and are beyond the scope of this report. By common law, branches (and roots) from trees on adjacent properties extending over boundaries can be pruned back to the boundary line without the permission of the owners. However, the material belongs to the tree owner and the same guidance on statutory controls apply as discussed in section 6.1.

6.3 **Replacement Trees:** Ideally, replacement trees should be planted in mitigation for any that may be lost and to supplement those being retained. For the most effective impact these trees should be 'Extra Heavy Standard Trees' conforming to British Standard for Nursery Stock BS 3936 : Part 1 1992, with a stem girth of 14 to 16 cm at 1m from ground level and a minimum height of 350 cm. They should be secured with twin stakes and cross strut, with tie and flat back spacer. Ideally, an irrigation/aeration pipe should be installed and the soil surface mulched at a radius of 0.5 m from the base of the tree.

6.4 **Wildlife:** All operations should take account of wildlife needs and be planned to take advantage of weather conditions for minimum damage and disturbance.

6.5 **Bats:** Specific consideration should be given to the possible presence of roosting bats, which are protected under British law by the Wildlife and Countryside Act (WCA) 1981 (as amended), and bats are classified as European Protected Species under The Conservation (Natural Habitats, &c.) Regulations 2010. This makes it an offence to kill, injure or disturb a bat and to destroy any place used for rest or shelter by a bat. The Countryside and Rights of Way Act (CRoW) 2000 strengthens protection given by the WCA and covers 'reckless' damage or disturbance to a bat roost. Although no obvious features potentially suitable for roosting bats (such as hollows, cracks and cavities within trunks and branches) were apparent during the present survey; a thorough inspection was not undertaken by an appropriately qualified bat worker.

6.6 **Nesting Birds**: Any proposed tree removal should be carried out outside the bird breeding season (which runs from March to September inclusive) to avoid adverse impacts to any nests present. If it is necessary to carry out the work during the breeding season, then a nesting bird survey should be carried out prior to felling/removal works commencing. This is to ensure that no active nests will be affected and to ensure legal compliance. If active nests were found then working restrictions would be put in place until all chicks had fledged. All wild birds and their nests, whilst in use, are protected under the WCA 1981 (as amended) from harm or destruction during the breeding season.

APPENDIX 1
Qualifications and Experience

1. **Qualifications:** I am Neil Richard Edmondson. I am principal practice consultant of Oak-Leigh Consulting, which is an Arboricultural Consultancy practice based at Oak-Leigh, Childs Lane, Brownlow, Congleton, Cheshire. The practice specializes in arboriculture, forestry and project management throughout the north of England. I hold a Higher National Diploma in Arboriculture awarded by the University of Central Lancashire and also hold the 'Dick Leigh Cup' awarded to the best practical student.

2. **Practical experience:** I have 29 years experience of studying and working in the field of arboriculture. From 1996 to 1998 I was an Arboricultural Officer at Bolton Metropolitan Borough Council where my duties included management of council owned trees and administration of the tree works contracts under compulsory competitive tendering. More recently from 1998 to 2002 I was the Senior Arboricultural Officer at Chester City Council. During time I was primarily responsible for the administration of Tree Preservation Orders, development control advice and the implementation of tree management policies. In 1994 I was member of the United Kingdom/Ireland tree climbing team that competed at the European Tree Climbing Championship at 'Parc Du Chateau De Boiseron' in the South of France.

3. **Continuing professional development:** I am a Fellow of the Arboricultural Association. In pursuance of continuing professional development I regularly communicate with other professionals on both public and private sector. In April 2004 I attended an Arboricultural Association workshop (Writing Professional Reports, Jeremy Barrell). I have attended almost every association conference since Lancaster in 1995 and I attended as a delegate last September at Manchester University.

4. **Relevant experience:** I have acted for many clients both public and private, notably, Astra Zeneca, Amber Valley District Council, Cheshire County Council, Ellesmere Port District Council, North Shropshire District Council, Cass Associates, Strutt and Parker International, Manchester International Airport Authority, Gillespie's Landscape Architects, Charles Topham and Sons Limited, Roland Bardsley Limited, and Taylor Woodrow Limited providing advice on all aspects of tree management. Primarily, I undertake: tree surveys and inspections, pre-development site assessments, arboricultural implication studies, prepare method statements and carry out site supervision inspections.

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APPENDIX 2
References

1. Lonsdale, D. (1999) Principles of tree hazard assessment and management, Research for amenity trees No. 2. HMSO, London. ISBN 0-11-753355-6

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5. British Standard BS 3998 : (2010) *Tree Work-Recommendations.* ISBN 978-0-580-53777-6

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7. Arboricultural Practice Note 12: (2007) *Through the Trees to Development* Arboricultural Advisory and Information Service. ISSN 1358-8249

APPENDIX 3
Tree Data Table

Tree No.	Species (common and latin)	Appr. Height (m),	Appr. Crown Spread (radius m)	Apr. Stem dia. at 1.5 m (mm)	Appr. Canopy Height (m),	Age Class	Observations	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	BS: 5837 Category Rating
Trees in vicinity of proposed development at: 87 Chapel Road Whaley Bridge										
T1.	Sycamore *(Acer pseudoplatanus)*	**17**	n6 s1 e5 w6	**2 x 400**	4	**Mat**	Co-dominant stems diverge at 0.5 metres Heavy Ivy cover high into crown Dead tree off site to south Minor deadwood Crown asymmetry caused by dead tree to south Low branches encroaching towards highway	Retain and protect with a barrier complying with BS 5837 : 2005 or better Sever Ivy and strip off to reveal lower stem	>40	**B3**
G2. (Ref: G1 on TPO)	4 x Sycamore *(Acer pseudoplatanus)*	**19**	n8 s8 e6 w6	**600 – 900**	4 - 5	**Mat**	Four co-dominant trees from one crown mass Behind stone wall Ivy growing up stems Included fork at 3 metres on largest tree Significant deadwood Rookery in tops	Retain and protect with a barrier complying with BS 5837 : 2005 or better Sever Ivy and strip off to reveal lower stem	>40	**B2**
T3. (Ref: T2 on TPO)	Common Ash *(Fraxinus excelsior)*	**16**	n5 s6 e4 w5	**2 x 400**	6	**Mat**	Co-dominant stems diverge at 0.25 metres Ivy growing up stem and into crown Deadwood Rookery in top Behind stone wall	Retain and protect with a barrier complying with BS 5837 : 2005 or better Sever Ivy and strip off to reveal lower stem	>40	**B3**

APPENDIX 3
Tree Data Table

Tree No.	Species (common and latin)	Appr. Height (m),	Appr. Crown Spread (radius m)	Apr. Stem dia. at 1.5 m (mm)	Appr. Canopy Height (m),	Age Class	Observations	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	BS: 5837 Category Rating
Trees in vicinity of proposed development at: 87 Chapel Road Whaley Bridge										
T4. (Ref: T3 on TPO)	Sycamore *(Acer pseudoplatanus)*	**15**	n4 s5 e3 w5	**500**	4	**Mid**	Single stem Deadwood Ivy growing up stem Inside stone wall Adjacent to stone wall	Retain and protect with a barrier complying with BS 5837 : 2005 or better Sever Ivy and strip off to reveal lower stem	>40	**B3**
T5.	Common Hawthorn *(Crataegus monogyna)*	**10**	n3 s2 e1 w3	**300**	3	**Mat**	Typical mature specimen Ivy growing up stem Inside stone wall Adjacent to stone wall Minor deadwood	Fell to accommodate proposed development if required	<40	**C3**
G6.	Common Hawthorn *(Crataegus monogyna)* and Common Holly *(Ilex aquifolium)*	**6 - 8**	1 - 3	**>200**	2 - 3	**Mid**	Scrub understorey on embankment Heavy Ivy growth inhibiting development No access to bases because of terrain and undergrowth	Fell to accommodate proposed development if required	<40	**C3**

APPENDIX 3
Tree Data Table

Tree No.	Species (common and latin)	Appr. Height (m),	Appr. Crown Spread (radius m)	Apr. Stem dia. at 1.5 m (mm)	Appr. Canopy Height (m),	Age Class	Observations	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	BS: 5837 Category Rating
Trees in vicinity of proposed development at: 87 Chapel Road Whaley Bridge										
T7.	Common Ash *(Fraxinus excelsior)*	**10**	n1 s4 e2 w2	**600**	7	**Mid**	Poor specimen Heavily lopped crown with one stem remaining to south Regenerating shoots at points of pruning Swamped by Ivy No access to bases because of terrain and undergrowth	Fell due to condition irrespective of proposed development	<40	**R**
G8. (Ref: G2 on TPO)	Various species inc: Common Ash *(Fraxinus excelsior)*, Sycamore *(Acer pseudoplatanus)*, Hawthorn *(Crataegus monogyna)* and Spruce? *(Picea sp.)*	**8 - 20**	2 - 7	**100 – 1000**	2 - 8	**Mid - Mat**	Neglected area on steep bank Heavy Ivy growth affecting majority of trees Deadwood Mature trees at bottom of bank adjacent to brook likely to be within Group 2 (G2) on TPO Group designation difficult to apply in situation	Retain and protect mature trees at bottom of bank with a barrier complying with BS 5837 : 2005 or better Sever Ivy and strip off to reveal lower stems	>40	**B2**
G9.	Common Ash *(Fraxinus excelsior)* and Sycamore *(Acer pseudoplatanus)*	**6 - 12**	2 - 3	**100 - 250**	1 - 3	**Yng - Mid**	Self-seeded on roadside verge Branches encroaching around street lighting column	Fell to accommodate proposed development if required or retain if practical	>40	**C3**

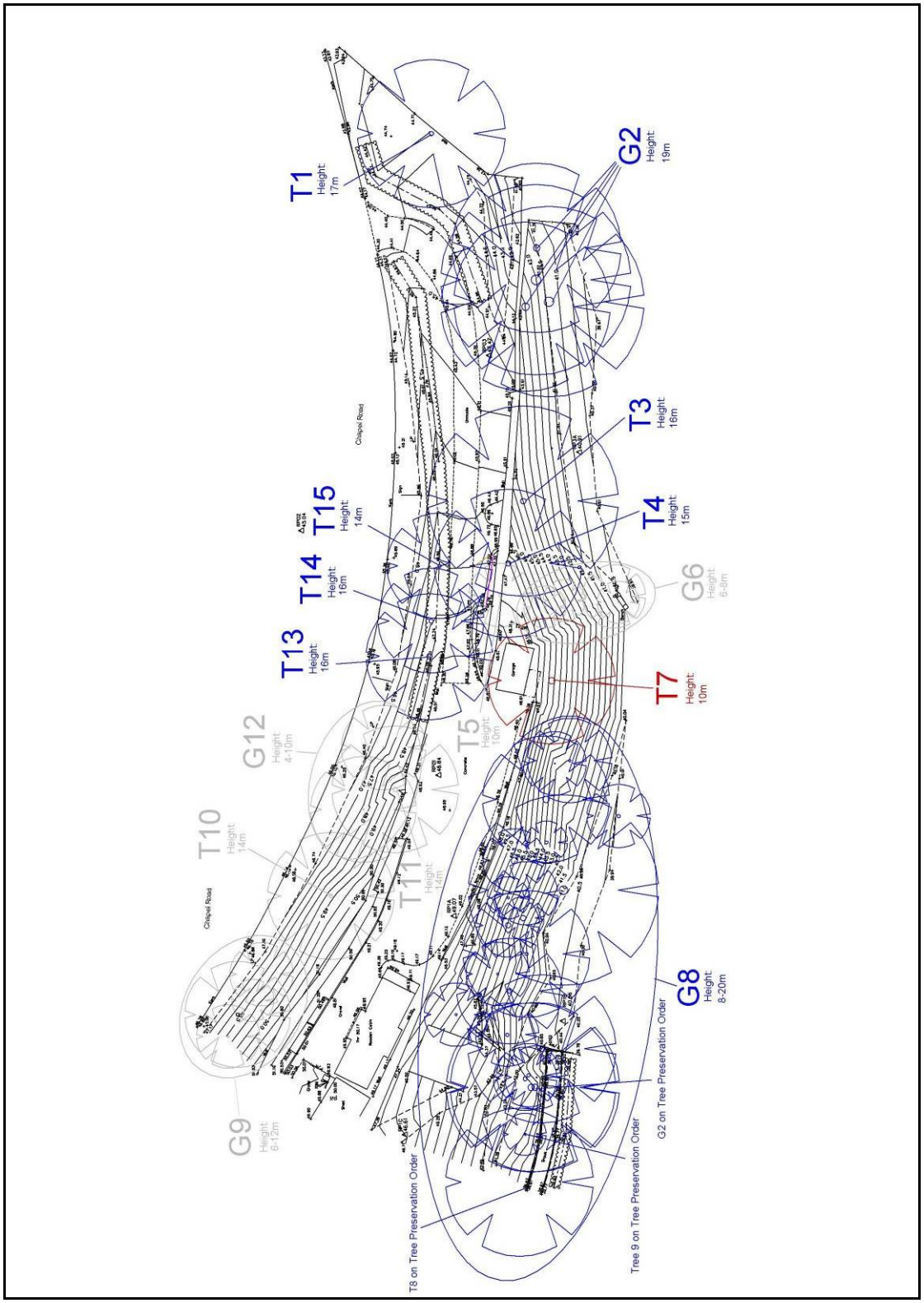
APPENDIX 3
Tree Data Table

Tree No.	Species (common and latin)	Appr. Height (m),	Appr. Crown Spread (radius m)	Apr. Stem dia. at 1.5 m (mm)	Appr. Canopy Height (m),	Age Class	Observations	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	BS: 5837 Category Rating
Trees in vicinity of proposed development at: 87 Chapel Road Whaley Bridge										
T10.	Common Ash *(Fraxinus excelsior)*	**14**	n6 s2 e4 w4	**2 x 300** **1 x 200**	6	**Mid**	Branches encroaching towards highway Ivy growing up stem Minor deadwood	Fell to accommodate proposed development	>40	**C3**
T11.	Common Ash *(Fraxinus excelsior)*	**14**	n5 s5 e4 w4	**2 x 350**	6	**Mid**	Co-dominant stems diverge at ground level Minor deadwood Pruning stubs Large epicormic shoots on stem	Fell to accommodate proposed development	>40	**C3**
G12.	Sycamore *(Acer pseudoplatanus)*	**4 -10**	1 - 3	**50 - 250**	2 - 3	**Yng**	Self-seeded on roadside verge Branches encroaching around street lighting column	Fell to accommodate proposed development if required or retain if practical	>40	**C3**
T13.	Common Ash *(Fraxinus excelsior)*	**16**	n4 s4 e3 w4	**500**	5	**Mid**	Ivy growing up base of stem Significant deadwood Pruning stubs Reasonable form	Retain and protect with a barrier complying with BS 5837 : 2005 or better Sever Ivy and strip off to reveal lower stem	>40	**B2**

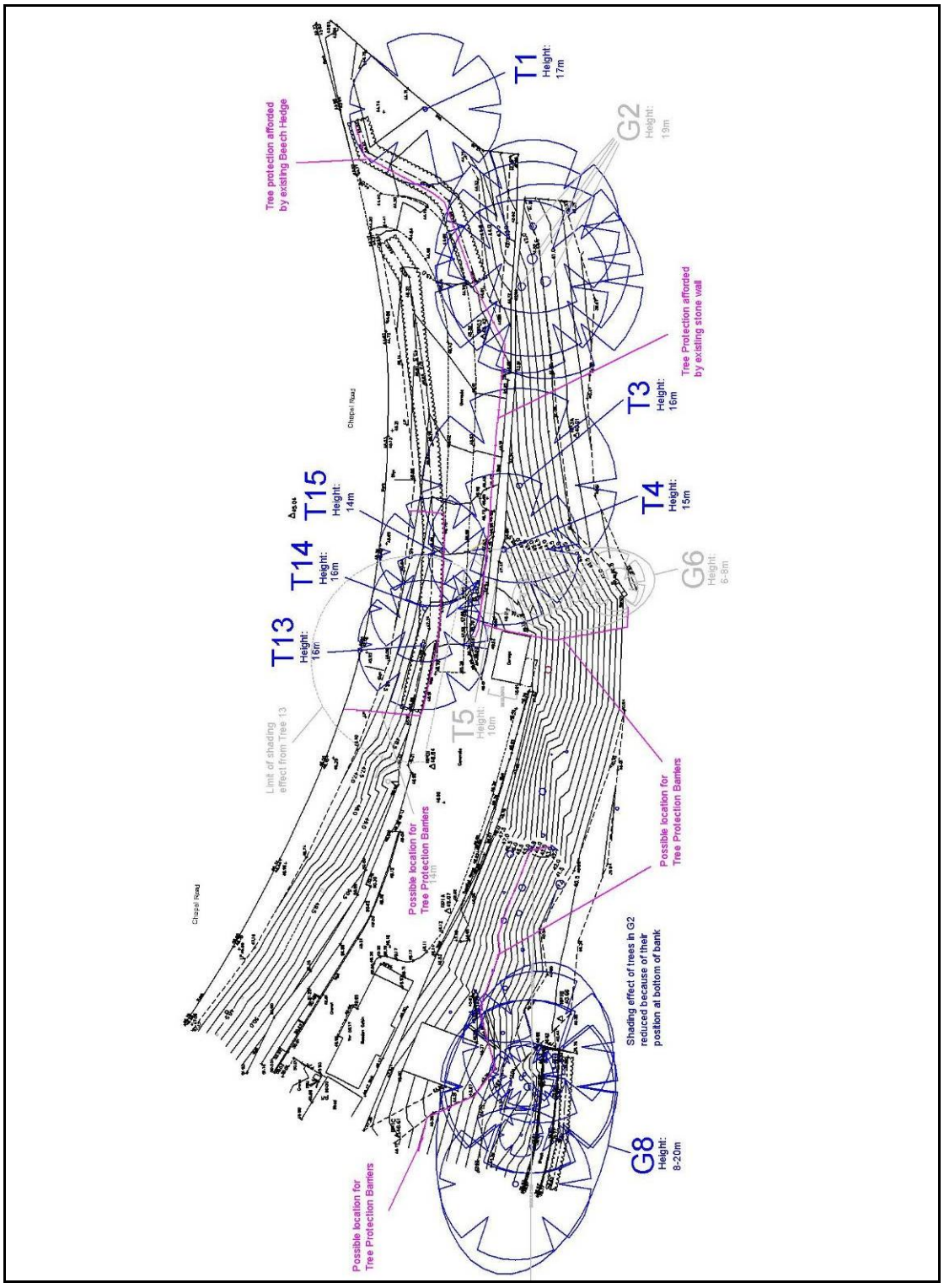
APPENDIX 3
Tree Data Table

Tree No.	Species (common and latin)	Appr. Height (m),	Appr. Crown Spread (radius m)	Apr. Stem dia. at 1.5 m (mm)	Appr. Canopy Height (m),	Age Class	Observations	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	BS: 5837 Category Rating
Trees in vicinity of proposed development at: 87 Chapel Road Whaley Bridge										
T14.	Sycamore *(Acer pseudoplatanus)*	**16**	n4 s4 e4 w3	**400**	7	**Mid**	Ivy growing up stem Large epicormic shoots on stem Deadwood Basal suckers Suppressed by adjacent trees	Retain and protect with a barrier complying with BS 5837 : 2005 or better Sever Ivy and strip off to reveal lower stem	>40	**B2**
T15.	Common Ash *(Fraxinus excelsior)*	**14**	n4 s2 e3 w1	**300**	7	**Mid**	Slight lean Ivy growing up stem onto lower crown Minor deadwood Basal suckers Heavily suppressed by adjacent trees	Retain and protect with a barrier complying with BS 5837 : 2005 or better	>40	**B2**

APPENDIX 4
Tree Constraints Plan



APPENDIX 5
Tree Protection Plan



An appraisal of trees on potential development land at 87 Chapel Road Whaley Bridge



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July 2011

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