8. Arboriculture

8.1 Introduction

8.1.1 The Arboricultural submissions that form part of this Environmental Statement include,

a) The Supplementary Arboricultural Chapter by the Forbes- Laird Arboricultural Consultancy Ltd (FLAC).
b) The Tree Survey undertaken by the Forbes-Laird Arboricultural Consultancy in conjunction with the Public Inquiry into Planning Application HPK/2011/0182

8.1.2 The appendices submitted by the Forbes–Laird Consultancy established the baseline conditions for the application site (see Volume 2),

- Appendix 8.2 - Tabulated tree survey data complying with British Standard (BS) 5837:2012 together with explanatory information concerning the survey parameters
- Appendix 8.3- "Tree Survey Plan" an illustrative summary of tree survey information (FLAC drawing number 32-1008.01)

8.1.3 At the Public Inquiry into the proposals, the Planning Inspector concluded that,

"*99. The environmental harm that would be caused through loss of ancient woodland and other trees and through visual impact would be sufficiently modest in nature or duration that it would, on balance, be sufficiently modest in nature or duration that it would, on balance be outweighed by the economic and social benefits when coming to a balanced conclusion on the sustainability of the proposed development. That is not so when the harm to the scheduled monument is taken into account."*

8.1.4 In more detailed terms the Inspector noted within his report that in terms of the previous proposals considered at Public Inquiry,

a) "*The area of ancient and semi-natural woodland that would be lost to the proposed development is around 2,400 sq.m.. That is an extremely small area." (extract para 41)*

b) "*On the basis of the above, the case for resisting any loss of ancient woodland must be considered tenuous." (extract para 44)*

c) *"Accordingly, it is not the loss of protected trees that is the critical consideration but the visual impact of the access road (and layby)that they would make way for."*

8.1.5 The current proposals have been carefully prepared as a response to the matters raised by the 2012 Planning Inspector and following discussion between the applicants and English Heritage concerning the impact of the proposals on the Scheduled Monument.

8.1.6 As a result, the submitted scheme now adopts a radically different access arrangement from the A6, firstly by means of a tunnel from the A6 and then by a cutting to the rear of the quarry. The benefits of this approach are,

a) The development proposals do not encroach on the designated monument.
b) The construction work for the new road is not in close proximity to the monument and leaves the various elements of the monument and its setting untouched
c) The excavation work undertaken along the A6 is now minimised to that of the tunnel entrance so that the visual impact of the proposals from the A6 and beyond is diminished compared with the previous scheme.
d) The creation of the tunnel entrance from the A6 means that the impact of construction on ancient woodland, protected and other trees is further diminished from the previous proposals.

8.2 Assessment Approach

8.2.1 The methodology adopted by the Forbes-Laird Consultancy was set out at paras 8.11 to 8.20 of their submission on the previous proposals,

> *"Tree Survey*
>
> *8.11 The critical first stage in the arboricultural decision-making process is the undertaking of a tree survey. Guidance for this task is set out in British Standard BS5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' (Ref. 8.6). Under the BS5837 approach a tree survey is carried out according to specific parameters. These are designed to quantify, describe and differentiate the tree stock as to its quality and value.*
> *8.12 Details of the survey parameters, including the BS5837 method of quality assessment, are included as covering information to the survey data at* ***Appendix 8.2****. The Tree Survey data articulates the baseline conditions at the Assessment Site in relation to Arboriculture. Relevant information from the Tree Survey is displayed graphically on the Tree Survey Plan at* ***Appendix 8.3****.*
>
> *Overlay of Proposed Development on existing trees and woodland*

*8.13 Following the Tree Survey, the recovered data is used to prepare the baseline Tree Survey Plan (**Appendix 8.3**), which can then be overlaid onto drawings showing the Proposed Development. The resulting drawing, a Tree Retention and Removal Plan, is found at **Appendix 8.4**. The overlay exercise enables an accurate assessment of the land-take of the Proposed Development, and, therefore, a clear identification of which trees can be retained and would need to be removed in order to facilitate it*

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Assessment of Likely Significant Effects

*8.14 As noted above, during the collection of baseline tree survey data, a qualitative determination of the value of each tree, tree group or woodland is assigned in accordance with the assessment method set out in **Appendix 8.2**. It follows from this determination of value that the likely effect of development can be assessed based on: whether the tree, tree group or woodland will be retained or removed, cross referenced to the assessed value of the tree etc being considered. Specifically, the loss of a high quality/value tree etc would be considered to represent a major adverse effect, whereas the loss of a low quality/value tree would be considered to represent a minor adverse effect.*

8.15 Certain trees are present that to all intents and purposes have no value; these are trees that are in poor structural or physiological condition that they need to be removed for arboricultural reasons wholly unconnected with the proposed development. Because of the condition of such trees, their removal within the scope of development operations effectively has a neutral effect.

8.16 The duration of effects arising from tree removal is substantially linked to the quality/value of the tree etc being assessed. This arises for two reasons: firstly, the higher the quality of tree etc lost, the greater the duration of impact due to the lead-time inherent in replacement by new planting, with anywhere between 40 and 200 years being required for mitigation to be effective (depending on the nature of the tree etc being lost).

8.17 Secondly, one item of baseline data collected during the tree survey is an assessment of thelikely remaining longevity of each tree etc present on the (assessment) site. These 'retention span' durations are assessed against pre-set bandings in years of 0-5, 5-10, 10-20 (10+), 20-40 (20+) and >40. Trees in poor condition as referred to at paragraph 8.15 are those with retention span durations of ten years or less (BS5837 grade U).

8.18 This element of the assessment can be used both to benchmark duration, and to derive a measure of arboricultural impact on trees and tree groups arising from development: ten trees with an assessed retention span of 15 years (the mid-point in the 10-20 year band) would provide 150 years aggregated tree cover, which is broadly equivalent to 2.5 trees assessed in the 40+ range (where 60 years is assumed to be achievable).

8.19 In the same way, a retention span for new planting can be estimated, with 80 years being a plausible mean: many trees established as part of a properly designed landscaping scheme will live far beyond this time, though others will die prematurely. Thus, it becomes possible to quantify magnitude of effect based on a 'before and after' assessment of aggregated years tree cover, including where new planting is to be provided.

8.20 However, the tree years assessment is not considered suitable for application to woodland, as this latter is held to be capable of self - perpetuation. As such, assessment of likely significant effect on woodland is undertaken based on area (before and after development)."

8.3 Planning Policy

8.3.1 The planning policy analysis undertaken by the Forbes-Laird Consultancy was set out at paragraphs 8.3 to 8.10 of their submission on the previous proposals and addressed,

a) The National Planning Policy Framework

b) High Peak Borough Local Plan Saved Policies

c) High Peak Borough Council Local Development Framework Draft Core Strategy

8.4 Baseline Conditions

8.4.1 The Forbes-Laird Consultancy established the baseline conditions on site through the survey work they undertook,

"8.21 The tree survey undertaken by FLAC in April 2012 identified a total of 125 individual trees within the assessment area, as well as 26 tree groups and ten areas of woodland. The range of quality and value of the tree stock was found to vary widely from those in non-retainable condition for arboricultural reasons (BS5837 grade U), to trees of high quality and value (BS5837 grade A). No veteran trees were identified, however.

8.22 A number of trees within the Assessment Site enjoy statutory protection by Tree Preservation Order (TPO); these are identified within the Tree Survey Data at Appendix 8.2. As is not uncommon with trees under TPO protection, these are not of the best quality, though many are in satisfactory condition to confer longevity in excess of 20 years."

8.5 Assessment of Effects

8.5.1 The assessment of effects undertaken by the Forbes-Laird Consultancy was based on the proposals to access the Cowdale Quarry site by means of a road cut into the rock face close to the existing informal track from the A6.

8.5.2 This assessment included two elements, Firstly the likely significant effects on individual trees and tree groups, addressed as follows at paragraphs 8.23 to 8.29,

"Rock cutting and Construction of new access

8.23 The development as proposed is predicated on a certain level of tree removal (please refer to our drawing at Appendix 8.4), which would need to be implemented prior to commencement of rock cutting and construction. Referring back to the method explained at paragraphs 8. 16– 8.18, the proposed retention / removal balance can be elucidated as follows:

Table 8.1 Tree Cover in Years, Comparison Matrix

Tree cover type	***Results***	
	Years	***%***
Current	*8580*	*100*
Retained	*5385*	*62.7*
Removed	*3195*	*37.3*

Note

Excludes woodlands – see below

8.24 The short-term (five year) effect of development -facilitation tree removal would be significant in terms of reduced tree cover , though given the relatively small size of the affected area the effect is highly local. The effect is most suitably thought of as relating to rock cutting and construction, chiefly because a) it is immediate and b) it would be temporary and not residual: the Proposed Development would be delivered accompanied by a new planting provision, discussed below.

8.25 Moreover, the proposed level of tree removal is targeted towards those of least quality and value, as assessed under the BS5837:2012 tree grading system. Before development there is one A grade tree, 167 B grade trees (whether individually or in groups) and 140 C grade trees. After the Proposed Development there would still be the single A grade tree, and there would be 120 B grade trees and 64 C grade trees. Thus the Proposed Development would retain 72% of the B grade trees."

8.5.3 Secondly, the likely significant effects on woodland addressed at paragraph 8.29 as follows,

"Rock cutting and Construction of new access

8.29 Four of the ten areas of surveyed woodland would be af fected by the Proposed Development. The magnitude of the effect is set out in a schedule on the drawing at Appendix 8.4, and reproduced below as Table 8.2:

Table 8.2 Schedule of woodland required for removal to facilitate development

Woodland ref.	***Extg area, m2***	***Area removed, m2***	***% Removed***
WG7006	*1160*	*665*	*57.4*
WG7007	*5325*	*960*	*18.1*

WG7009	*9285*	*2520*	*27.2*
WG7010	*5460*	*325*	*6.0*
Totals from above	*21230*	*4920*	*23.2*
TPO woodland W1	*36560*	*6230*	*17.0*
Ashdale Ancient Woodland	*122940*	*2400*	*2.0*

Note

The figures for TPO Woodland W1 and for Ashdale Ancient Woodland do not identify losses in addition to those set out for the surveyed Woodland Groups: instead, they are a different way of expressing the woodland area proposed for removal"

8.5.4 The new proposals including as they do access to the Cowdale Quarry site by tunnel result in a reduction of the impacts assessed for the previous proposals as follows (See Plan L7 from the Landscape Section of this Volume),

Schedule of woodland required for removal to facilitate development now proposed with access by tunnel from the A6,

Woodland ref.	**Extg area, m2**	**Area removed, m2**	**% Removed**
WG7006	1160	0	0
WG7007	5325	0	0
WG7009	9285	2005	21.6
WG7010	5460	606	11.1
Totals from above	21230	2638	12.4
TPO woodland W1	36560	1865	5.1
Ashdale Ancient Woodland	122940	1610	1.3

8.6 Mitigation

8.6.1 The Forbes-Laird Consultancy addressed a range of mitigation measures within their submissions on the previous proposals in their Supplementary Arboricultural Statement including new tree planting at paras 8.26 to 8.28.

8.6.2 Provision was made for the management of retained trees as per the BS5838 process including the review of emerging detailed design prior to construction and robust tree protection during construction.

8.7 Conclusions

8.7.1 In relation to the proposals considered at Public Inquiry, the Forbes-Laird Consultancy noted at paras 8.33 to 8.36 that,

> *"8.33 In relation to the removal to facilitate development of individual trees and tree groups, it is not anticipated that residual effects will occur beyond the twenty-year timeframe. At this point, it is expected that the site's tree cover would be broadly similar to that currently existing, but of a higher overall quality in terms of tree health and structural condition due to the managed introduction of new planting.*
>
> *8.34 A permanent residual effect is expected to arise from the conversion of woodland area to the new vehicular access. This Chapter has provided details of the magnitude of the effect in terms of woodland area; other effects arise in relation to Landscape and Ecologi cal considerations, as set out in these respective Chapters.*
>
> *8.35 Concerning existing trees and woodlands identified for retention, adverse development effects on arboriculture are not expected providing that a) detailed design progresses in light of ongoing arboricultural advice, and that b) tree protection measures are correctly implemented during demolition and construction.*
>
> ***Cumulative Effects***
>
> *8.36 Given the statutory duty on local authorities to make provision for tree preservation and new planting as part of the planning process, it is expected that individual assessment by the local planning authority of development in the locus of the Assessment Site will act as an over-arching safeguard on the local tree population. Accordingly, cumulative effects are not expected to arise in relation to arboricultural matters."*

8.7.2 In terms of the appeal decision in 2012, the Inspector concluded that,

> "*99. The environmental harm that would be caused through loss of ancient woodland and other trees and through visual impact would be sufficiently modest in nature or duration that it would, on balance, be sufficiently modest in nature or duration that it would, on balance be outweighed by the economic and social benefits when coming to a balanced conclusion on the sustainability of the proposed development. That is not so when the harm to the scheduled monument is taken into account."*

8.7.3 In terms of the current proposal tree loss has been reduced significantly from the previous proposals considered and found acceptable in the context of the previous appeal. Specifically,

a) The impact on the Ancient Woodland is reduced from 2,400sq m to 1,610 sq m or 1.3%.

b) The impact on TPO W1 is reduced from 6,230 sq m to 1,865 sq m or 5.1%.

c) The impact on designated woodland areas is reduced from 4,920 sq m to 2,638 sq m or 12.4%.