Application for Environmental Permit EPB3.5 (Version 4)

Buckles Farm, Kaber, Kirkby Stephen. Cumbria

Pre Application Ref.EPR/GP3001LP/A001

BF Appendix 15 Woodland Cover.

Woodland planting was undertaken within the range area during the construction of the initial poultry house, some 8 years ago. New woodland planting is envisaged in a number of locations and repair undertaken in those areas where poor transplant survival has occurred.

Tree planting on this site is identified as :-

* Providing cover for ranging birds
* Enhancing egg productivity
* Capture of residual ammonia and dust and their absorption
* Extending river corridor habitat
* Extending woodland cover and buffering heavy rainfall.(Climate change mitigation)

The 4 No. new locations are:-

1. Planted embankment created with excavation material at the western gable end.

With the new proposed houses operating on a gable end exhaust system, both houses will use only the west gable end and emitting air only directed towards the west. The eastern gable ends pointing to the SSSIs will only have doors for servicing the buildings at depletion.

This bank of trees / shrubs will intercept exhaust air and in dissipating energy, will serve to absorb gaseous ammonia and also filter out particulates which contain ammonia and other N containing components. This follows guidance in the *“Farmtreestoair”* tool developed by the Centre for Ecology and Hydrology and used widely in Scotland. (see appendix 11). The associated research and that followed up by Natural England has established the value of plantations in reducing further, the emissions of ammonia and particulates and is now widely promoted by Natural England in protecting nearby conservation sites. When mature, (perhaps 10 years) correctly designed buffer strips can potentially remove up to 17% of residual ammonia. The existing range is already 8 years old, has areas of touching canopy and will be functional for air dispersed laterally from houses 1a and 1b.

 To maximise absorption during winter months when deciduous trees are unable to ‘filter’, a proportion of the plantation will include tree species that retain their foliage such as pines and firs and yew. The Woodland Trust has confirmed that natural or constructed embankments located beyond each gable end should be planted in this way.

1. The second planting relates to the free range area (both sides of building). Potential limitation to planting is around the steep field slope to the south of the site. However it was felt that the soil structure here is such that tree planting is possible right across the free range area including those wetter areas to the northern valley.

 Coverage at 5% was considered the minimum to meet animal welfare standards although certain markets require greater areas to be planted. At 16 Ha of range, (2000 birds / Ha.) this equates to 0.8 Ha being planted.

 However to maximise market place planting suggests up to 20% planting, ie 3.2 Ha planted up and this level is thought to be progressively more absorptive of ammonia and other N forms. This level of planting was followed during phase 1 (original development).

1. The third area which is considered for planting is the small area directly to the east of the main farmstead and between the existing poultry site and the River Belah. This would provide a break and additional tree belt for prevailing westerly winds but could also provide a link to the present break in river corridor in this area. The area is within the farm’s ownership. (Approx. 1 Ha.)

Care would be taken not to plant up areas known on the farm where curlews and lapwings presently breed, recognising the equal need for conserving that habitat. However chicks of these species have been observed using the planted range as ‘opportune cover’.

It has been established that this additional planting is consistent with new Government initiatives to enhance woodland cover, particularly where there are multiple benefits. Grant support is already being progressed.

There is the potential for a scheme to be consistent with the Carbon Credit scheme based on C sequestration.

Tree Species

The *farmtreestoair* tool and the potential grant mechanism will both seek to ensure tree planting species are consistent with ‘objectives.’

The R. Belah SSSI cites tree species consistent with both acid and base rich horizons within the ghyll and include most of the species considered appropriate for both tree shelterbelt operations and extension to those found naturally around the R. Belah.

 These include; Ash, Oak, Hazel, Wych Elm, Rowan, Sessile Oak, Downy Birch, Holly, Yew and Bird Cherry.

For this reason the shelter belt at the western end of the site and the new buffer at the eastern end will follow the *farmtreestoair* guidelines.