



27th September 2023
Ref: SE0957-07_G02c_DH

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Town Planner – Land Executive
Prospect (GB) Ltd
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Cc: Jonathan Ainley (Savills), Richard Dimisianos (Prospect GB)

Dear Richard

Proposed residential development at Hollins Cross, Burnley Planning application FUL/2022/0149

Further to receipt of Burnley Borough Council's Statement of Case, we write to provide additional ecological and biodiversity data in relation to peat deposits at the above planning application site. The Council's query was as follows:

"The Council requires satisfactory clarification that the removal of this peat will not have an unacceptable impact on climate change as well as clarification of the ecological impact of the removal of this peat. It should also be demonstrated that any negative impacts can be adequately mitigated. This would ensure compliance with policies NE1 and NE5 of the Local Plan".

We note that Natural England's response to consultation requests for this planning application have not been made on a site-specific basis. The following information is intended to provide more clarity about the ecological value of peat deposits specifically at the Hollins Cross site.

1. Expert background

I have a PhD in plant/soil relations (edaphology) and am Chair of the British Standards Institute AW020 Topsoils, Turf and Other Growing Media Committee. I co-founded Biora 15 years ago and have been Technical Director since it began. I also have over 30 years' experience of work on reclamation sites and in habitat design as a dual-qualified landscape architect and ecologist.

2. Nature and Extent of Peat Deposits On Site

To clarify the potential impacts of the removal of this peat, the nature of the peat reserve should first be described. In their letter of 22nd September 2023 to Mr G Humphreys of Prospect Homes, Coopers (Chester) Ltd described the peat as follows:

"The ground investigations identified the localised area of peat close to the former watercourse position, describing the peat to be 0.9m to 1.0m thick, as either a clayey pseudo-fibrous peat, or amorphous peat with pockets of silt, typically of alluvial peat deposited from the watercourse (termed alluvium) which include variations in silt and clay content associated with the depositional environment. The peat was identified in one location to be beneath a 0.3m layer of natural clay, with topsoil overlying the peat in 2 of the 3 positions, indicative the materials were deposited and subsequently covered by natural materials and soil formation processes in the past."

"The peat deposits in this case are indicative alluvium, defined by the British Geological Survey (bgs.ac.uk....2023) as "The unconsolidated detrital material deposited by a river, stream or other body of running water... Normally soft to firm compressible silty clay, but can contain

layers of silt, sand, peat and basal gravel.”. As indicated on the geological maps, the area of alluvium is not widespread, relating to the positions relatively close to the watercourse.”

Peat is a stable form of organic soil, defined by Intergovernmental Panel on Climate Change (IPCC) as containing a minimum of 12% organic carbon. Coopers concluded that the peat deposits are “*localised, small scale associated with post-glacial landscape drainage*”, and were associated with the Whin Scar Clough, which was diverted over 130 years ago. The peat largely lies beneath a topsoil on this site and is no longer ‘active’ – i.e. the peat formation is disconnected from the plants and the hydrology responsible for its creation. It currently forms an isolated pocket around 30cm below topsoil in the north of this site.

It should be noted that, according to the International Union for the Conservation of Nature UK Committee Peatland Programme, Briefing Note No 1 (Lindsay, R., Birnie, R & Clough, J. 2014):

“There is no single formal definition of ‘peat’ and ‘peatland’, differing interest groups having differing definitions. Thus ecologists use a minimum peat depth of 30 cm while geological surveys may use 1m as the threshold.”

“Deep peat” is defined according to UK Forestry Standards (UKFS) - largely in relation to the impacts such a layer will have on forestry activity - as a peat (primarily organic) layer which exceeds 50cm. As such, the layer of peat at the Hollin Cross Site could be defined as ‘deep’ following this standard. In this instance, while the ‘deep’ peat layer might be significant to forestry where tree planting was proposed for this area, in ecological terms the peat is no longer part of an ‘active’ peat-producing habitat, is very limited in extent and is largely buried beneath a topsoil, so has very limited significance for the site ecology.

3. Potential Impacts of Peat Removal on Carbon and Biodiversity

Peat represents a body of ‘stable’ (i.e. largely, non-biodegradable) organic material, the product of anaerobic biological breakdown of formerly living materials (mosses, ferns, rushes, reeds etc). Small pockets of buried peat will hold little significance for biodiversity as they are no longer ‘active’ peat – the primary biodiversity value of peatlands is in their importance as a store of carbon and a medium that - under the right conditions (temperature/hydrology/water chemistry etc) - can support habitats such as bog and fen that are rich in biodiversity and which can continue to sequester carbon. It should be noted that there is no bog or fen present on this site and that the pocket of buried peat at Hollins Cross is small and subsequently of reduced value.

While ‘active’ peat habitat is a rare habitat, the ‘inactive’ peat deposit at Hollins Cross has long since been disconnected from the unique combination of physical and biological process (habitat) that created it. The conditions for peat formation are very specific and, to restore an ‘active’ peat-producing habitat at this location, an extensive, lengthy and expensive procedure would be required. This would include:

- removal of the existing topsoil to re-expose the peat substrate;
- re-establishment of a favourable hydrological regime (re-diversion of the watercourse);
- introduction of appropriate peat-forming plant species; and
- avoidance/ filtration of any nutrients in the drainage system which might otherwise encourage more aggressive plants that could displace the peat-forming species.

In summary then, the very limited size and ecological value of the small, isolated ‘inactive’ peat deposit on site make such a complex restoration project disproportionate and unrealistic.

Peat deposits at the Hollin Cross Farm site lie beneath topsoils and contribute very little to the habitats growing within the topsoils, other than as a subsoil rooting-zone and as a store of water accessible to the deeper-rooting plants. However, as this layer is likely to be acidic (having been formed in anaerobic conditions) and is also likely to be still saturated anaerobic, accessibility to root systems will be very limited in this instance. In this case, the removal of peat on this site would have very limited impact on the current site ecology other than that associated with the disturbance created in its removal, which has already been addressed in the Biodiversity Net Gain analysis.



Finally, in response to Paragraphs 6.2.3 and 6.2.6 of the Council's Statement of Case, we can confirm that, for this site, borehole samples have been taken and interpreted. We are confident that sufficient evidence has been made available to “*determine the impacts on peat*” and to “*enable an understanding of the integrity of the peat*”. The results of this assessment are that the peat at this site is not restorable, and that the removal of the peat will not, in itself or in the context of the wider site, have a negative impact on this site's ecological value.

Yours sincerely

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Director, **Biora**