**APPEAL REF: APP/C2741/W/19/3233973**

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**CLOSING SUBMISSIONS ON BEHALF OF YWT**

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**I Introduction**

1. These closing written submissions are submitted on behalf of Yorkshire Wildlife Trust (‘YWT). We do not seek to reiterate the evidence of YWT’s experts but intend to assist the Inspector by addressing some of the outstanding areas of disagreement between the parties following the conclusion of the oral evidence.
2. The Inspector requested that all parties address in final written submissions the residential development to the south of Askham Bog. YWT has responded to this request in section IV, with the aid of Appendix 1, attached to these submissions.

**II The Evidential Hurdles The Appellant Must Overcome**

1. We draw the Inspector’s attention to the stringent hurdles that the Appellant must overcome in order to comply with paragraph 175, National Planning Policy Framework (‘NPPF’), which states:
2. When determining planning applications, local planning authorities should apply the following principles (emphasis added):
	1. *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts) adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
	2. *development on land* ***within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it*** *(either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
	3. ***development resulting in the loss or deterioration of irreplaceable habitats*** *(such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists…*
3. It is YWT’s position, following the evidence heard during the course of the inquiry, that the Appellant’s proposed development remains incompatible with paragraph 175 NPPF.
4. The Appellant’s case rests on two propositions; that the proposal will not alter the hydrology of Askham Bog in any way and therefore there is no risk of detrimental impact; and, the EPEZ will fully protect Askham Bog from urban fringe effects but will not increase isolation of the site substantially.
5. It is YWT’s position, in summary, that the Appellant has misunderstood and/or ignored the fundamental ecological and hydrological controls of the irreplaceable habitats of Askham Bog. This has resulted in reliance on inadequate information and incorrect assessments of the impacts of the development. This is further reflected in the design of the scheme, especially with regard to the EPEZ, which has failed to mitigate potential impacts by not recognising their presence. As a result, given the very sensitive nature of the Bog, it is YWT’s position that the scheme *will* have an adverse impact on this SSSI and this *will* result in a deterioration and/or loss of irreplaceable habitats. The Appellant has failed to demonstrate the ‘benefits’ or ‘wholly exceptional circumstances’ necessary to comply with paragraph 175 above.

**III Submissions**

***(i) The Appellant has failed to appreciate the importance of relevant Defra policy***

1. The joint professional experience of Sir Professor John Lawton and Professor Alastair Fitter in the field of ecology is peerless. The Inspector is respectfully reminded about the various senior positions they have held during their careers, including being elected Fellows of the Royal Society and the vast experience they bring to the Inquiry.
2. Making Space for Nature (or the ‘Lawton Principles’ as it is often known) underpins the aims and work of the whole wildlife conservation sector and as pointed out by the Inspector during the planning inquiry, its central principles are expressed by Defra in recent planning policy guidance.
3. The most relevant element of the ‘bigger, better, joined’ approach to Askham Bog is ‘joined’. As explained by YWT’s experts, Askham bog is currently joined to the wider countryside via its northern boundary. This is important because of the effect of metapopulation dynamics explained by Sir John Lawton in his evidence. The 58% overlap in species of aquatic invertebrates found in both the bog and the appeal site is a prime example of such metapopulations as are butterfly populations, a point noted by Mr Wigglesworth in cross examination when he sought to demonstrate his awareness of metapopulation theory. The proposed development would further sever the already much diminished connections between Askham Bog SSSI and the surrounding countryside, increasing its isolation and causing loss of species. Government policy is to increase such connections wherever possible.

***(ii) The Appellant has failed to appreciate the importance and sensitivity of Askham Bog***

1. Askham Bog is an exceptionally sensitive site of at least national significance (as an SSSI) and contains irreplaceable habitats (lowland fen and ancient woodland). Since some of the irreplaceable fen habitats are threatened at a European scale, as shown in Professor Fitter’s evidence and unchallenged by the Appellant, it is also internationally important. A high level of caution in considering any adjacent development is therefore required. This was not demonstrated in evidence by the Appellant.
2. Mr Wigglesworth admitted in cross-examination by Mr Morgan that the Appellant’s Environmental Statement did not make any mention of irreplaceable habitat, and that he had not made any explicit mention of the lowland fen irreplaceable habitats in his proof of evidence, only citing the ancient woodland**.** YWT consider this omission to be a serious failure to understand and recognise the importance and sensitivity of Askham Bog.
3. Further, the Appellant’s Environmental Statement assessed the sensitivity of the Bog as medium, in circumstances where Mr Thomas accepted in evidence that a sensitivity of at least ‘high’ would have been appropriate. Mr Thomas’ claim in cross-examination that he had informally assessed the Bog as having a higher sensitivity at an early stage is not credible; there is no evidence to support it and he agreed that he was an author of the ES chapter that listed its sensitivity as medium.
4. During the course of his evidence in chief, Professor Fitter explained how historical changes in the water table at Askham Bog, caused in large part by lowering of the water table in the catchment, have coincided with species loss recorded on the Bog. He also drew attention to the fact that distinct plant communities on Askham Bog are defined by very small (a few centimetres) changes in height of the peat surface, as did Dr Foley in evidence for the CYC. The Appellant did not challenge these findings**.**
5. YWT submitted objective evidence, also unchallenged by the Appellant, demonstrating how minor changes in water table levels cause significant species loss. The Inspector is specifically referred to the Environment Agency 2009 Report ‘A wetland framework for impact assessment at statutory sites in England and Wales’ (Figure 3.4, page 48)[[1]](#footnote-2), referred to on numerous occasions during the course of the evidence. This is compelling, independent evidence illustrating the risk of significant species loss in the event that the Appellant’s hydrological argument is incorrect, and the proposal results in even minor changes in water table levels. The Appellant had no answer to this evidence, other than to repeat that there would be no hydrological impact.

 ***(iii) The Appellant has failed to understand and/or ignored basic ecological principles***

1. Increased isolation of the site will cause harm to Askham Bog in two significant ways: as a result of the proposed development itself through urbanisation (in the form of building, roads, and infrastructure, not least light pollution); and, the EPEZ, its associated fences and proposed bund.
2. The Appellant repeatedly played down the *increase* in isolation, arguing that animals will still have access to the bog, and refused to accept the isolating effects of the barriers in the EPEZ and the urban development itself. This position ignores that isolation is not binary. As was explained by Sir John Lawton in evidence in chief, a relative increase in isolation will have an impact on the biodiversity of the bog. It is submitted that the placing of the EPEZ across around 50% of the northern boundary of the bog represents, at the very least, a relative increase in the isolation of the bog. Given Sir John’s evidence on the relative permeability of the Pike Hills golf course to wildlife compared to the farmland currently present in the appeal site, it is submitted that replacing this farmland with the EPEZ –which the Appellant has described as an ‘impenetrable barrier’ will represent a significant increase in the isolation of the bog.
3. In his proof of evidence Mr Wigglesworth claimed that damage or disturbance of the “notified features” of the SSSI would be avoided with implementation of proposed avoidance and mitigation strategies. This misunderstands the SSSI designation, which is for Askham Bog’s insect fauna *in toto*, and not as he implied, simply three species, a point he accepted under cross-examination.
4. YWT is concerned about the extent to which populations of some insects will be damaged by the artificial domestic and street lighting associated with the proposed development, particularly night-flying moths and water-beetles that can be attracted to artificial lighting.[[2]](#footnote-3) Mr Wigglesworth had no answer to **questions about that street** and domestic lighting less than 200m away would not be detrimental to the Bog’s fauna in cross examination, but made vague references to ensuring that an appropriate lighting strategy would be put in place to minimise the effects on bird, bats and flying insects.
5. Although Mr Wigglesworth did not mention metapopulations in his proof of evidence, under cross examination he agreed that increasing isolation would lead to reductions in the population sizes and even extinctions of some animal species in the bog, but he insisted that the proposed development will not isolate the bog. He denied that the EPEZ will be a major barrier itself for the larger non-flying animals because they would bypass it or were unimportant. Mr Wigglesworth appears to suggest, conflictingly, that the EPEZ will be more effective at keeping animals out than in. It is YWT’s position that the Appellant can not have it both ways.
6. The Appellant failed to show that insects would not be affected by isolation. Under cross-examination Mr Wigglesworth agreed that isolation would threaten many moth populations because they form classic metapopulations, but asserted that the site will not suffer increased isolation. The Appellant has tried to paint isolation as binary – a site is either isolated, or it isn’t. The well-established ecological theory of metapopulations does not treat isolation as a binary variable, however, but as a continuous one, on a scale from very well connected to completely isolated. At all points along that continuum increasing isolation leads to loss of some species and reductions in the abundance of others.
7. Under cross-examination Mr Wigglesworth agreed that domestic cats kill birds and agreed that we don’t know the impacts on small mammals, which make up a bigger proportion of the prey of domestic cats than birds do. Mr Wigglesworth agreed that some species of birds may not take up or abandon territories in areas of otherwise suitable habitat when such areas are frequented by domestic or feral cats. Mr Wigglesworth maintained that the existing cat population from surrounding local areas was not known to be causing an issue in the Bog and unpersuasively refused to accept that a nearby 512 housing development would create a greater threat to wildlife from cat predation.
8. Under cross examination, Mr Wigglesworth accepted that metapopulation theory applied to the fauna of Askham Bog. The crux of the disagreement between on the one hand Sir John Lawton and Professor Alastair Fitter, and the other, Mr Wigglesworth, therefore, is whether the proposed development does, or does not, increase isolation. The plans show that the proposal would approximately halve the width of the corridor connecting the eastern end of the SSSI to open countryside; this is a textbook definition of increased isolation.

***(iv) The Appellant failed to produce a conceptual model and failed to revise adequately its understanding on the receipt of new information***

1. In line with Environment Agency guidance[[3]](#footnote-4) Mr Jones presented a synthesis of his full understanding of the bog and the development site through the production of a conceptual model, which the guidance states should "form the basis of your risk assessments and will help you successfully evaluate environmental risk".
2. Mr Jones’ approach should be contrasted with Mr Thomas' oral evidence and the various new assessments, calculations, and theory he referred to during this.[[4]](#footnote-5)
3. The Inspector is reminded that, in the absence of a conceptual model, the Appellant initially disputed whether there was any connectivity between the Bog and the surrounding area. Mr Thomas did later accept, however, that there is hydraulic continuity and the presence of high water levels in the boundary drain and the Alne formation may provide a role in reducing drainage from the Bog to the Beck.
4. The Inspector’s attention is also drawn to Michael Parkinson’s Rebuttal Proof of Evidence, which relies on the 2003 Arup report to challenge Mr Jones’ view that periodic overbank flooding from the Beck is “critical” to the Bog. In contrast, YWT showed that flooding was both a regular occurrence and important to the integrity of the Bog, using both chemical evidence (the distribution of influence of base-rich water displayed by pH) and botanical evidence (the spread of the rare sedge *Carex elongata*).
5. As the Appellant did not follow EA guidance by presenting a coherent synthesis of their understanding of the system, including impacts on the Bog, through a conceptual model, either in their original application or in evidence before the Inspector, the evidence of Mr Jones’ should be preferred.
6. Further, while YWT recognises that the Appellant’s understanding of the ecohydrological controls of Askham Bog has moved on since the planning application, there remain significant gaps in its understanding. Impact assessments that the Appellant carried out have not been suitably reviewed and revised based on the current understanding of the ecohydrological controls of the SSSI. More importantly, the design of the attenuation basin has not been revised in light of a full understanding of the ecohydrological controls on the bog. It remains YWT’s position that this structure cannot mimic the current water supply mechanism to the Bog, and given the information either not considered or incorrectly relied upon by the Appellant in its determinations, the Inspector cannot be confident in the Appellant’s claim that the attenuation basin will mimic the Bog’s current water supply. This is supported by Michael Parkinson’s admission during cross examination that in the event the attenuation basin dried out, for example during high Summer, it would have to rise to a certain level before water discharged to the northern drain, leaving habitats vulnerable at a critical time during the year.

***(v) The Appellant’s evidence is based on unfounded assumptions about hydrology and hydrogeology***

1. The Appellant’s hydrogeological argument is 3-fold: (a) the bog is critically dependent on rain and groundwater is unimportant; (b) there is very limited hydrological connectivity between the Bog and the external drains; (c) even if there was such connectivity, there will be no changes to the water level in the Beck as the attenuation basins will mimic the current hydrology. Taking each of these assumptions in turn:
	1. The Appellant’s evidence, although it evolved over the inquiry, still illustrates that they have misunderstood the hydrology of Askham Bog. YWT’s evidence demonstrate that groundwater both supplied mineral rich water and supported the position of the watertable. This is typical of a bog ecosystem, where the supply of water is predominantly from rainfall (and is therefore base-poor) but the level of the water table in the system depends on the groundwater (which is base-rich). The variation in water supply influences is vital in controlling the distribution of the habitats and the Appellant failed to provide an alternative conceptual model that explained the distribution of the habitats, without groundwater being a critical control. Mr Thomas offered no credible explanation for this pattern of groundwater influence at Askham Bog **?**
	2. The suggestion that there is very limited hydrological connectivity between the Bog and the Askham Bog drain (Holgate Beck) and between the development site and the drain is based (i) on inadequate data from the Appellant’s own surveys and (ii) a selective interpretation of the 2003 Arup report.[[5]](#footnote-6) Mr Jones’ evidence indicates (see Figure 9, Proof of Evidence of Alex Jones) that the Beck and the borehole on the development site track each other closely and numerous references in Arup as well as data in the original YWT submission to CYC dated 4 February 2019 display connectivity between the Beck and the Bog over a distance of at least 20 metres.
	3. The attenuation basin is to measure over 800m long, approximately 45m wide and will vary from 1.3-2m deep. It will need to be kept relatively empty so that it can contain run-off flows from the ca. 10% of the SSSI catchment which it drains, as shown in Mr Jones’ evidence in chief and restated under cross-examination,. It is YWT’s position that such an excavation is incapable of mimicking water supplies to the bog. But in any event, the Appellant has failed to establish so that the Inspector can be satisfied that such an excavation does not pose at the very least an unjustifiable risk to the hydrology of the Bog, and the irreplaceable habitats that rely on it.

 ***(vi) The Appellant failed to appreciate the extent to which the SSSI’s integrity has already been compromised by past modifications***

1. YWT gave evidence about how the Bog and its surrounding catchment has responded to changes in the system, with changes to baseflow inputs from the diversion of the Yorkshire Water Wastewater Treatment Works, the management of the SSSI by YWT, and construction of the bypass, golf course and past and potential future changes to the management of pumping by the IDB.
2. YWT draws the Inspector’s attention to the concerns raised by Natural England in its letter dated 20 February 2019[[6]](#footnote-7), in which it was underlined that the resilience of any wetland is largely determined by what happens in its entire catchment (emphasis added):

*“2.7…When considering the proposal it should be recognised that the SSSI’s integrity as a functioning, resilient wetland is* ***already compromised by past modifications to the SSSIs catchment including: the loss of semi-natural/natural habitat to intensive agriculture and recreational land use (golf course), associated intensive drainage and changes to water quality and chemistry****. However we consider that modifications to the SSSI catchment are reversible and therefore that favourable condition is achievable.* ***Ultimately, the quality, richness and resilience of any wetland is largely determined by what happens in its catchment. The more natural the catchment and the fewer modifications to that catchment in terms of changes to nutrient regimes, water chemistry, water flows etc., the better***

*2.8* ***Natural England considers that the proposal lies across a significant proportion of the SSSIs catchment, we are therefore concerned that the development may have significant and irreversible impacts on catchment hydrology and ultimately on the restorability of Askham Bog SSSI as a resilient, relatively naturally-functioning wetland.*** *This would compromise the potential to achieve favourable condition status on the SSSI.*

*2.10* ***It is also noted that the attenuation ponds proposed as part of the flood risk strategy also form part of the proposed mitigation to reduce the effect of recreational disturbance on the site. Such a dual role may be incompatible****.”*

1. The YWT recognises the difficulty in ascribing the causes of potential future impacts on Askham Bog to changes on the development site as compared to other changes in the catchment. However, the Inspector’s attention is drawn to the specific wording of paragraph 175(b) NPPF, which underlines that that an adverse effect includes those caused “*either individually or in combination with other developments”*.

**IV Land South of Askham Bog**

1. The Inspector requested that all parties address in final written submissions the residential development to the south of Askham Bog. YWT appends to this document 6 photographs and 2 maps (see Appendix 1). The photographs correspond to the numbers on the cover map and are provided to aid the Inspector’s understanding.
2. The housing to the south of Askham Bog is the large village of Copmanthorpe and is separated from Askham Bog by a bund, a fence and most importantly by an extremely busy dual carriageway with a central reservation (the A64). It is exceptionally rare (vanishingly so) for a person to attempt to cross this road by foot. There is a high rate of fatality for the few who have. Cats would also be unlikely to survive any attempt to cross unless at night. It very clearly forms a barrier to the movement of wildlife illustrated by the number of wildlife fatalities commonly seen whilst driving along it (particularly badgers).
3. The road is unusually clear in Photo 1, the purpose of which is to illustrate the width; the dual carriages and the central reservation. This road is normally very busy during most hours of the day, particularly during rush hours. The A64 at Copmanthorpe carried an average daily vehicle flow of 58,682 in 2018[[7]](#footnote-8).  That website also carries details about times of day etc, but a rough calculation dividing that number by 15 hours a day suggests that there are approximately 4000 vehicles an hour going along there or 1 per second, creating  a genuinely impenetrable barrier.
4. The usual route for people from Copmanthorpe to visit Askham Bog would be to travel along Tadcaster Road, a far quieter single carriageway road (see Photo 3), using the underpass to travel under the A64. Askham Bog receives a large number of regular visitors and volunteers who arrive by bike/ foot and vehicle from Copmanthorpe in this manner.
5. The usual route for people from Copmanthorpe to visit Askham Bog would be to travel along Tadcaster Road, a far quieter single carriageway road (see Photo 3), using the underpass to travel under the A64. Askham Bog receives a large number of regular visitors and volunteers who arrive by bike/ foot and vehicle from Copmanthorpe in this manner.
6. The cyclepath and road emerges from the underpass (traveling from Copmanthorpe to the Bog) immediately opposite Askham Bog nature reserve (car park just behind the gate, at left of photo 4) and low fence.
7. As such, all visitors travelling from Copmanthorpe arrive at Askham Bog via the main YWT entrance, whether travelling on foot, bike or vehicle, where the welcome signs and nature reserve interpretation are located. Visitors travel down the main path into Askham Bog nature reserve and are directed on to the boardwalk to enjoy the wildlife of Askham Bog. It is unheard of for individuals to attempt to access the Bog over the A64 and through Pike Hills golf club.
8. The A64 also prevents access by cats and has a very a significant role in the isolation of the wildlife of Askham Bog from the wider landscape and habitats as described in Sir John Lawton’s evidence. This formidable complex of dual-carriageway, fences and houses  has been in place for many years, and is one of the main barriers that already partially isolates the bog from the farmland to the south. Adding further barriers to the north would only enhance the isolation. Further, because the housing and associated lighting lie beyond and below the moraine that carries the A64, the lights from this development are barely visible (if at all) from the Bog, which would not be the case with lighting on the proposed development.

**V Conclusion**

1. Where habitats are irreplaceable the policy hurdles for nearby development are, necessarily, much higher. As was heard during evidence, Askham Bog is, for its size, the most species rich of all Yorkshire nature reserves, and has attracted naturalists for over 200 years. Recent records show that there are at least 2925 non-microbial species recorded there, a figure that represents over 5% of the total UK species list. The Inspector heard how 20,00 visitors continue to enjoy its rich history and biodiversity every year, and the powerful public response to the proposed development.
2. Following the conclusion of the evidence, the Appellant has failed to prove that its proposal is compatible with paragraph 175 NPPF. For the reasons outlined fully above, the development will result in adverse impacts to a SSSI and the loss or deterioration of irreplaceable habitats. Natural England’s outstanding objection to the proposal further underlines this.
3. There was little common ground amongst the evidence put forward by Mr Jones and Mr Foley, and the evidence put forward by Mr Thomas, as to the extent of the connection between the development site and the hydrology of the bog. The Appellant’s experts demonstrated throughout the inquiry that they had failed to appreciate the Bog’s sensitivity and unique hydrogeology. Their confidence in the design of the EPEZ has to be read in this context. It follows that as a minimum there is a real possibility of harm. In order to protect this irreplaceable habitat, the precautionary principle must apply, and the Appeal should be dismissed.

**10 December 2019**

**Emma-Louise Fenelon**

**Darragh Coffey**

**On behalf of YWT**

1. Proof of Evidence of Professor Fitter, Appendix 15 [↑](#footnote-ref-2)
2. See Appendix 1, YWT’s original objection letter dated 4 February 2019 [↑](#footnote-ref-3)
3. Environment Agency (2007) Hydrogeological impact appraisal for dewatering abstractions, Proof of Evidence of Alex Jones, Appendix B [↑](#footnote-ref-4)
4. For example, during his evidence Mr Thomas introduced for the first time the concept of water loading. which he asserted was an explanation of groundwater level variance.

The concept of "water loading" as an explanation for water level variation only applies to confined permeable units, isolated by low permeability strata. Mr Thomas failed to provide evidence that there is a source of sufficient pressure change (caused by the ground getting lighter and heavier with the seasons) to cause the water level variations shown, necessary to support his assertion . Equally importantly, the concept of "water loading" can not apply to thicker sand deposits of the EPEZ area, which are shown in the Figure 5 of his Rebuttal Proof of evidence not to have overlying clays. This means that all the impact mechanisms identified by Mr Jones are not affected regardless of whether "water loading" forms an explanation of water level variation on the housing development footprint. [↑](#footnote-ref-5)
5. For the avoidance of any confusion, YWT maintains its position, as outlined on numerous occasions in evidence, that although the ARUP report is a helpful document, it should be read in the context of the information and improved understanding that has become available since its publication over 16 years ago. [↑](#footnote-ref-6)
6. See CD078, objection letter from Natural England to CYC dated 20 February 2019 [↑](#footnote-ref-7)
7. See [https://roadtraffic.dft.gov.uk/manualcountpoints/38691](https://protect-eu.mimecast.com/s/Bf6hCKnqI22mykhMMNjd%22%20%5Ct%20%22_blank) [↑](#footnote-ref-8)