BTF Consolidated Comments - 06 May 2026

26/P/0686/OU2|Hybrid planning application (full and outline elements) with Environmental Statement for the expansion of Bristol Airport to enable a throughput of 15 million passengers per annum …| Bristol Airport North Side Road Felton Wrington BS48 3DY

Preliminary comments

There are a number of inconsistencies between the Biodiversity Net Gain evidence as set out in the Statutory Metric Calculation (SMC)[1] and habitat data set out in Appendix 5.1: Ecological Desk Study of Volume III Environmental Statement Supporting Appendices – Part 2A – Chapter 5: Biodiversity (Appendix 5.1).[2]

In addition, the arboricultural evidence, as set out in Appendix 5.9: Trees of Volume III Environmental Statement Supporting Appendices – Part 2K – Chapter 5: Biodiversity (Appendix 5.9),[3] does not align with this evidence.

We note that the three surveys at Annex A of Appendix 5.9: Trees do not fully comply with the requirements of BS5837:2012.[4] Each lacks these mandatory elements:

- Surveyor details — the name and qualifications of the arboriculturists conducting the surveys are either missing or redacted.
- The survey dates for two surveys are missing.
- The WSP Arboricultural Impact Assessment, based on a field survey undertaken on June 3 and 4, 2024, is now out of date.
- The number of trees in some tree groups is missing.
- Data relating to crown spread are missing.
- Data relating to first significant branch heights are missing.
- Data relating to branch direction are missing.
- Data relating to estimated remaining contribution, in years (<10, 10+, 20+, 40+) are missing.
- No soil assessments exist.

This fails to comply with the LPA's planning requirements for tree surveys in planning applications.[5]

We also note that the applicant has failed to provide the survey data set out in Annex A: Tree Schedule of Appendix 5.9, in a machine-readable format such as .csv or .xlsx. We have requested the data in this form but our request has been declined, so we are obliged to analyse this data as best we can.

These issues need to be resolved before this application can be decided.

[1] BIODIVERSITY_NET_GAIN_METRIC_CALCULATION_TOOL-3587220.
[2] ES_VOL_III_-_APPENDICES_-_5.1__5.2__5.3-3580485.
[3] ES_VOL_III_-_APPENDIX_-_5.9_PART_1-3580497 & ES_VOL_III_-_APPENDIX_-_5.9_PART_2-3580498.
[4] https://n-somerset.gov.uk/sites/default/files/2020-02/BS%205837-2012.pdf.
[5] https://n-somerset.gov.uk/my-services/planning-building-control/planning-applications/application-guidance/supporting-documents/plans-tests-reports/tree-survey-tree-protection-plan.

Baseline area habitat

Excluding the Individual trees habitat parcels, 24 baseline habitat parcels[6] are recorded in the SMC, covering just over 235 hectares (ha):[7]

Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition
1	Grassland	Lowland calcareous grassland	0.973933679	High	Good
2	Grassland	Lowland calcareous grassland	0.430593844	High	Moderate
3	Grassland	Lowland calcareous grassland	1.574188245	High	Poor
4	Grassland	Other neutral grassland	2.9860581	Medium	Poor
5	Grassland	Other neutral grassland	18.0954474	Medium	Good
6	Grassland	Other neutral grassland	4.312396944	Medium	Moderate
7	Grassland	Modified grassland	4.556240411	Low	Good
8	Grassland	Modified grassland	2.624397157	Low	Moderate
9	Grassland	Modified grassland	89.71351677	Low	Poor
10	Heathland and shrub	Bramble scrub	0.150895003	Medium	Condition Assessment N/A
11	Heathland and shrub	Mixed scrub	0.035403213	Medium	Good
12	Heathland and shrub	Mixed scrub	0.772069633	Medium	Moderate

[6] A habitat parcel is a linked area of habitat of the same distinctiveness, condition and strategic significance.
[7] The redline area is recorded as 235.05 ha.

Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition
13	Heathland and shrub	Mixed scrub	1.0355706	Medium	Poor
14	Lakes	Ornamental lake or pond	0.002620528	Low	Poor
15	Lakes	Ornamental lake or pond	0.016841921	Low	Moderate
16	Sparsely vegetated land	Inland rock outcrop and scree habitats	0.030129446	High	Good
17	Urban	Developed land; sealed surface	102.3437264	V. Low	N/A - Other
18	Urban	Artificial unvegetated, unsealed surface	0.150155018	V. Low	N/A - Other
19	Urban	Vegetated garden	0.329543561	Low	Condition Assessment N/A
20	Urban	Vacant or derelict land	0.674313808	Low	Moderate
21	Urban	Vacant or derelict land	0.078661659	Low	Poor
22	Woodland and forest	Other woodland; broadleaved	1.197865394	Medium	Moderate
23	Woodland and forest	Other woodland; broadleaved	2.210426086	Medium	Poor
24	Woodland and forest	Other woodland; mixed	0.752181859	Medium	Moderate

The habitat parcels identified in Appendix 5.1 are:

- Grassland (Low Distinctiveness) – 23 parcels.

- Grassland – non-acid grassland types (medium, high and very high distinctiveness) – 33 parcels.
- Pond – 3 parcels.
- Scrub – 10 parcels.
- Urban – 4 parcels.
  - Open mosaic habitat on previously developed land.
  - Bioswale and SuDS.
  - Intense green roofs.
  - Biodiverse green roofs.[8]
- Woodland – 17 parcels.
- Sparsely vegetated land – 1 parcel.

However, it is impossible to integrate the SMC information with the habitat parcel condition assessment data in Appendix 5.1. This is because the Appendix 5.1 data:

1. does not give the size of each habitat parcel
2. uses UKHAB definitions, which are not then converted to their equivalent BNG habitat categories in the SMC
3. uses parcel reference codes that are not cross-referenced to their equivalent BNG habitat categories in the SMC
4. fails to show the locations of each of these habitat parcels on the UKHABs Baseline Classification Survey at Appendix 5.1
5. fails to explain why some of the habitats identified in Appendix 5.1 are not listed in the SMC.

Baseline Individual trees habitat

The SMC records three individual trees habitat parcels totalling 1.3848 ha:

Ref	Broad Habitat	Habitat Type	Area (ha)	Distinctiveness	Condition
25	Individual trees	Urban tree	0.9934	Medium	Good
26	Individual trees	Urban tree	0.0489	Medium	Moderate
27	Individual trees	Urban tree	0.3425	Medium	Good

The Appendix 5.1 condition assessment data for this habitat records 200 Individual trees (urban and rural) habitat parcels. However, it is impossible to integrate this information with SMC habitat parcel data, because this data:

1. does not give the size of each habitat parcel
2. uses parcel reference codes that are not cross-referenced to the three habitat parcel listed in the SMC
3. fails to show the locations of these habitat parcels on the UKHABs Baseline Classification Survey at Appendix 5.1.

The arboricultural evidence set out in Appendix 5.9 records 277 Individual and 72 tree groups on site. We calculate that this baseline habitat covers at least 21.6762 ha. However, this is

[8] Many of these are BNG habitats, yet are omitted from the SMC.

subject to the count of trees in each tree group being provided. When we know this, we will then be able to undertake a more accurate calculation of the correct area of this habitat.

The table below summarises our interim analysis of the Individual trees habitat listed in appendix 5.9, based on the inadequate arboricultural evidence currently available:

BNG Category	No. of Trees	Trees Removed	% Removed	Baseline Habitat (ha)	Habitat Removed (ha)	Habitat Retained (ha)	% Removed
Small	666	176	26.4%	2.7076	0.7166	1.9910	26.5%
Medium	827	181	21.9%	13.4685	2.9478	10.5207	21.9%
Large	102	7	6.9%	3.7376	0.2565	3.4811	6.9%
V. Large	23	3	13.0%	1.7584	0.2294	1.5290	13.0%
Totals	**1618**	**367**	**22.7%**	**21.6721**	**4.1503**	**17.5218**	**19.2%**
Veteran Trees[9]							
Medium	3	1	33.3%	0.0489	0.0163	0.0326	33.3%
Large	7	1	14.3%	0.2565	0.0366	0.4309	14.3%
V. Large	12	3	25.0%	0.9174	0.2294	0.6681	25.0%
Totals	**22**	**5**		**1.2228**	**0.2823**	**1.1316**	**23.1%**

However, none of this information has been integrated with either the SMC or Appendix 5.1, so it is impossible to reconcile these disparate sets of data.

We have already pointed out that the arboricultural surveys annexed to Appendix 5.9 are non-compliant (see above).

Baseline hedgerow habitat

There are ten onsite hedgerow habitat parcels listed in the SMC, comprising four hedgerow habitats totalling 9.93 kilometres (km):

Hedge number	Habitat type	Length (km)	Distinctiveness	Condition
1	Native hedgerow	0.636	Low	Good
2	Native hedgerow	0.494	Low	Moderate

[9] The evidence suggests that tree 9, listed in Appendix 5.9, a *Malus domestica*, is also a veteran tree.[9] We have also included the three veteran trees listed in Appendix 5.9 - which the applicant proposes will be translocated - as removed because, even if translocation were viable, these trees would be very unlikely to survive.

Hedge number	Habitat type	Length (km)	Distinctiveness	Condition
3	Species-rich native hedgerow	4.35	Medium	Good
4	Species-rich native hedgerow	1.99	Medium	Moderate
5	Native hedgerow	0.113	Low	Good
6	Native hedgerow	0.971	Low	Moderate
7	Native hedgerow	0.172	Low	Poor
8	Non-native and ornamental hedgerow	0.143	V. Low	Poor
9	Line of trees	0.518	Low	Moderate
10	Line of trees	0.547	Low	Poor

However, Appendix 5.1 lists 71 hedgerow parcels comprising nine distinct habitats:

No.	Hedgerow habitat
1	Native hedgerow – 14 parcels.
2	Native hedgerow - associated with bank or ditch – 1 parcel.
3	Native hedgerow with trees – 5 parcels.
4	Non-native and ornamental hedgerow – 2 parcels.
5	Species-rich native hedgerow – 24 parcels.
6	Species-rich native hedgerow - associated with bank or ditch – 2 parcels.
7	Species-rich native hedgerow with trees – 11 parcels.
8	Species-rich native hedgerow with trees - associated with bank or ditch – 6 parcels.
9	Line of trees – 6 parcels

It is impossible to integrate this information with SMC habitat parcel data because this data:

1. does not give the size of each habitat parcel
2. uses parcel reference codes that are not cross-referenced to the 10 habitat parcels listed in the SMC

3. fails to explain why some of the hedgerow habitats listed in Appendix 5.1 are omitted from the SMC.

The applicant's proposal to relocate three veteran trees

Section 6 of Appendix 5.9: Trees of Volume III Environmental Statement Supporting Appendices – Part 2K – Chapter 5: Biodiversity (Appendix 5.9)[10] sets out proposals for the translocation of two veteran Ash trees, tree numbers 70 and 80, and a veteran Sycamore, tree number 45. All form part of an ancient hedgerow on the south-eastern boundary of Cook's Farm with the existing airport. This is an important hedge that shows growth forms consistent with historic hedge laying.[11] [12]

In planning terms, relocating a veteran tree is better than simply felling it, but it is highly likely to deteriorate and die. Chances of a successful relocation relate directly to the time taken for root preparation, with two full growing seasons being recommended. One growing season is better than nothing, but less than this and the chances of success are minimal. A veteran tree's health and structure are typically fragile, so that, even with the recommended root preparation, survival is unlikely. The loss of such trees is therefore a reasonable assumption for planning decision-making purposes.

The importance of veteran trees

A veteran tree is a tree that, regardless of its actual age, shows significant signs of maturity, decay and environmental damage, making it a vitally important habitat for biodiversity. Key features include large cavities, rot, deadwood and fungal growth.

A useful way to create succession habitat is to 'veteranise' a tree. However, the missing component of a natural veteran is fungal decay, an essential ingredient for the highest value habitat afforded by veteran trees. Specialist invertebrates need fungal decay, without which a tree provides habitat spaces only. Despite setting up the conditions for decay to establish, it will take two or three decades for a veteranised tree to become something approaching a true veteran.

The proposed translocation process

1. **Pre-translocation management** — the trees will first be managed to reduce their current size through pollarding and coppicing before being moved.

   No proposals are made to reduce the trees' roots. As a result, if the trees are translocated without root reduction, they will die.

2. **Method of translocation** — following the size reduction works, a large tree spade will be used to translocate the three trees to the northern perimeter area of this part of the proposed development.
3. **Aftercare** — sensitive aftercare will be required following translocation to maximise the likelihood of success, though Appendix 5.1acknowledges there is some risk of failure with this specialist exercise.

The relocation of veteran trees faces severe challenges due to their extreme age, size,

[10] ES_VOL_III_-_APPENDIX_-_5.9_PART_1-3580497 & ES_VOL_III_-_APPENDIX_-_5.9_PART_2-3580498.
[11] The Hedgerows Regulations 1997 - https://www.legislation.gov.uk/uksi/1997/1160/contents.
[12] Nearly all the hedgerows on Cook's Farm, including this one, have been in existence since at least the 1840s, when the tithe maps were prepared – see https://maps.bristol.gov.uk/kyp/?edition=nsom.

compromised physiology, and ecological value, making survival rates low and often impractical compared to younger specimens. Because of this acknowledged risk of failure, a package of compensation measures will be implemented regardless, comprising planting and stewardship of 10 new future veteran trees on Bristol Airport land, together with the 'veteranisation' of 10 existing Category B trees within land owned by Bristol Airport. We assume that this land will be on site, but this needs to be clarified and the candidate trees identified.

The challenges of moving veteran trees

For all the reasons listed below, veteran tree translocation is rarely viable; literature emphasises in-situ conservation over risky moves, with no high-success case studies for true veterans (centuries-old).

Biological and physiological challenges[13, 14]

- **Root system limitations**: Veteran trees have extensive but often damaged or decaying root systems. Both Ash and Sycamore have a heart root system — a combination of lateral and oblique roots radiating outward and downward.
- **Transplant shock**: Reduced root-to-canopy ratio causes water/nutrient imbalance, leading to wilting, dieback and stunted growth, exacerbated by age-related inefficiencies in transpiration and sugar translocation.
- **Species-specific tolerance**: Tap-rooted species (oaks, walnuts) suffer higher mortality; street-grown trees may adapt better due to shallow roots, but veterans rarely do.
- **Age-related decline**: Multiple stressors (drought, pests, decay) reduce resilience; hollows, cavities, and epicormic growth indicate vulnerability to further disruption.

Logistical and technical challenges[15]

- **Size and weight**: Trees weighing tons require cranes, specialised equipment and route planning for transport; root balls must be massive but risk cracking.
- **Root damage**: Digging inevitably severs fine roots critical for post-move recovery; improper ball size leads to failure.
- **Timing constraints**: Best during dormancy, but veterans' irregular cycles and urban settings limit windows; summer moves amplify desiccation.

Environmental and site challenges

- **Soil and climate mismatch**: New sites rarely replicate decades-old soil chemistry, drainage or microclimate, causing adaptation stress (sunburn, windthrow).
- **Post-move stressors**: Vibration during transport, physical wounds, and altered light/wind exposure compound shock.

Management and conservation challenges[16]

[13] https://www.charteredforesters.org/wp-content/uploads/2016/11/TPBEII-Paper-Pryor-01.pdf.
[14] https://www.ancienttreeforum.org.uk/wp-content/uploads/2016/11/Guidance-on-managing-ancient-and-other-veteran-trees.pdf.
[15] https://www.coloradotreespade.com/blogs/post/common-mistakes-to-avoid-during-tree-relocation.
[16] https://ancienttreeforum.co.uk/wp-content/uploads/2015/03/Veteran-Trees-A-Guide-to-Risk-and-Responsibility.pdf.

- **Ecological irreplaceability**: Veteran trees host unique biodiversity (fungi, invertebrates); relocation rarely preserves this, and UK guidance prioritises in-situ retention or nearby repositioning of hulks - large, standing dead trees, or the massive, ruined remains of formerly large trees.
- **Low success justification**: Survival drops with height/age; experts recommend avoidance unless critical, favouring cabling/bracing.

Physiological challenges

A well-established area of tree biology examines why veteran trees have lower physiological resilience than younger trees. Here is a detailed breakdown:

Cellular ageing and meristematic decline

- Trees do not age uniformly like animals, but their meristematic tissue (the actively dividing cells responsible for growth and repair) becomes progressively less vigorous over time.
- The cambium layer — responsible for producing new wood and bark — thins and slows in older trees, meaning wounds heal far more slowly and incompletely.
- Cell division rates decline, reducing the tree's capacity to produce new vascular tissue to replace damaged or diseased sections.

Hydraulic failure

- As trees grow taller and older, water must travel greater distances from roots to canopy, increasing hydraulic resistance.
- Veteran trees are more prone to cavitation — the formation of air bubbles in the xylem (water-conducting vessels) — which blocks water transport and cannot easily be reversed.
- Long-term drought, disease, and physical damage cause embolisms to accumulate in the vascular system, permanently reducing hydraulic efficiency.

Accumulated physiological stress

- Over centuries, veteran trees absorb repeated stresses — drought, storm damage, disease, pest attack, pollution — each leaving permanent physiological scars.
- Unlike younger trees, veterans have exhausted much of their compensatory capacity; there is little physiological 'reserve' left to draw upon when a major new stress (such as relocation) is imposed.
- Oxidative stress accumulates over time as reactive oxygen species build up faster than the tree's antioxidant systems can neutralise them.

Declining photosynthetic efficiency

- Older leaves and needles show reduced photosynthetic rates due to structural changes in chloroplasts and declining enzyme activity (particularly RuBisCO[17]).
- The ratio of respiring tissue to photosynthesising tissue shifts unfavourably with age — a large veteran has an enormous volume of living bark, cambium, and roots to maintain relative to its leaf area.

[17] Ribulose-1,5-bisphosphate carboxylase/oxygenase.

- This means the carbon budget of a veteran tree is far tighter, leaving less energy available for stress response and recovery.

Mycorrhizal network dependency

- Young trees can establish new mycorrhizal associations relatively quickly in different soils. By contrast, veteran trees have become deeply dependent on highly specialised, localised fungal networks built over centuries.
- These networks are not just nutrient pathways — they also provide disease resistance signals and drought buffering; their loss is catastrophic for an aged tree with no alternative uptake strategies.

Hormonal and chemical signalling decline

- The production of key growth hormones (auxins, cytokinins, gibberellins) declines with age, slowing wound response, root regeneration and adaptive growth.
- Defence chemistry — the production of tannins, resins and other antimicrobial compounds — becomes less efficient, leaving veteran trees more susceptible to fungal pathogens and wood decay organisms that exploit relocation wounds.

Structural commitment

- Much of a veteran tree's internal wood is heartwood — biologically dead but structurally essential; it cannot be repaired or replaced if damaged during relocation.
- The proportion of functional sapwood (the living, active vascular layer) relative to total stem volume shrinks with age, meaning that less active tissue is available to sustain the tree through stress.

In essence, a veteran tree's low resilience is the cumulative result of centuries of biological trade-offs — prioritising longevity and structural investment over adaptability — leaving very little physiological flexibility to cope with the acute trauma of relocation.

The law

Paragraph 193(c) of the National Planning Policy Framework December 2024 (NPPF) states:

> *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.*[18]

The footnote 70 to NPPF 193(c), states:

> *For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.*

This is a two-limbed test which must be assessed separately and sequentially. A 'compensation strategy' — however robust (which in this case, it is not) — cannot itself constitute or contribute

[18] https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf.

to the *wholly exceptional reasons* justification required by NPPF 193(c).[19]

As this application only relates to a proposal to increase the capacity of existing national infrastructure, it is not so *significant* as to fall within the sort of *wholly exceptional circumstances* envisaged by footnote 70.

North Somerset Council Core Strategy January 2017

The applicant's proposals are also contrary to the North Somerset County Council Local plan; both adopted and proposed.

Core policy CS4: Nature conservation states:

> *The biodiversity of North Somerset will be maintained and enhanced by: …*
>
> *3) seeking to protect, connect and enhance important habitats, particularly designated sites, ancient woodlands and veteran trees; …*
>
> ***How and where the policy will be delivered***
>
> *3.60 Policy CS4 recognises the importance of locations supporting priority habitats, and also networks of habitats, designated or not, ancient woodlands and veteran trees. The policy seeks to protect and enhance biodiversity as a whole but particularly at those valuable locations, and locations where development occurs. The policy is consistent with the aims of South West Nature Map – A Planner's Guide by Biodiversity South West (February 2007), which refers to Strategic Nature Areas that represent the best areas to maintain and expand wildlife habitats through their management, restoration and/or re-creation.*[20]

This is echoed in the as-yet-to-be-adopted draft 2041 Local Plan, at Policy DP37.[21]

[19] *Juden v The London Borough of Tower Hamlets and others [2021] EWHC 1368 (Admin)* https://www.bailii.org/ew/cases/EWHC/Admin/2021/1368.html.

[20] https://n-somerset.gov.uk/sites/default/files/2022-06/A1%20-%20North%20Somerset%20core%20strategy.pdf.

[21] https://n-somerset.gov.uk/sites/default/files/2025-10/Local%20Plan%202041%20-%20pre%20submission%20plan.pdf.