BRISTOL AIRPORT

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum: Airfield Botanical Update

1 INTRODUCTION

1.1.1 Bristol Airport Ltd (BAL) has submitted a planning application to North Somerset Council (NSC) for the proposed development of Bristol Airport to accommodate 12 million passengers per annum (mppa) (Application No. 18/P/5118/OUT).

1.1.2 This document provides updated clarification on the botanical composition and conservation status of airfield grassland directly associated with Bristol Airport's proposals to extend the capacity of the airport. The outcome of this survey confirms areas associated with Priority Habitats, as defined under the Natural Environment and Rural Communities Act 2006, associated with the proposed airfield works and any requirements to conserve such areas of grassland through agreed ecological mitigation.

2 METHODOLOGY

2.1.1 A botanical survey of taxiway grassland habitat was conducted on 21 June 2019 by Tessa Pepler BSc (Hons), MSc, MCIEEM following the Integrated Habitat System (IHS) Methodology (Somerset Environmental Records Centre (SERC) 2017). The weather was sunny and dry, with cloud 1/8, wind 4-5 (Beaufort scale) and temperature 22 °C. The airfield grass had not been cut for a number of months and flowing specimens were present.

2.1.2 Plant and grass species were recorded overall within each grassland area and the relative abundance of each species within the area was recorded using the DAFOR scale: D = Dominant; A = Abundant; F = Frequent; O = Occasional; and R = Rare. Table 1 provides the % covers for the relative species abundance categories.

Value	Percentage Cover	Notes
D – Dominant	> 75%	Rarely used in practice
A – Abundant	51 – 75%	Very common over most of site
F – Frequent	26 – 50%	

O – Occasional	11 – 25%	
R – Rare	1 – 10%	

Table 1: DAFOR Abundance Scale

2.1.3 The abundance of the botanical and grassland species present were assessed using the IHS criteria for lowland Somerset neutral grassland categories using IHS Definitions, 2017. The grassland habitat was assessed against the categories under Somerset Neutral Grassland.

2.1.4 The National Vegetation Classification (NVC) methodology uses five quadrats to assess the habitat type present and this approach has been previously adopted by Johns Associates. However, based upon an initial walkover survey of the areas of grassland and the need to place the grassland into a local context in relation to botanical value, it was considered more appropriate to further categorise the grasslands under categorisation using the IHS definitions. Based on the outcome of this survey, confidence in the previously assigned NVC community types can be given.

3 RESULTS

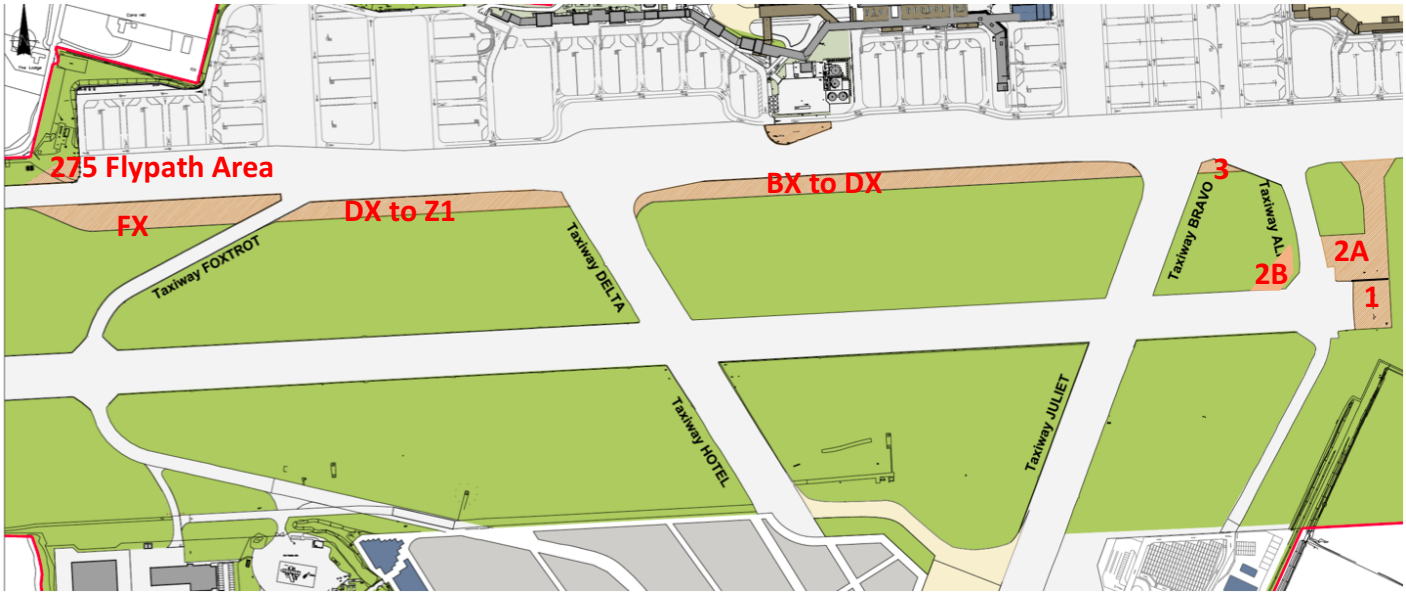

Figure 1 Areas of Grassland Surveyed

3.1 AREA 1: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.1.1 Area 1 (Figure 1) comprised semi-improved grassland which is classified GN32 Somerset Neutral Grassland "Species Poor" under IHS definitions. Table 2 provides the results. The sward was moderately species rich with 9-15 species present per meter^2. The total cover of wildflowers was usually less than 30%, excluding white clover *Trifolium repens*, creeping buttercup *Ranunculus repens* and injurious

weeds. Ryegrass *Lolium* sp. cover was less than 25%. The species composition and abundance does not strictly meet the criteria for "Species Rich" with three and not four indicator species at least occasional in the sward (yarrow *Achillea millefoilium*, ribwort plantain *Plantago lanceolate* and meadow buttercup *Ranunculus acris*).

3.1.2 Despite the sward fitting the criteria for species poor Somerset neutral grassland, the presence of Oxeye daisy *Leucanthemum vulgare*, an IHS characteristic calcareous species is present in addition to quaking oat grass *Brizia media* and yellow oat grass *Trisetum flavescens*. This matches the findings of previous airside botanical surveys completed by Johns Associates where transitions are present between neutral and calcareous grassland, in addition to clearly defined grassland types in other locations.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Achillea millefoilium	Yarrow	F
Agrostis capillaris	Common bent	A
Arrhenatherum elatius	False oat-grass	F
Bellis perennis	Daisy	R
Brizia media	Quaking oat grass	O
Bromus hordeaceus	Soft brome	F
Cerastium fontanum	Common mouse-ear	R
Cirsium vulgare	Spear thistle	R
Festuca rubra	Red fescue	A
Geranium molle	Dove's-foot Crane's-bill	R
Holcus lanatus	Yorkshire fog	A
Jacobaea vulgaris	Ragwort	R
Leucanthemum vulgare	Oxeye daisy	O
Lolium perenne	Perennial ryegrass	O
Plantago lanceolate	Ribwort plantain	F
Ranunculus acris	Meadow buttercup	O
Schedonorus arundinaceus	Tall fescue	R
Trisetum flavescens	Yellow oat grass	R
Vicia cracca	Tufted vetch	R
Vicia sativa	Common vetch	R

Table 2 Area 1 Species and Abundance

3.1.3 Conclusion: Species rich semi-improved neutral grassland. The sward was more diverse than the other areas of grassland surveyed and included some characteristic calcareous grassland species. It is

considered that 0.25ha of this grassland should be translocated to a suitable receptor location comprising habitat of low ecological value.

3.2 AREA 2A: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.2.4 Area 2A (Figure 1) comprised semi-improved grassland which is classified as GN32 Somerset Neutral Grassland "species poor" under IHS definitions. Table 3 provides the results. The area has fewer than four semi-improved grassland species occasional in the sward; meadow buttercup and sorrel were rare in abundance although ribwort plantain and yarrow were at least occasional in the sward. Oxeye daisy, an IHS characteristic calcareous species is present in addition to quaking oat grass which are calcareous grassland species.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Achillea millefoilium	Yarrow	F
Agrostis capillaris	Common bent	F
Arrhenatherum elatius	False oat-grass	F
Bellis perennis	Daisy	R
Brizia media	Quaking oat grass	R
Cirsium arvense	Creeping thistle	R
Cirsium vulgare	Spear thistle	R
Convolvulus arvensis	Field bindweed	R
Crepis capillaris	Smooth Hawk's-beard	R
Dactylis glomerata	Cock's foot	A
Festuca rubra	Red fescue	F
Heracleum sphondylium	Hogweed	R
Holcus lanatus	Yorkshire fog	O
Jacobaea vulgaris	Ragwort	R
Leucanthemum vulgare	Oxeye daisy	R
Lolium perenne	Perennial ryegrass	O
Plantago lanceolate	Ribwort plantain	O
Ranunculus acris	Meadow buttercup	R
Ranunculus repens	Creeping buttercup	R
Rumex acetosa	Sorrel	R
Trifolium repens	White clover	R

Table 3 Area 2A Species and Abundance

3.2.5 Conclusion: Species poor semi-improved grassland. No mitigation required.

3.3 AREA 2B: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.3.6 Area 2B (Figure 1) comprised semi-improved grassland which is classified as GN32 Somerset Neutral Grassland "Species Poor" under IHS definitions. The sward contained fewer than four semi-improved grassland wildflower indicators occasional in the sward; ribwort plantain, meadow buttercup and sorrel were present but rare in abundance. Table 4 provides the results.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Agrostis capillaris	Common bent	F
Arrhenatherum elatius	False oat-grass	A
Bromus hordeaceus	Soft brome	R
Convolvulus arvensis	Field bindweed	R
Dactylis glomerata	Cock's foot	F
Festuca rubra	Red fescue	A
Heracleum sphondylium	Hogweed	F
Holcus lanatus	Yorkshire fog	O
Lolium perenne	Perennial ryegrass	A
Plantago lanceolate	Ribwort plantain	R
Ranunculus acris	Meadow buttercup	R
Rumex acetosa	Sorrel	R

Table 4 Area 2B Species and Abundance

3.3.7 Conclusion: Species poor semi-improved grassland. No mitigation required.

3.4 AREA 3: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.4.8 Area 3 (Figure 1) comprised semi-improved grassland which is classified as GN32 Somerset Neutral Grassland "Species Poor" under IHS definitions. The sward contained fewer than four semi-improved grassland wildflower indicators occasional in the sward; ribwort plantain, meadow buttercup and sorrel were present but rare in abundance. Table 5 provides the results.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Agrostis capillaris	Common bent	F
Arrhenatherum elatius	False oat-grass	A
Cerastium fontanum	Common mouse-ear	R
Dactylis glomerata	Cock's foot	A
Festuca rubra	Red fescue	A

Geranium molle	Dove's-foot Crane's-bill	R
Heracleum sphondylium	Hogweed	R
Holcus lanatus	Yorkshire fog	O
Lotus corniculatus	Common bird's-foot-trefoil	R
Plantago lanceolate	Ribwort plantain	R
Potentilla anserina	Silverweed	O
Ranunculus acris	Meadow buttercup	R
Rumex acetosa	Sorrel	R
Stellaria graminea	Lesser stitchwort	R
Trifolium repens	White clover	R
Vicia sativa	Common vetch	O

Table 5 Area 3 Species and Abundance

3.4.9 Conclusion: Species poor semi-improved grassland. No mitigation required.

3.5 AREA BX TO DX: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.5.10 Area BX to DX (Figure 1) comprised semi-improved grassland which is classified as GN32 Somerset Neutral Grassland "Species Poor" under IHS definitions. The sward contained fewer than four semi-improved grassland wildflower indicators occasional in the sward; ribwort plantain, meadow buttercup, yarrow and sorrel were present but rare in abundance. Table 6 provides the results.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Achillea millefoilium	Yarrow	R
Agrostis capillaris	Common bent	F
Arrhenatherum elatius	False oat-grass	F
Centaurea nigra	Black knapweed	R
Dactylis glomerata	Cock's foot	A
Festuca rubra	Red fescue	A
Geranium molle	Dove's-foot Crane's-bill	R
Glechoma hederacea	Ground ivy	R
Heracleum sphondylium	Hogweed	O
Holcus lanatus	Yorkshire fog	O
Leucanthemum vulgare	Oxeye daisy	R
Plantago lanceolate	Ribwort plantain	R
Potentilla anserina	Silverweed	R
Ranunculus acris	Meadow buttercup	R
Rumex acetosa	Sorrel	R

Trisetum fravescens	Yellow oat grass	R
Vicia sativa	Common vetch	F

Table 6 Area BX to DX Species and Abundance

3.5.11 Conclusion: Species poor semi-improved grassland. No mitigation required.

3.6 AREA DX TO Z1: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.6.12 Area DX to DZ1 (Figure 1) comprised semi-improved grassland which is classified as GN32 Somerset Neutral Grassland "Species Poor" under IHS definitions. The sward contained fewer than four semi-improved grassland wildflower indicators occasional in the sward; meadow buttercup and sorrel were present but rare in abundance and ribwort plantain was frequent in abundance. Table 7 provides the results.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Agrostis capillaris	Common bent	F
Arrhenatherum elatius	False oat-grass	A
Cirsium arvense	Creeping thistle	R
Dactylis glomerate	Cock's foot	A
Festuca rubra	Red fescue	A
Heracleum sphondylium	Hogweed	O
Holcus lanatus	Yorkshire fog	F
Lolium perenne	Perennial ryegrass	O
Leucanthemum vulgare	Oxeye daisy	R
Plantago lanceolate	Ribwort plantain	F
Ranunculus acris	Meadow buttercup	R
Rumex acetosa	Sorrel	R
Taraxacum officinale agg.	Dandelion	R
Trisetum fravescens	Yellow oat grass	R

Table 7 Area DX to Z1 Species and Abundance

3.6.13 Conclusion: Species poor semi-improved grassland. No mitigation required.

3.7 AREA FX TO FENCELINE: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.7.14 Area FX to the fenceline (Figure 1) comprised semi-improved grassland which is classified as GN32 Somerset Neutral Grassland "Species Poor" under IHS definitions. The sward contained fewer than four semi-improved grassland wildflower indicators occasional in the sward; sorrel and ribwort plantain were

present but rare in abundance and yarrow was present occasional in abundance. Table 8 provides the results.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Achillea millefoilium	Yarrow	O
Agrostis capillaris	Common bent	A
Arrhenatherum elatius	False oat-grass	A
Dactylis glomerata	Cock's foot	A
Festuca rubra	Red fescue	A
Geranium molle	Dove's-foot Crane's-bill	R
Glechoma hederacea	Ground ivy	R
Heracleum sphondylium	Hogweed	R
Holcus lanatus	Yorkshire fog	A
Lolium perenne	Perennial ryegrass	O
Plantago lanceolate	Ribwort plantain	R
Poa pratensis	Smooth meadow-grass	O
Rumex acetosa	Sorrel	R
Taraxacum officinale agg.	Dandelion	R
Vicia sativa	Common vetch	R

Table 8 Area FX to Fenceline Species and Abundance

3.7.15 Conclusion: Species poor semi-improved grassland. No mitigation required.

3.8 275 FLYPATH AREA: GN32 SOMERSET NEUTRAL GRASSLAND "SPECIES POOR"

3.8.16 The 275 Flypath Area (Figure 1) comprised semi-improved grassland which is classified as GN32 Somerset Neutral Grassland "Species Poor" under IHS definitions. The sward contained no semi-improved grassland wildflower indicators. Table 9 provides the results.

Scientific Name	Common Name	Abundance (DAFOR Scale)
Agrostis capillaris	Common bent	F
Dactylis glomerata	Cock's foot	O
Festuca rubra	Red fescue	A
Holcus lanatus	Yorkshire fog	F
Lolium perenne	Perennial ryegrass	O
Avenula pratensis	Meadow oat grass	O

Table 9 275 Flypath Area Species and Abundance

3.8.17 Conclusion: Species poor semi-improved grassland. No mitigation required.

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BRISTOL AIRPORT

Reserved matters of appearance for the development of the southern link taxiway and apron (site BB), pursuant to outline planning permission 09/P/1020/OT2

Ecology Technical Note

1 INTRODUCTION

1.1 BACKGROUND

Bristol Airport has submitted planning application 18/P/4969/RM for the approval of reserved matters for the development of the southern taxiway and apron at Bristol Airport, further to the 2011 outline planning consent (LPA reference: 09/P/1020/OT2) for the development of the airport to accommodate 10mppa.

The 3.1 hectare site lies to the immediate south of the runway, as identified on the submitted site location plan, and equates to Site 'BB' (aircraft parking) as shown on approved drawing P11-02 Rev 2. It is irregular in shape and comprises a short portion of existing hard-surfaced taxiways and a larger area of maintained grassland used for taxiing and parking for small 'general aviation' and business aircraft.

The application seeks approval for those reserved matters (external appearance and finished levels) required by condition no. 3 of the outline consent. The submitted details also satisfy the requirements of a number of other conditions attached to the outline consent, relating to surface water drainage (condition no. 27), site investigation (no. 47), and construction management (nos. 51 and 54). The proposed scheme does not include landscaping.

1.2 PROPOSED DEVELOPMENT

The proposed development predominantly relates to the resurfacing of this operational area. The grassed area will be replaced by a concrete surface in order to provide for the contigency parking of larger commercial

aircraft when not in use (and empty of passengers). The works will also include a re-configuration of the existing taxiways, and new drainage and lighting infrastructure.

Figure 1.1 shows the location of the proposed development.

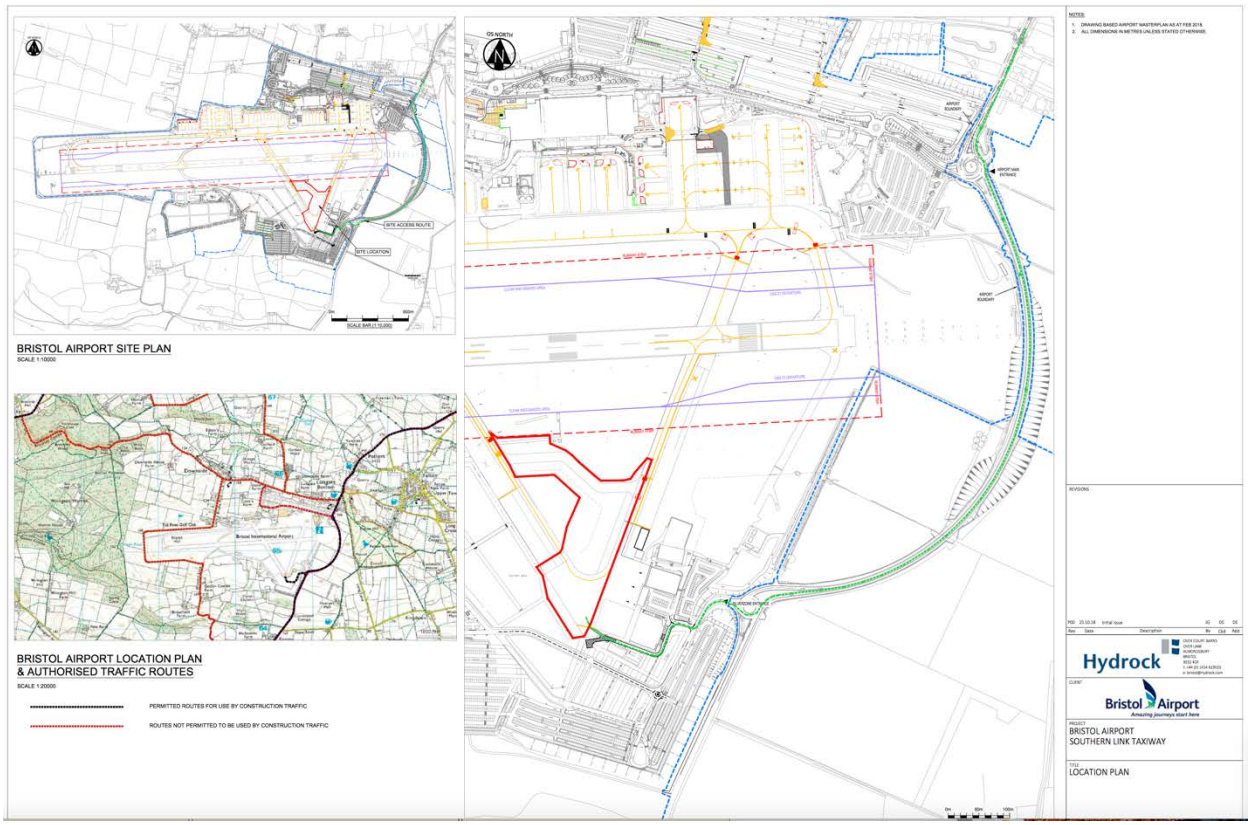

Figure 1.1. Location plan

Figure 1.2 shows the general arrangement of the development area.

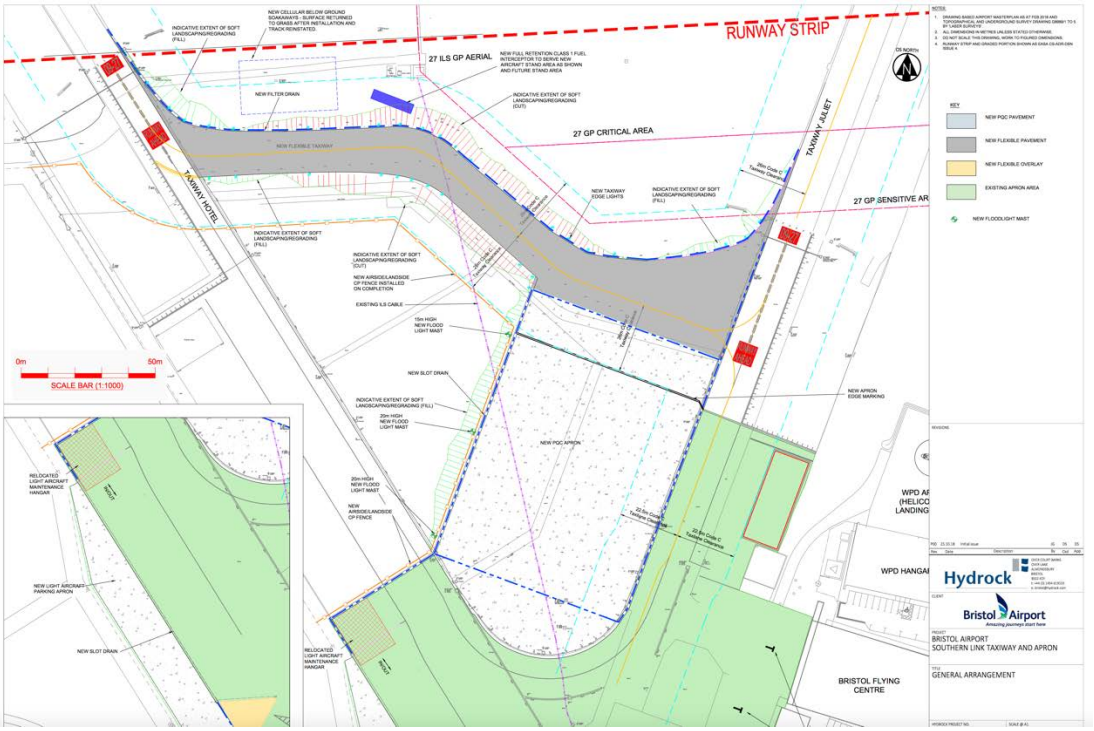

Figure 1.2 General arrangement

Figure 1.3 illustrates this area and its setting from an aerial perspective.

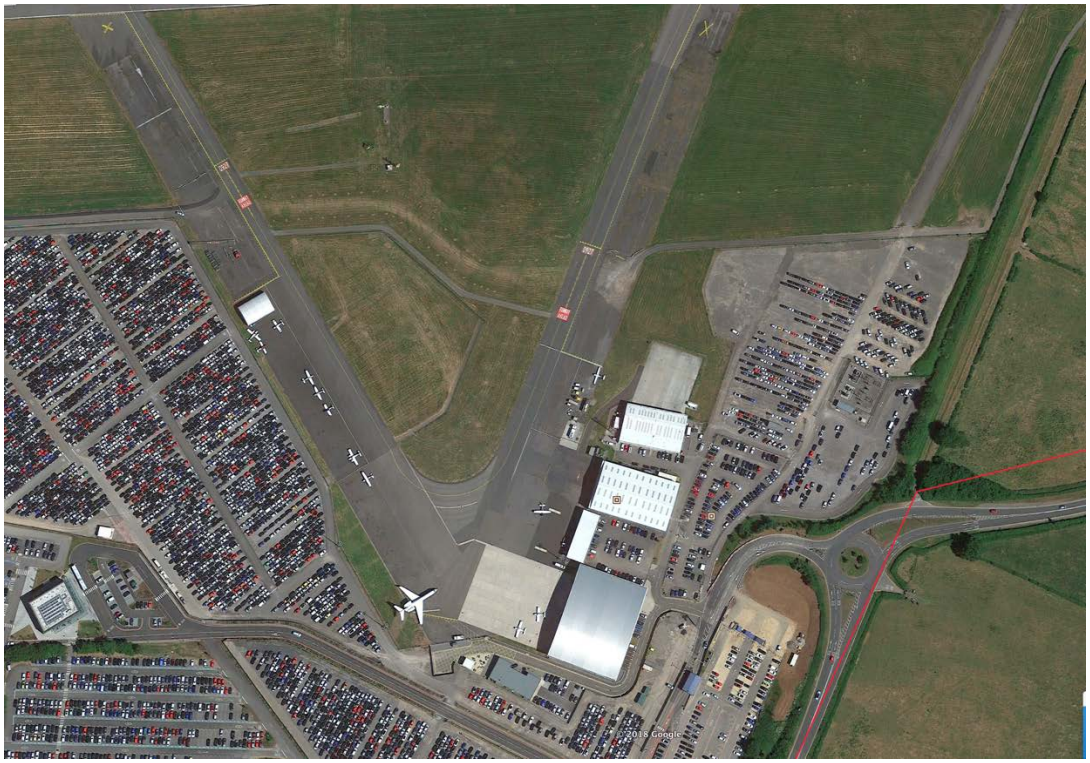

Figure 1.3 Aerial image of the development area and adjacent high intensity aviation operations

Figure 1.4 shows lighting proposals and maximum vertical lux levels, with Figure 1.5 showing adjacent areas already illuminated.

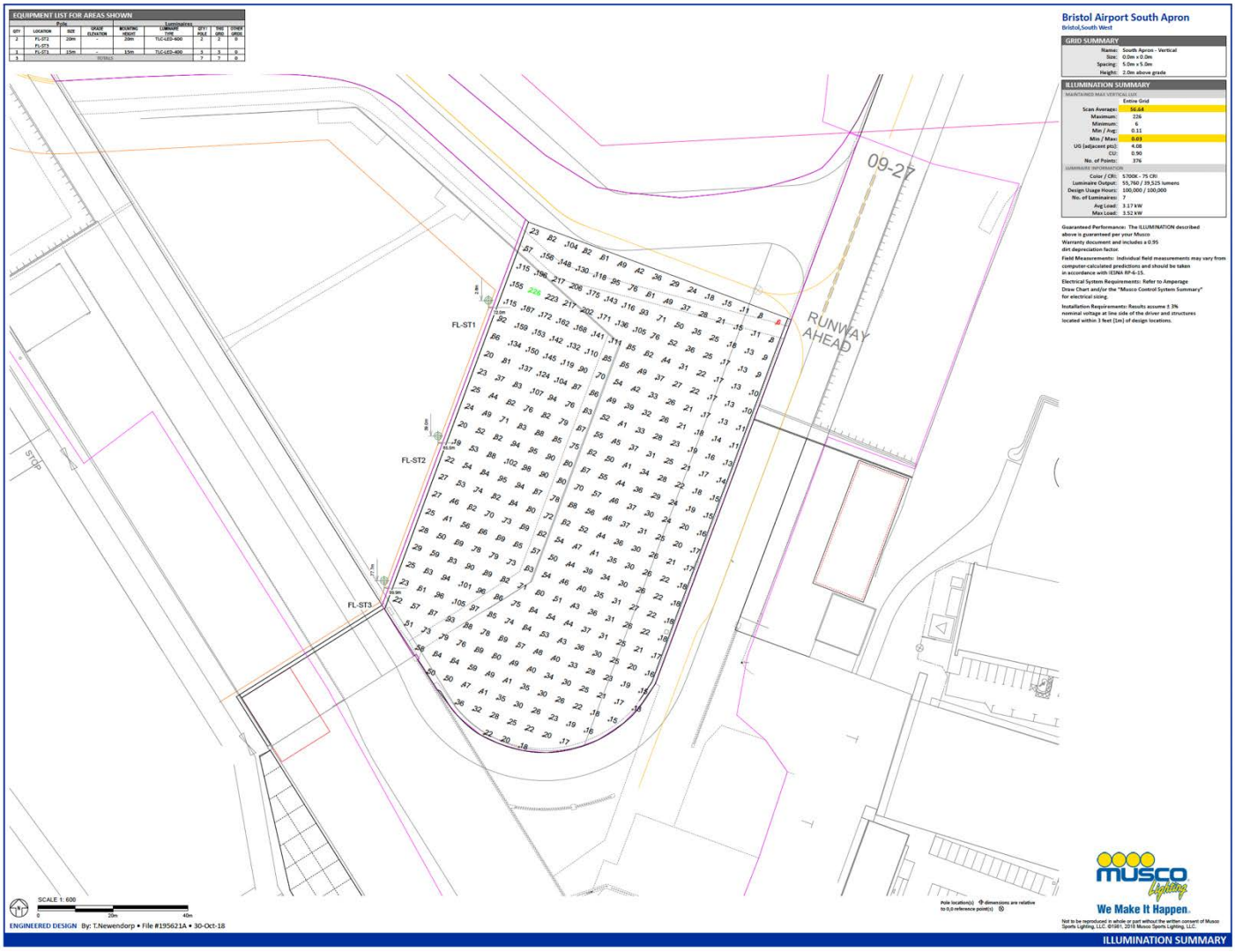

Figure 1.4 Predicted lighting levels

Although lux levels for immediately adjacent areas are not shown on this plan, it can be seen that lighting immediately on the boundary is typically less than 30lux and can be expected to reduce further to preserve darker areas closer to the runway, not already influenced by existing lighting.

Figure 1.5 Areas currently illuminated

2 ECOLOGICAL CONTEXT

2.1.1 Extended Phase 1 Habitat Survey

An extended Phase 1 Habitat Survey of the airfield was conducted in 2018 by Johns Associates to inform planning application 18/P/5118/OUT, building on extensive previous surveys commencing in 2005 (Appendix 11B of the Environmental Statement of that planning application). This concluded that the application site is characterised by species poor semi-improved grassland, managed to minimise the risk of bird strike under CAA Policy CAP772, used for overflow car parking together with bare ground comprising tarmac. Section 2.1.2 provides further information on botanical interest and Section 2.2.2 on faunal interests.

Figure 2.1 provides the Phase1 survey map for the development area and surrounds.

Figure 2.1 Phase 1 Habitats 2018

A further walkover inspection was completed by Johns Associates in March 2019 and a further visit in June 2019 with no change in condition recorded.

The existing hanger buildings and apron are artificially lit and the adjacent areas characterised by the Silver Zone car park, the entrance to Silver Zone and associated buildings and the car rental areas are also lit by artificial illumination. Darker areas exist further to the north, south and east associated with the airfield and agricultural land.

2.1.2 Botanical Interest

Previous botanical surveys have concluded that the grassland in this area is characterised by species poor semi-improved grassland, managed to minimise the risk of bird strike under CAA Policy CAP772 and used seasonally for overflow car parking, and bare ground comprising tarmac.

A representative species list and photograph (Plate 1) is provided below.

- Yorkshire fog *Holcus lanatus*: Frequent
- Red fescue *Festuca rubra*: Abundant
- Cock's foot *Dactylis glomerata*: Occasional
- Perennial ryegrass *Lolium perenne*: Occasional
- Common bent *Agrostis capillaris*: Frequent
- Meadow oat grass *Avenula pratensis*: Occasional

Plate 1. Grassland typical of the application area.

2.1.3 Faunal Evidence

During this survey (and previously) no evidence of the presence of legally protected or conservation notable species was recorded. The hangers and other associated buildings and structures have negligible potential for roosting bats. No evidence of brown hare or badger were found (although known to be present within the airfield). Although the grassland is suitable for ground nesting birds, extensive habitat is present throughout the wider airfield although carefully managed under CAP772. The managed nature of the sward under

CAP772 and for seasonal car parking is considered to limit the suitability for supporting notable abundances of invertebrate. No records of common reptiles have been obtained despite a number of repeat surveys since 2005.

A further walkover inspection was completed by Johns Associates in March 2019 with no change in condition recorded.

2.1.4 Implications for Bats

Extensive bat surveys have been completed at Bristol Airport to inform both ongoing management, development design, planning applications, construction and monitoring/management. A summary of this can be found in Appendix 11E of the Environmental Statement associated with planning application 18/P/5118/OUT.

Since 2005, these bat surveys have identified that a number of bat species are associated with Bristol Airport, typically, with land associated with its perimeter and land to the south of the airport.

A survey of buildings and potential bat roosts completed across the airport and reported in 2018 confirmed that the only suitable features were associated with a limited number of trees, former RAF buildings (now converted into roosts by Bristol Airport) and a network of artificial bat boxes located on the northern and parts of the southern boundary of the airport. None of these features are associated with the proposed development area, with the nearest feature/known roost being located over 450m to the south west and beyond the existing illuminated apron and Silver Zone car park.

Bats have been found to utilise mature hedgerows, groups of mature trees, car park bunds and cattle grazed fields for both foraging and commuting. The closest recorded feature from bat surveys conducted at Bristol Airport is located some 300m to the south, being the mature tree lined southern boundary to the Silver Zone car park.

A review of strategic connective and foraging habitats associated with light sensitive horseshoe bat species known roosts, habitat features and this part of Bristol Airport and its environs was completed as part of planning application ref 17/P/5105/FUL. This is reproduced as Figure 2.2 below. It confirms the presence of strong habitat features to the east and south of the airport land. Since this assessment, planning permission 17/P/5105/FUL has been implemented resulting in the removal of three hedgerows to the east of the application site and replacement of these with extensive species rich hedgerows further away to the east and beyond the A38, strengthening bat habitat features and connectivity in this more optimal location, together with enhancement of bat foraging habitat to the east of the A38 on Bristol Airport land through tree planting.

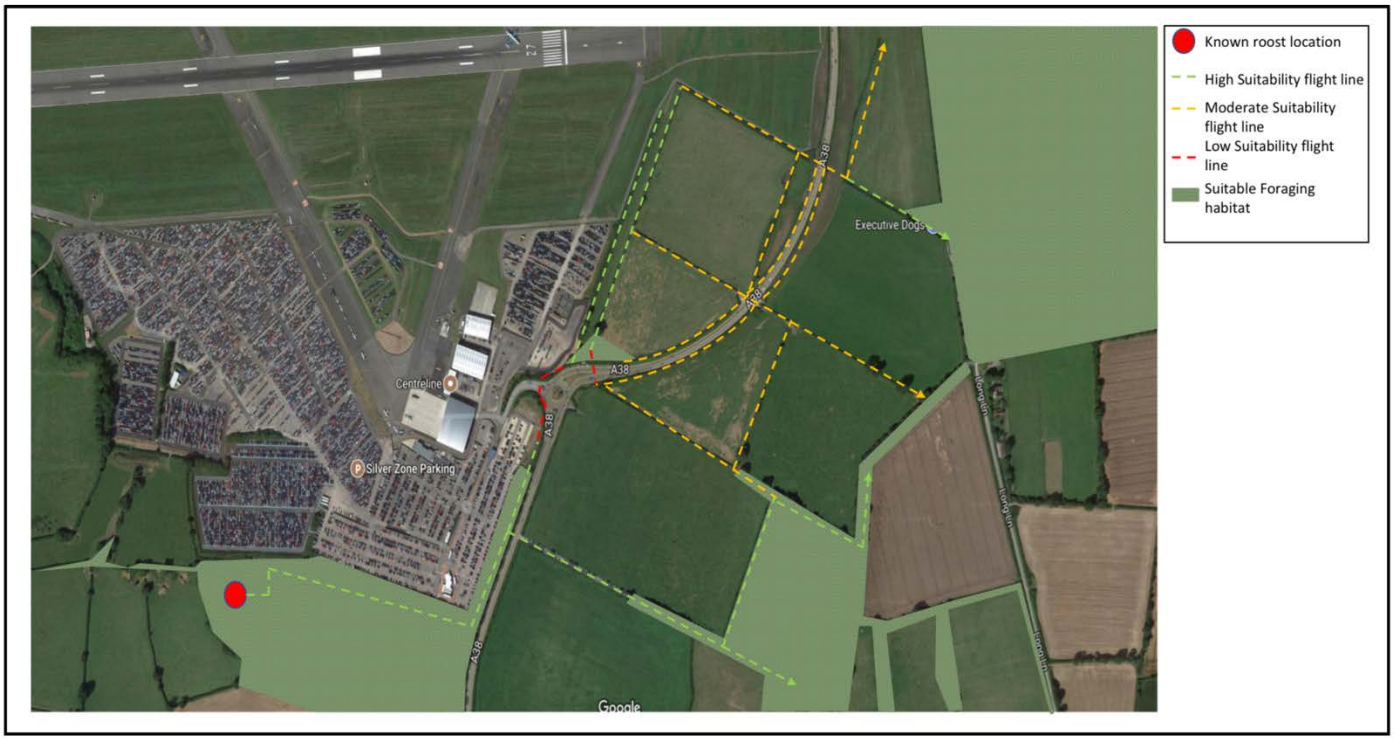

Figure 2.2 Assessment of Horseshoe bat flight lines and foraging habitat

The habitat associated with the development site is species poor semi-improved grassland and tarmac, managed under CAA CAP772 and used for seasonal overflow car parking, and is not considered to provide a productive source of food for bat foraging. Using the Greater Horseshoe Bat Habitat Suitability Index scoring system set out in the North Somerset and Mendips Bat Special Area of Conservation Supplementary Planning Document[1] (2018) it is confirmed that this location is within Zone C of the Greater Horseshoe Bat consultation zone and is outside of this zone for lesser horseshoe bats.

Using this guidance, the most suitable classification is GU0 Grassland, semi-improved (HSI of 4), Matrix of HS0 Ephemeral/short perennial herb (HSI score of 0) and BG1 Bare Ground (HSI Score of 0), no Formation (score) is present, Management of GM23 Frequent mowing[2] (with a HSI score of 0). The total HSI is zero as shown in the following calculation.

$$((4+0) \times (1) \times (0)) = 0$$

This confirms that, according to the SPD the habitat is highly likely to be unsuitable for greater (and lesser) horseshoe bat and no further investigation is required by the SPD.

[1] https://www.n-somerset.gov.uk/wp-content/uploads/2015/12/North-Somerset-and-Mendip-Bats-SAC-guidance-supplementary-planning-document.pdf

[2] The airfield grassland is regularly managed to meet the specific requirements of CAP772 to maintain an open grass dominated structure managed at a specific height, to minimise flowering and with limited flower/forb species present.

The application site is located adjacent to existing areas of illumination associated with the adjacent General Aviation hanger and apron lighting, the lighting associated with the car rental area and from the Silver Zone car park (see Figure 1.5). These conditions will also further limit the suitability of the application site for bats in general and also for light sensitive species. Extensive dark habitat that also supports features of value to bats are available in the wider landscape in particular to the east and south, with areas of unlit/darker grassland present to the north, between the application site and the runway.

As such, it is considered reasonable to conclude that the application site is relatively isolated in the landscape, and is characterised by conditions that result in low levels of suitability for foraging and commuting bats (in particular for greater and lesser horseshoe bats that are light-sensitive) with extensive alternative suitable known habitat for bats being present elsewhere.

3 CONCLUSIONS

Based on the prevailing baseline conditions and scheme design, it is reasonable to conclude that:

- The site does not support Priority or conservation notable habitats;
- No evidence for the presence of legally protected or conservation notable species has been recorded in the application site, noting that alternative and extensive similar habitat is present elsewhere at Bristol Airport;
- No bat roosts (confirmed or potential) will be affected by the proposed development;
- No structural connecting habitat potentially used by commuting or foraging bats will be affected by the proposed development;
- The loss of the species poor semi-improved grassland identified as having a greater horseshoe bat HSI of 0 is not significant, with alternative and extensive similar habitat present elsewhere at Bristol Airport;
- The additional lighting, in combination with the existing lighting in the immediate area will therefore not result in any further impacts on bats, in particular light sensitive species (or other nocturnal species);
- Consequently, it is concluded that no construction or operational phase significant effects on Biodiversity can therefore occur and that in turn will ensure that there is no adverse effect on integrity of the SAC as a whole will occur.
- The development proposals will not have a negative likely significant effect on the favourable conservation status of the North Somerset and Mendips Bat SAC in isolation or in combination with other developments.

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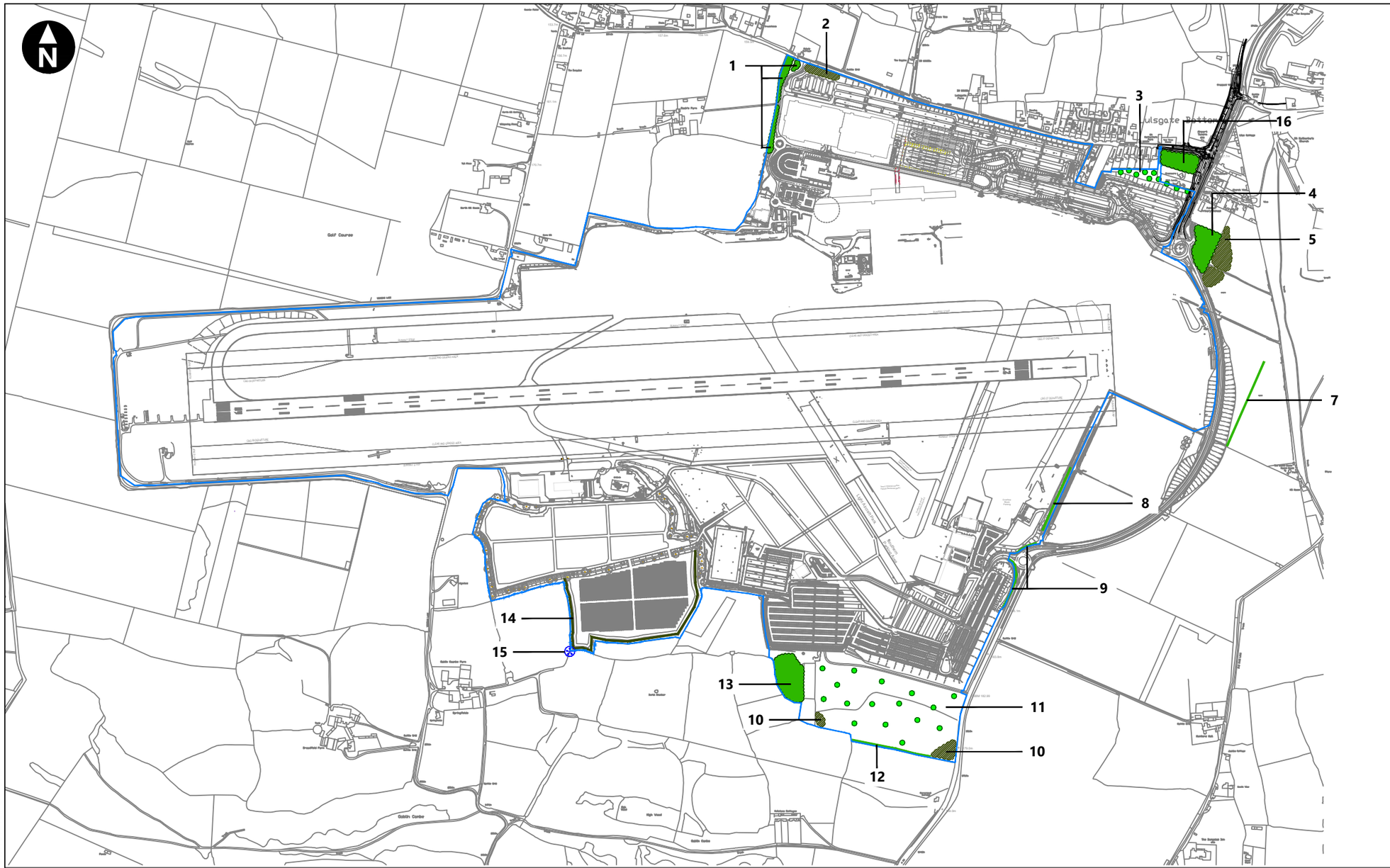

Key

- Bristol Airport Ownership Boundary
- New woodland / scrub planting
- New hedgerow / bund planting
- Reinforcement of existing woodland / scrub / copse planting
- Reinforcement of existing hedgerows
- Parkland tree planting
- New / restored pond

Principal Purpose of Proposed Mitigation Measure

E: Ecology
L: Landscape
V: Visual

1. Reinforce existing tall native hedgerow. Extend scrub planting at northern (Downside Road) end with provision for rides in scrub. In the island bed surrounded by North Side Road and Downside Road this planting is to include a high proportion of tree planting, some of which will be extra heavy standard trees, to provide increased screening for residents in Melody Cottage. Extend existing bat tower roost. Provides habitat benefits to birds, bats, badger, small mammals and invertebrates. (E, V).
2. Reinforce woodland planting on the top and northern side of bund. Plant native climbers (honeysuckle, ivy and Clematis vitalba) on trellis along northern side of acoustic wall to soften appearance in views. Provides habitat benefits to birds, bats and invertebrates. (E, V)
3. Provision of limited amount of parkland tree planting in the reminder of the grassland to enhance for area for horseshoe bats. Provision of mown paths and information board. Provides habitat benefits to birds, bats, badger, small mammals and invertebrates. (E)
4. Existing woodland copse to have management regime amended to thin internal areas of woodland to enhance habitat for horseshoe bats. Provides benefits to woodland conditions and habitat for birds, bats, badger, small mammals and invertebrates. (E)
5. Extend woodland copse (4) to east. Scallop eastern edge. Increases woodland inventory and habitat provides benefits to birds, bats, badger, small mammals and invertebrates. (E, L)
6. No longer applicable.
7. Reinforce and thicken existing hedgerow and allow to grow to maximum 1.5m height. Provides benefits to birds and bats. (E, L)
8. Reinforce and thicken existing hedgerow and allow to grow to maximum height of 1.5m. Provides benefits to birds and bats. (E, L, V)
9. Introduce extra heavy standard trees into southern section of A38 boundary hedgerow and allow hedgerow section to grow out to maturity to improve screening effectiveness. Provides benefits to birds and bats. (E, V)
10. Introduce small copses in the south-eastern and south-western corners of Gruffy's Field around bat roosts. Ensure that in combination with (11) the total area of scrub/tree cover within field does not exceed 15% of surface area to maximise its attractiveness to horseshoe bats. Enhance and extend existing horseshoe bat night feeding perches. Provides benefits to birds, bats, badger, small mammals and invertebrates. (E, L)
11. Introduce parkland trees to Gruffy's Field to enhance existing patches of scrub so that the total area of scrub/tree cover within field does not exceed 15% of surface area to maximise its attractiveness to horseshoe bats. Provides benefits to birds and bats. (E, L)
12. Reinforce and thicken existing hedgerow and allow hedgerow to grow to maturity. Provides benefits to birds and bats. (E, L)
13. Existing woodland copse to have management regime enhanced to increase habitat for horseshoe bats. Enhancement and extension of existing building bat roosts. New building bat roost. (E)
14. Cogloop 2 to have perimeter bund with design, planting and seeding to replicate existing bund surrounding Cogloop 1. Lighting regime in Cogloops 1 & 2 to ensure that lux levels at perimeter are less than 0.5lux. Provides benefits to birds, bats, badger, small mammals and invertebrates. (E, L & V)
15. Restore existing pond. Provides benefits to common amphibians, birds, bats, badger, small mammals and invertebrates. (E, L)
16. Woodland management to improve structure and composition, any necessary tree surgery, remove non-native invasive species and to plant native local species including hazel, yew and holly along the woodland margin to increase ecological functionality and to help reduce light ingress into the woodland. Provides benefits to birds, bats, badger, small mammals and invertebrates. (E, L & V)

0 m 500 m
Scale 1:10,000 @ A3

Development of Bristol Airport to Accommodate 12 Million Passangers Per Annum

Integrated/embedded landscape, visual and ecology mitigation masterplan

August 2019

wood.

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