15.3.3 Methodology for Determining Baseline Conditions and Sensitive Receptors

An ecological walkover survey of the site (Site as defined in EIAR Chapter 1: *Introduction*) was carried out on 11 March 2020 by AECOM Ecologists, L. Cappelli and S. McCollum. Habitats were classified according to *A Guide to Habitats in Ireland* (Fossitt, 2000) and were visually assessed to determine their potential to support protected species. Where safe access was possible, the surveyors searched for signs of any protected or notable species within the North Runway site.

In addition, a significant volume of other ecological surveys, assessments, and environmental reporting have been completed in relation to:

- Discharge of planning conditions for the consented North Runway, primarily relating to pre-construction surveys and mitigation;
- Historical and ongoing implementation of the Applicant's Wildlife Management Plan; and,
- Coastal waterbird surveys since 2004 carried out to inform the North Runway and proposed Relevant Action.
- Key ecological outputs since 2004 in relation to discharge of planning conditions for North Runway include:
- Ryle T and Cronin A RPS, (2016a) Bat Activity Survey and Proposed Mitigation Strategy daa North Runway;
- Ryle T RPS, (2016b) Pre-Construction Badger Survey daa North Runway; and,
- Ryle T RPS, (2016c) Pre-Construction Amphibian Survey daa North Runway.

15.3.4 Methodology for Determining Construction Effects

As the proposed Relevant Action will result in no changes to the design or construction of the North Runway, there will be no changes to the construction impacts. As a result, the proposed Relevant Action will not result in new construction related ecological effects.

15.3.5 Methodology for Determining Operational Effects

as a result of light or surface water pollution because:

- There is no additional lighting, or amendments to existing lighting as part of the proposed Relevant Action; and,
- There would be no amendments to surface water drainage relative to that already consented in the 2007 (and amended in 2020) planning permission for North Runway.

Furthermore, as any species occurring in proximity to North Runway will necessarily be habituated to the noise from aircraft, including during the hours of darkness, there will no additional impact from the proposed Relevant Action. This will be the case because of the proximity to Dublin Airport which is already used by aircraft, including at night.

Regarding bird collision, the existing licensed bird disturbance programme operating at Dublin Airport has a zero-tolerance approach to flocks of hazardous species[19] including gulls, waders, geese and swans. As a result, flocks of birds are not allowed to occur in proximity to the runway system and there will be no additional impacts from the proposed Relevant Action.

The potential for operational effects on European sites is considered in detail in the AA Screening Report. Other than the impacts highlighted in the preceding paragraphs, the only additional possible impact considered by the AA Screening Report is the potential for noise disturbance of SCI bird species (either within or outside of European site boundaries) of the SPAs over-flown by aircraft arriving at or departing from Dublin Airport. However, for the following reasons, it was concluded that there would be no disturbance effects:

[19] Which are in particular, birds weighing significantly in excess of 110 g, birds which flock, and birds which remain at the airfield despite the long-grass maintenance program.

- Birds are more readily disturbed when a noise stimulus is accompanied by a visual source. The majority of night-time flights will occur during the hours of darkness, meaning that there will be no visual stimulus associated with the noise generated by aircraft (as aircraft will not be visible, with the exception of lights);
- Commercial aircraft using Dublin Airport have not been identified in any of the Conservation Objectives Supporting Documents (published by NPWS) as being an existing pressure on the favourable conservation status of the SCI species of any of the designated sites. The assessments informing these documents have been made under existing conditions, which regularly includes more than 100 flights per night, relative to the 65/night restriction imposed by Planning Condition 5; and,
- In 228 hours of targeted field survey at Baldoyle Bay SPA and Rogerstown Estuary SPA, there was no recorded incidence of disturbance being caused to waterbirds by commercial aircraft using Dublin Airport. It can therefore be concluded that birds using these sites are unaffected, potentially through habituation, to aircraft over-flights. As the proposed Relevant Action will not result in any material change to the existing environment, it can therefore also be concluded that it will not cause any increase in disturbance of birds using these sites.

15.3.6 Significance Criteria

On the basis that there will be no changes to the design or construction of North Runway, and that the proposed Proposed Relevant Action will not result in any changes to the operation of North Runway which could result in significant impacts, it can be concluded that there will be no significant effects from the Proposed Relevant Action on ecological features.

15.3.7 Limitations and Assumptions

There are no significant limitations to the assessment of potential effects on ecological features presented in this chapter.

15.4 Baseline Conditions

The North Runway site was under construction during the ecological walkover survey carried out in March 2020. No evidence of any protected or notable species were identified during the survey. The dominant habitats present comprised artificial surfaces (Fossitt code: BL3) (i.e. airplane runway and roads), spoil and bare soil (Fossitt code: ED2), and recently seeded sections of amenity grassland (Fossitt code: GA2) which are all of no or negligible ecological value.

There are seven SPAs within 15 km of North Runway. Of these, only Rogerstown Estuary SPA, Baldoyle Bay SPA, Ireland's Eye SPA, Lambay Island SPA and South Dublin Bay and River Tolka Estuary SPA are over-flown by aircraft using Dublin Airport. Relevant SCI species of these five sites are all waterbirds. A total of 228 hours of vantage point survey were carried out within Baldoyle Bay and Rogerstown Estuary between June 2016 and December 2018. During this period, despite an almost continuous stream of air traffic overhead, at no time was a reaction by any wetland bird(s) to passing aircraft recorded.

The Cuckoo Stream, which flows west to east through the application site, discharges into Baldoyle Bay Estuary (and thus the Baldoyle Bay SPA). The Cuckoo Stream is not known to have any important fisheries or invertebrate populations, due to its legacy of historically poor water quality (Q2-3 when last monitored in 2016, but always ≤Q3 since monitoring started in 1988). The most recent monitoring data available, from June 2019, shows that it is still failing to meet 'good' Water Framework Directive (WFD) status. The primary threat to water quality as a result of the operating Dublin Airport has, at least in the recent past, been identified as the application of de-icing chemicals following snow or frost events; further information can be found within EIAR *Chapter 12: Water (Drainage)*.

15.5 Environmental Design and Management

A Wildlife Management Plan is implemented under licence at Dublin Airport. This prevents flocks of hazardous birds and/or other animals (e.g. Irish hare) from occurring in areas within which they could present a risk to aircraft.

15.6 Assessment of Effects and Significance

As stated in Section 15.3.2, according to industry-standard best practice guidelines published by CIEEM, an assessment of significance of effects is only required for ecological features which are considered to be important, and for which potentially significant impacts may arise as a result of a proposed action.

At the time of writing, North Runway was an active construction site. As a result, there are no semi-natural habitats present and any fauna species which may occur would be habituated to disturbance caused by intensive construction activities. Due to the implementation of the Wildlife Management Plan, flocks of birds and other fauna species which may be considered important are actively prevented from occurring in the vicinity of Dublin Airport.

Post-construction, any fauna species which occur in the vicinity of North Runway will necessarily be habituated to the presence of aircraft. The proposed Relevant Action will result in a negligible change in the potential magnitude of disturbance, resulting in only two extra hours of flights per day.

As there are no sensitive ecological features within the ZoI of the proposed Relevant Action which will be subject to significant impacts, no detailed assessment of effects is required.

15.7 Additional Mitigation Measures

As the proposed Relevant Action will have not any significant effects on ecological features, there is no requirement for mitigation to be implemented.

15.8 Residual Effects and Conclusions

There are no residual significant effects on ecological features from the proposed Relevant Action.

Chapter 16: Biodiversity (Aquatic)

16.

16. Biodiversity (Aquatic)

16.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) contains the findings of an assessment of the likely significant effects on any aquatic biodiversity as a result of the proposed Relevant Action.

The proposed Relevant Action relates solely to proposals to amend condition 3 and replace condition 5 of the North Runway Permission and does not comprise or require the development of any physical or other infrastructure.

This assessment and EIAR chapter has been prepared by AECOM.

16.2 Legislation and Planning Policy

The following legislation is relevant to this chapter and has been considered during the assessment presented within it:

- The Habitats Directive (EU, 2002);
- The Birds Directive (EU, 2009);
- The Water Framework Directive (EU, 2000);
- The PAD (Government of Ireland, 2000-2019);
- The Wildlife Acts 1976 to 2018 (Government of Ireland, 1976-2018);
- The Flora Protection Order (Government of Ireland, 2015);
- Fisheries Acts 1959 to 2019 (Government of Ireland, 1959-2019);
- Inland Fisheries Acts 1959 to 2017 (Government of Ireland, 1959-2017); and,
- Local Government (Water Pollution Acts) 1977-2007.

16.2.1 National Planning Policy

The following national planning policy is also relevant to this chapter and has been considered throughout the assessment presented within it:

- A National Aviation Policy for Ireland (DTTS, 2015);
- Project Ireland 2040 – National Planning Framework (2018) (Government of Ireland, 2018); and
- National Biodiversity Action Plan 2017 – 2021 (DCHG, 2017).

16.2.2 Regional and Local Planning Policy

The following local planning policy is considered relevant to this assessment.

- Dublin Airport Noise Action Plan 2019-2023 (FCC, 2019);
- Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031 (Eastern and Midland Regional Assembly, 2019);
- Fingal County Development Plan 2017-2023;
- Dublin City Development Plan 2016-2022 Written Statement – Volume 1 (DCC, 2016); and
- Dublin Airport Local Area Plan (FCC, 2020).

16.2.3 International Policy, Standards and Guidance

The following international policies, standards and guidance documents are considered relevant to this assessment.

- EPA Draft Guidelines (EPA, 2017);

- Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018); and,
- Other guidance (e.g. for field surveys) referenced throughout this chapter, as relevant.

16.3 Baseline Conditions

The North Runway is currently under construction thus no semi-natural habitats are present which may be affected by the proposed Relevant Action (as the site has been dug up and/or is under hard-standing). Habitat in the surrounding area is largely limited to improved grassland and other agricultural land, dissected by species poor hedgerows and ditches.

There are seven Special Protection Areas (SPAs) within 15 km of North Runway. Of these, only Rogerstown Estuary SPA, Baldoyle Bay SPA, Ireland's Eye SPA, Lambay Island SPA and South Dublin Bay and River Tolka Estuary SPA are over-flown by aircraft using Dublin Airport. The Malahide Estuary SAC (site code 205) and Malahide Estuary SPA (site code 4025), are c. 4 km northeast of Dublin airport. Neither of these European sites is downstream of the application site (i.e. there is no hydrological connection between Dublin Airport and these sites). However, the Baldoyle Bay SPA (site code 4016), and Baldoyle Bay SAC (site code 199) which are located c. 6.5 km east of Dublin airport, are both downstream of the application site (i.e. there is a hydrological connection to them).

The Cuckoo Stream, which flows west to east through Dublin airport, discharges into Baldoyle Bay Estuary and thus the Baldoyle Bay SAC and SPA. The Cuckoo Stream is not known to have any important fisheries or invertebrate populations, due to its legacy of historically poor water quality (Q2-3 when last monitored in 2016, but always ≤Q3 since monitoring started in 1988). The most recent monitoring data available, from June 2019, shows that it is still failing to meet 'good' status under the Water Framework Directive (WFD) (further details can be found within EIAR *Chapter 12: Water*. The primary threat to water quality as a result of the operating Dublin Airport has, at least in the recent past, been identified as the application of de-icing chemicals following snow or frost events.

16.4 Assessment Methodology

16.4.1 Methodology for Determining Construction Effects

There will be **no change** to the extent of excavation or size of structures required due to there being no changes to the physical infrastructure of North Runway. As a result, the proposed Relevant Action will not result in any aquatic biodiversity effects during construction. Further assessment is therefore not required.

16.4.2 Methodology for Determining Operational Effects

The result of the permitted / constrained scenario coming into effect when North Runway becomes operational in 2022, is a loss of 1.1m passengers per year (-3.5%) and a cumulative loss over the 4-year period 2022-2025 of 4.3m passengers. The net effect of the proposed Relevant Action would be to facilitate an increase in the number of flights permitted to take off from, or land at, Dublin Airport at night, which would enable the lost 1.1million passengers to be regained annually in the post-COVID-19 recovery period.

The proposed Relevant Action will result in an operational change as a result of the amendment of condition 3(d) and replacement of condition 5. This will result in a small variation in the number of and times at which flights can depart and arrive into Dublin Airport at night time.

There are no changes to the drainage infrastructure of associated pollution control infrastructure on North Runway which drains to Sluice and Ward catchments as a result of the proposed Relevant Action.

It is assessed that the proposed Relevant Action will not result in any change to impacts on aquatic biodiversity assets when comparing the permitted / constrained scenario and the proposed / unconstrained scenario. As a result, the proposed Relevant Action will not result in any aquatic biodiversity effects during operation. Further assessment is therefore not required.

16.5 Summary

According to industry-standard best practice guidelines published by CIEEM, an assessment of significance of effects is only required for ecological features which are considered to be important, and for which potentially significant impacts may arise as a result of a proposed action.

As stated in *Section 16.4: Assessment Methodology,* there is no anticipated changes to Aquatic Biodiversity. The Proposed Relevant Action will not result in any effects beyond those already assessed and approved via the North Runway Permission. Further assessment is therefore not required.

Chapter 17: Landscape and Visual

17

17. Landscape and Visual

17.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) contains the findings of an assessment of the likely significant effects on Landscape and Visual impacts as a result of the proposed Relevant Action.

The proposed Relevant Action relates solely to proposals to amend conditions 3(d) and replace condition 5 of the North Runway Permission and does not comprise or require the development of any physical or other infrastructure, in and of itself.

This assessment and EIAR chapter has been prepared by AECOM.

17.2 Legislation and Planning Policy Context

The following policy and guidance is relevant to this chapter and has been considered during the assessment presented within it:

- Dublin Airport Local Area Plan, 2020, Fingal County Council
- Guidelines for Landscape and Visual Impact Assessment (GLVIA), Landscape Institute UK/ Institute of Environmental Management and Assessment (IEMA), 2013, 3rd Edition
- Photography and Photomontage in Landscape and Visual Impact Assessment, Landscape Institute Advice Note 01/2011
- National Inventory of Architectural Heritage (Gardens), Department of Housing, Local Government and Heritage (DAHG, 2020);
- Irish trails; http://www.irishtrails.ie/; and
- Ordnance Survey Ireland, 1:50,000 Discovery Mapping.
- The National Landscape Strategy (NLS) for Ireland 2015-2025
- The European Landscape Convention
- Fingal Development Plan 2017-2023.

17.2.1 Landscape and Visual Surrounding Area Summary Highly Sensitive Landscapes

Within the Fingal Development Plan 2017 - 2023 there are "Highly Sensitive Landscapes" identified within 4km of Dublin Airport, these are illustrated as per the figure taken from the Fingal Development Plan Viewer in Figure 17-1. Some of which have a very high or high landscape value and high or very high landscape sensitivity, these are of county or national importance and are designated as Highly Sensitive Landscapes (HSL).

Figure 17-1 Highly sensitive landscapes within 4km of Dublin Airport (Fingal Development plan viewer, 2020)

17.2.2 Historic Landscape Characterisation

Fingal Development Plan 2017 – 2023 also identifies "Historic Landscape Characterisations" areas (HLC). A segment of Swords designated HLC Area runs through the northern part of Dublin Airport as seen on Figure 17-2.

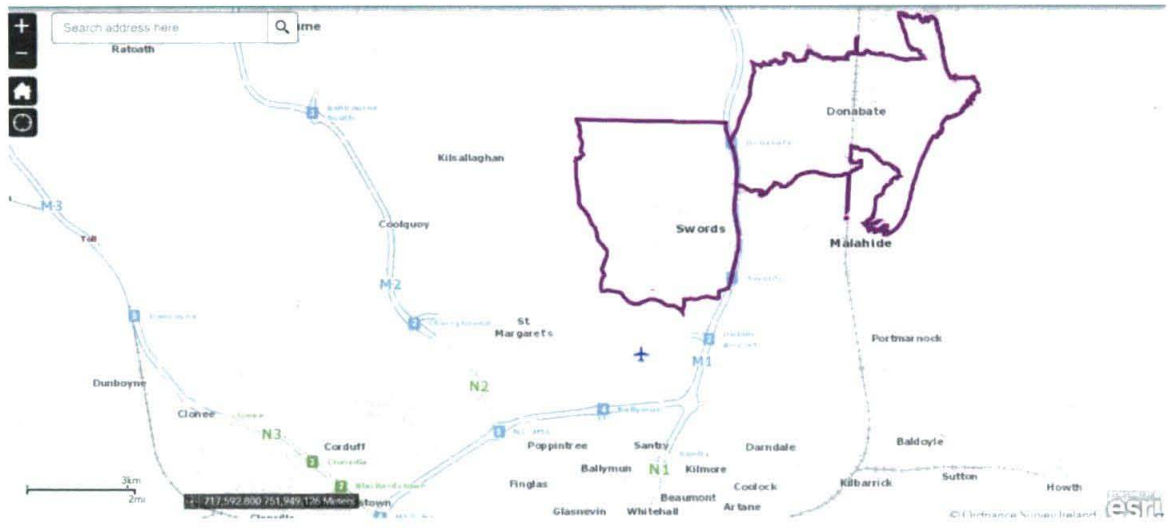

Figure 17-2 Historic Landscape Characterisation areas surrounding Dublin Airport (Fingal Development Plan Viewer, 2020)

Objective NH 42 within the Fingal Development Plan states: *"Ensure development reflects and reinforces the distinctiveness and sense of place of identified historic landscape character types". It states further to retain "important features or characteristics, taking into account the results of the historic landscape characterisations carried out in the County".*

17.2.3 Views and Prospects

The Fingal Development Plan states that *"The scenery and landscape of the County are of enormous amenity value to residents and tourists and constitute a valuable economic asset. The protection of this asset is therefore of primary importance in developing the potential of the County."* and that *"Given the high rates of economic and population growth, the challenge the County faces is to manage the landscape so that any change is positive in its effects, such that the landscapes we value are protected".*

Objective NH 40 within the Fingal Development Plan states: *"Protect views and prospects that contribute to the character of the landscape, particularly those identified in the Development Plan, from inappropriate development".*

17.3 Assessment Methodology

17.3.1 Methodology for Determining Construction Effects

As the proposed Relevant Action will result in no changes to the design or construction of North Runway as per the approved North Runway Planning Permission, there will be **no changes** to the Landscape and Visual impacts than what has been approved within the North Runway Permission.

There will be **no change** to the extent of excavation or size of structures required due to there being no changes to the physical infrastructure of North Runway. As a result, the proposed Relevant Action will not result in any new landscape and visual effects during construction. Further assessment is therefore not required.

17.3.2 Methodology for Determining Operational Effects

As the proposed Relevant Action will result in no changes to the design or construction of the North Runway the only operational change will be as a result of the amendment of condition 3(d) and replacement of condition 5 resulting in a small variation in the times at which flights can depart and arrive into Dublin airport at night time.

The proposed Relevant Action will not result in a material change to Landscape and Visual amenity when comparing the permitted / constrained scenario and the proposed / unconstrained scenario. As a result, the proposed Relevant Action will not result in any new Landscape and Visual effects during operation beyond those already assessed and approved via the North Runway Permission. Further assessment is therefore not required.

17.4 Summary

As stated in *Section 17.3: Assessment Methodology,* the proposed Relevant Action will result in a very small change when compared against the permitted / constrained scenario. The effect to the Landscape and Visual receptors is deemed **negligible** and will not change the assessment that has been approved as part of the North Runway Permission. On this basis, no further assessment is required as it is anticipated that there will be **no significant effects.**

Chapter 18: Land and Soils

18

18. Land and Soils

18.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) contains the findings of an assessment of the likely significant effects on Land and Soil impacts as a result of the proposed Relevant Action.

The proposed Relevant Action relates solely to proposals to amend condition 3(d) and replace condition 5 of the North Runway Permission and does not comprise or require the development of any physical or other infrastructure.

This assessment and EIAR chapter has been prepared by AECOM.

18.2 Planning Policy and Guidance

The following policy and guidance is relevant to this chapter and has been considered during the assessment presented within it. General legislation, policy and guidance has also been considered but is not listed as this has been covered in the introductory chapters:

- Institute of Geologists of Ireland (IGI), Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements (2013)
- EPA, Towards Setting Guideline Values for the Protection of Groundwater in Ireland (2003)
- Regional and Spatial Economic Strategy (RSES) for the Eastern and Midland Region, 2019

18.3 Land and Soils Surrounding Area Summary

Data and background information relating to Land and Soils of the airport were derived from the online GSI 'Spatial Resources Viewer'.

18.3.1 Bedrock Geology

The majority of the airport is underlain by the Tober Colleen Formation, a dark grey, calcareous shale and limestone conglomerate of Carboniferous age.

The remainder is underlain by the Malahide Formation, an argillaceous limestone / shale, and by Waulsortian Limestone, a massive unbedded lime / mudstone. A small portion of the airport is underlain by the Lucan Formation, also known as the Calp Formation, a dark limestone and shale. All of the above formations are of Carboniferous age.

The Tober Colleen Formation is generally considered a 'Poor Aquifer', bedrock which is generally classified as unproductive except for local zones. The other bedrock units constitute a 'Locally Important Aquifer', which is moderately productive only in local zones.

18.3.2 Overburden Geology

Quaternary deposits overlying bedrock comprise glacial till derived from limestones (boulder clay) while the soils have been mapped as made ground. There is no gravel aquifer underlying the airport.

Soils immediately surrounding the airport are mapped on the EPA website as the Elton series, fine loamy drift with limestone, which has moderate drainage.

18.3.3 Topography and Landslides

The airport is relatively flat, with an elevation of 80 m above Ordnance Datum (OD) to the west close to runway 10/28 and declining to 60 m OD in the south-east, with a gradient of 0.005.

18.3.4Groundwater Usage

The airport's water supply is solely provided by mains services with a reservoir on site having a 14,500m^3 capacity.

18.3.5Depth to Groundwater and Flow Direction

Depth to groundwater measurements are not reported in the licensed monitoring wells on site, however, given that the shallow monitoring wells are generally between 4.2 m and 6 m below ground level (bgl) it is assessed that the depth to groundwater in the overburden (glacial till and made ground) is approximately 3 m bgl.

18.3.6Groundwater Bodies

Across the airport the bedrock aquifer is divided into three different groundwater bodies:

- The Swords Groundwater Body, IE_EA_G_011[20], which was classified as having 'Good' status under the Water Framework Directive (WFD) for the period 2010-2015 and 'Not at Risk'. This groundwater body broadly coincides with the Malahide and Tober Collen formations beneath the northern half of runway 16/34, and northwards through runway 11/29 and the North Runway. The area of the groundwater body as a whole is estimated at 199 km^2, with the airport located in the south-east of the groundwater body. Groundwater flow is expected to be primarily through shallow bedrock where weathering and fracturing is greatest. However, the presence of warm springs indicates that some deep circulation of groundwater can occur.
- The Industrial Facility (P0480-02) Groundwater Body, IE_EA_G_086[21]. This is a small groundwater body which is classified as having 'Poor' status for the period 2013-2018 and as being 'At Risk'. This groundwater body is approximately 3.25 km^2 in area, extending from the hangars northwards to the Naul Road (L2040); south across the short-term car parks, office developments and onto the junction between the R132 and Corballis Road South near the Red Long-Term Car Park; and eastwards to the M1 motorway.
- The Dublin Groundwater Body, IE_EA_G_008[22]. This groundwater body is classified as having 'Good' status for the period 2010-2015 and as being 'Not At Risk'. This groundwater body coincides with the Tober Colleen Formation beneath the piers, terminals, cargo area, and most of the airfield as well as the Calp Formation beneath the Eastlands area. The airport straddles the northern boundary of this groundwater body. This is a large groundwater body with an estimated area of 837 km^2, extending from Dunshaughlin, Kilcock and Naas in the west, eastwards across Dublin city to the coast. Groundwater flow paths are expected to be short (~1 km) from recharge to discharge points, with groundwater discharge occurring to rivers where they are in hydraulic continuity with the aquifer, to springs and to the coast. Groundwater flow is expected to be primarily through shallow bedrock where weathering and fracturing is greatest.

18.3.7Land Use

Available historic maps from 1837-1842 and 1888-1913 indicate that the site was primarily occupied by agricultural land during this period with a number of single dwellings within the airport boundary, which included:

- Corballis House;
- Collinstown House; and
- A ruined castle,

An airfield was first developed at Collinstown in 1917, during World War 1, with the commercial airport developed in the late 1930s.

As shown on the Corine 2018 land cover map (https://land.copernicus.eu/pan-european/corine-land-cover/clc2018), the majority of land surrounding North Runway and the airport is classified as a combination of industrial / commercial (artificial surfaces) and agricultural (arable or pasture). The airport itself is classified as artificial surface throughout for industrial / commercial / transport use, with this classification extending eastwards across the office and hotel developments and incorporating the long-term car parks west of the M1 motorway.

[20] https://secure.dccae.gov.ie/GSI_DOWNLOAD/Groundwater/Reports/GWB/SwordsGWB.pdf
[21] https://www.catchments.ie/data/#/waterbody/IE_EA_G_086?_k=oqhzta
[22] https://secure.dccae.gov.ie/GSI_DOWNLOAD/Groundwater/Reports/GWB/DublinGWB.pdf

The airport buildings, comprising the terminals, hangars, piers and support facilities for catering, cargo and fuel, are set out in a horseshoe configuration with airfield development to the west (aprons, taxiways and runways) and ground transportation infrastructure located centrally to the east.

Within the airfield, ground cover is predominantly concrete with some grassed areas adjacent to the taxiways, runways and around the airfield perimeter.

18.4 Assessment Methodology

18.4.1Methodology for Determining Construction Effects

As the proposed Relevant Action will result in no changes to the design or construction of North Runway as per the approved North Runway Planning Permission, there will be **no changes** to the Land and Soil impacts than what has been approved within the North Runway Planning Permission.

There will be **no change** to the extent of excavation or size of structures required due to there being no changes to the physical infrastructure of North Runway. As a result, the proposed Relevant Action will not result in any new Land and Soil effects during construction. Further assessment is therefore not required.

18.4.2Methodology for Determining Operational Effects

The result of the permitted / constrained scenario coming into effect when North Runway becomes operational in 2022, is a loss of 1.1m passengers per year (-3.5%) and a cumulative loss over the 4-year period 2022-2025 of 4.3m passengers. The net effect of the proposed Relevant Action would be to facilitate an increase in the number of flights permitted to take off from, or land at, Dublin Airport at night, which would enable the lost 1.1million passengers to be regained annually in the post-COVID-19 recovery period.

The proposed Relevant Action will result in an operational change as a result of the amendment of condition 3(d) and replacement of condition 5. This will result in a small variation in the number of and times at which flights can depart and arrive into Dublin Airport at night time.

It is assessed that the proposed Relevant Action will not result in any change to impacts on land and soils when comparing the permitted / constrained scenario and the proposed / unconstrained scenario. As a result, the proposed Relevant Action will not result in any new land and soils effects during operation. Further assessment is therefore not required.

18.5 Summary

The proposed Relevant Action will not result in any effects upon land and soils assets when compared with the permitted / constrained scenario. On this basis, no further assessment is required within this EIAR.

Chapter 19:
Material Assets

19

19. Material Assets

19.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) contains the findings of an assessment of the likely significant effects on material assets as a result of the proposed Relevant Action.

The proposed Relevant Action relates solely to proposals to amend condition 3(d) and replace condition 5 of the North Runway Permission and does not comprise or require the development of any physical or other infrastructure.

The result of the permitted / constrained scenario coming into effect when North Runway becomes operational in 2022, is a loss of 1.1m passengers per year (-3.5%) and a cumulative loss over the 4-year period 2022-2025 of 4.3m passengers. The net effect of the proposed Relevant Action would be to facilitate an increase in the number of flights permitted to take off from, or land at, Dublin Airport at night, which would enable the lost 1.1million passengers to be regained annually in the post-COVID-19 recovery period. There is therefore no increase in passenger numbers or traffic overall or any amendment of permitted annual passenger capacity of the Terminals at Dublin Airport. Condition no. 3 of the Terminal 2 Planning Permission (Fingal County Council Reg. Ref. No. F04A/1755; ABP Ref. No. PL06F.220670) and condition no. 2 of the Terminal 1 Extension Planning Permission (Fingal County Council Reg. Ref. No. F06A/1843; ABP Ref. No. PL06F.223469) provide that the combined capacity of Terminal 1 and Terminal 2 together shall not exceed 32 million passengers per annum.

This assessment and EIAR chapter has been prepared by AECOM.

19.2 Legislation and Policy

The following legislation and policy is relevant to this chapter and has been considered during the assessment presented within it. General legislation, policy and guidance has also been considered but is not listed as this has been covered in the introductory chapters:

- Waste Framework Directive 201/851
- EC (Waste Directive) Regulations 2011
- East Midlands Regional Waste Management Plan 2015 - 2021

19.3 Material Assets Summary

As per the draft EPA advice note for preparing environmental impact statements (EPA, 2015), natural origin and human origin material assets that should be considered within a EIAR are as follows:

Material Assets of Natural Origin Include:

- Assimilative capacity of air and water;
- Non-renewable resources (e.g. minerals, soils, oil, gas, etc.);
- Renewable resources (hydraulic head, wind exposure, wave exposure etc.); and
- Deep water berthage.

Material Assets of Human Origin Include:

- Cities, towns, villages and settlements;
- Transportation infrastructure (roads, railways, canals, airports etc);
- Major utilities (water supplies, sewage, power systems, telecommunication systems etc);
- Ownership and access;
- Agronomy;
- Commercial and Industrial Development;
- Property; and

- Tourism & Recreational Infrastructure.

The summaries below include the material assets that are deemed to be of relevance to the proposed Relevant Action.

19.3.1 Waste

Dublin Airport is located within the Eastern and Midlands Waste Region and is managed by Dublin City Council, the Waste Enforcement Regional Lead Authority (WERLA). In terms of waste management, the WERLA are responsible for implementing the Eastern-Midlands Region Waste Management Plan 2015-2021 (the Plan), as well as setting priorities and common objectives for waste enforcement within the region.

The three key objectives of the Plan are as follows:

- Prevent waste: a reduction of one per cent per annum in the amount of household waste generated over the period of the plan;
- More recycling: increase the recycle rate of domestic and commercial waste from 40 to 50 per cent by 2020; and
- Further reduce landfill: eliminate all unprocessed waste going to landfill from 2016.

Waste management in Dublin is largely governed by the requirements set out in the Plan. The Plan addresses all areas of waste management, from waste prevention and minimisation, to its collection treatment, recovery and final disposal. WERLA has set a target of 70% for the reuse, recycling and material recovery of man-made construction and demolition waste (excluding soil and stone) by December 2020.

As passenger numbers rise at Dublin Airport it is expected that the quantity of waste generated will also rise. Dublin Airport has a target of "Zero Waste to Landfill" which was first achieved in 2016 and is a key part of the Airport's waste management strategy (Dublin Airport, 2019). A current target in respect of waste is to achieve 50% of waste recycled by 2020. Recycling rates have improved from 11% in 2013 to 42% in 2019 (Dublin Airport, 2019).

19.3.2 Built services assets

19.3.2.1 Electricity

In terms of electricity, the on-site power supply and distribution network was significantly upgraded as part of the development of Terminal 2 in 2011. A daa owned and operated substation at Dardistown with dual supply 100kVA power lines to the airport was completed. This enables the daa to provide power to the airport directly. In 2018, daa in partnership with ESB installed 268 solar panels on top of the airport's reservoir system which will provide more than half of the reservoir's annual energy requirements. The solar panels are connected directly to the airport's reservoir system.

19.3.2.2 Gas

With regard to gas, the on-site gas mains within Dublin Airport were upgraded to a 315 mm 4-bar ring main installed as part of the development of Terminal 2 in 2011. This is fed from a new Above Ground Installation (AGI) adjacent to the Dardistown substation with local AGIs around the site. In addition, Bord Gais Networks (BGN) installed a new 19-bar distribution line and AGI on the Santry Road.

19.3.2.3 Water

Dublin Airport straddles the Blanchardstown High Level Water Supply Area (Ballycoolin Reservoir Source – via elevated storage) and the Airport Water Supply Area (Ballycoolin Source via the 24" (600mm) diameter Forrest Little Main). A 36" (900mm) diameter trunk main supplies the area and delivers roughly 660 L/s.

Distribution pipework from the reservoir supplies cold water to the existing terminal, hangers, workshops, Aer Lingus offices and fire hydrants on the fire ring main across the airport (daa, 2008).

19.3.2.4 Surface Water

Several river catchments and subsequent sub-catchments drain land at Dublin Airport. These include:

- The Forrest Little, Wad Stream and Kealy's Stream sub-catchments which are tributaries of the Sluice River which discharges to into the sea at Portmarnock; and
- The Cuckoo Stream and Mayne Stream sub-catchments, both tributaries of the Mayne River which discharges into the Baldoyle estuary.

19.3.2.5 Existing Foul Water Drainage

The foul drainage catchment is a mixture of industrial, commercial and hotel accommodation areas. Typical discharges are from toilets, sinks and hand wash basins within the airport buildings and from the hotel facilities (daa, 2008).

The daa capital investment programme (CIP) 2020+ states: *"The foul sewer infrastructure at Dublin Airport comprises a network of small sewer pipes from the two terminals and all campus buildings, a 450mm collector sewer and a 900mm outfall sewer. This outfall sewer in turn enters the Local Authority Owned Swords Road branch sewer, which then joins the Dublin City Council North Fringe sewer. While the main collector and outfall sewers convey under gravity, there are 5 No. ejector stations and 17 No. pumps installed to complete the system"* (daa, 2019).

For all foul discharges at existing terminal facilities, traders are required to be licensed and for all other foul discharges, daa holds a discharge license.

19.3.3 Existing Telecommunications Network

The on-site communications at Dublin Airport were significantly upgraded as part of the Terminal 2 upgrades in 2011. The DAC Masterplan states: *"the airport and its environs are served by a dual-path, divergent connectivity to Dublin's T50 broadband ring. This is a multi-duct system surrounding the City providing an uninterrupted physical link with two major transatlantic fibre termination points, with access to 27 international carriers, including direct fibre connectivity from Eircom, Colt, Digiweb, BT, Viatel and EU Networks" (Fingal County Council, 2016)*.

This network is referred to as the Campus Area Network (CAN) and is a high capacity (band width) fibre optic system with nodes at which connections are made to individual buildings and/or users.

The existing communications network for South Apron and all terminal buildings, is well serviced by the existing telecommunication duct network.

19.4 Assessment Methodology

19.4.1 Methodology for Determining Construction Effects

As the proposed Relevant Action will result in no changes to the design or construction of North Runway, there will be no changes to any Material Assets.

There will be no change to the extent of excavation or size of structures required due to there being no changes to the physical infrastructure of North Runway. As a result, the proposed Relevant Action will not have any new requirements for further material assets or result in any material asset effects, therefore further assessment of construction effects is not required.

19.4.2 Methodology for Determining Operational Effects

The proposed Relevant Action will result in an operational change as a result of the amendment of condition 3(d) and replacement of condition 5. This will result in a variation in the number of flights and times at which flights can depart and arrive into Dublin Airport at night.

As described in *Chapter 2: Characteristics of the project*, the proposed Relevant Action does not seek any other amendment of conditions of the North Runway Permission governing the general operation of the runway system. This includes condition no. 3 of the Terminal 2 Planning Permission and condition no. 2 of the Terminal 1 Extension Planning Permission which state that the combined capacity of Terminal 1 and Terminal 2 together shall not exceed 32 million passengers per annum (mppa).

Therefore the result of the permitted / constrained scenario coming into effect when North Runway becomes operational in 2022, is a loss of air traffic movements and associated loss of 1.1m passengers per year (-3.5%) and a cumulative loss over the 4-year period 2022-2025 of 4.3m passengers. The net effect of the proposed Relevant Action would be to facilitate an increase in the number of flights permitted to take off from, or land at, Dublin Airport at night, which would enable the lost 1.1million passengers to be regained annually in the post-COVID-19 recovery period but remain within condition no. 3 of the Terminal 2 Planning Permission and condition no. 2 of the Terminal 1 Extension Planning Permission which state that the combined capacity of Terminal 1 and Terminal 2 together shall not exceed 32 million passengers per annum (mppa).

The proposed Relevant Action will facilitate an increase in the number of flights at Dublin Airport during the night time, however this will not facilitate an increase beyond condition no. 3 of the Terminal 2 Planning Permission and condition no. 2 of the Terminal 1 Extension Planning Permission which state that the combined capacity of Terminal 1 and Terminal 2 together shall not exceed 32 million passengers per annum (mppa). It is therefore assessed that the proposed Relevant Action may cause some small differentiation to the time that certain material assets are consumed during operation at night time but will not result in a net increase in consumption of any material assets when comparing the permitted / constrained scenario and the proposed / unconstrained scenario either at 2022, or at 2025. As a result, it is assessed that the proposed Relevant Action will result in **negligible** effects to material assets during operation and so further assessment is therefore not required.

19.5 Summary

The proposed Relevant Action will result in a small variation in the consumption of material assets during operation when compared against the permitted / constrained scenario. However, it is important to note that condition no. 3 of the Terminal 2 Planning Permission and condition no. 2 of the Terminal 1 Extension Planning Permission which state that the combined capacity of Terminal 1 and Terminal 2 together shall not exceed 32 million passengers per annum (mppa) is in place for both the permitted / constrained and proposed / unconstrained scenarios and so no material changes are likely to occur. As a result, the effect to the Material Assets is deemed **negligible.**

Chapter 20: Cultural Heritage

20

20. Cultural Heritage

20.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) reports the findings of an assessment of the likely significant effects on Cultural Heritage as a result of the proposed Relevant Action.

The proposed Relevant Action relates solely to proposals to amend condition 3(d) and replace condition 5 respectively of the North Runway Permission and does not comprise or require the development of any physical or other infrastructure.

This assessment and EIAR chapter has been prepared by AECOM.

20.2 Legislation, Policy and Guidance

The following legislation, policy and guidance is relevant to this chapter and has been considered during the assessment presented within it. General legislation, policy and guidance has also been considered but is not listed as this has been covered in the introductory chapters:

- National Monuments Acts 1930
- Demesnes, Estates and their Settings, An Action of the County Cork Heritage Plan 2005/2010. Cork County Council, Cork
- Department of Arts, Heritage, and the Gaeltacht, 1999, Frameworks and Principles for the Protection of the Archaeological Heritage. The Stationary Office, Dublin
- Department of Arts, Heritage and the Gaeltacht, 2011, Architectural Heritage Protection, Guidelines for Planning Authorities. The Stationary Office, Dublin
- Fingal Heritage Plan, 2018 – 2023, Fingal County Council, 2018
- Institute of Archaeologists of Ireland ("IAI") (2006a) Code of Conduct for Archaeological Assessment Excavation
- IAI (2006b) Code of Conduct for the Treatment of Archaeological Objects in the context of an archaeological excavation. Institute of Archaeologists of Ireland
- IAI (2007) Environmental Sampling: Guidelines for Archaeologists. Institute of Archaeologists of Ireland

20.3 Cultural Heritage Surrounding Area Summary

Designated and non-designated heritage assets are present within the Dublin Airport boundary and in the close surrounding area. The specific locations and distances of these assets from the North Runway have not been detailed further because no construction or operational impacts are anticipated as part of the proposed Relevant Action.

20.4 Assessment Methodology

20.4.1 Methodology for Determining Construction Effects

As the proposed Relevant Action will result in no changes to the design or construction of North Runway, there will be **no changes** to the cultural heritage baseline of the North Runway.

There will be no change to the extent of excavation or size of structures required due to there being no changes to the physical infrastructure of North Runway. As a result, the proposed Relevant Action will not result in any new Cultural Heritage effects and further assessment is therefore not required.

20.4.2 Methodology for Determining Operational Effects

The result of the permitted / constrained scenario coming into effect when North Runway becomes operational in 2022, is a loss of 1.1m passengers per year (-3.5%) and a cumulative loss over the 4-year period 2022-2025 of 4.3m passengers. The net effect of the proposed Relevant Action would be to facilitate an increase in the number of flights permitted to take off from, or land at, Dublin Airport at night, which would enable the lost 1.1million passengers to be regained annually in the post-COVID-19 recovery period.

The proposed Relevant Action will result in an operational change as a result of the amendment of condition 3(d) and replacement of condition 5. This will result in a small variation in the number of and times at which flights can depart and arrive into Dublin Airport at night time.

It is assessed that the proposed Relevant Action will not result in any change to impacts on cultural heritage assets when comparing the permitted / constrained scenario and the proposed / unconstrained scenario. As a result, the proposed Relevant Action will not result in any new Cultural Heritage effects during operation. Further assessment is therefore not required.

20.5 Summary

The proposed Relevant Action will not result in any effects upon cultural heritage assets when compared with the permitted / constrained scenario. On this basis, no further assessment is required within this EIAR.

Chapter 21: Interaction and Cumulative Effects

21

21. Interaction and Cumulative Effects

21.1 Introduction

The EIA Directive (EC, 2011) states an Environmental Impact Assessment Report (EIAR) should contain:

'*A description of the likely significant effects of the project on the environment resulting from…the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.*'

The Directive makes clear that the description of the likely significant effects should cover their cumulative effects. The Environmental Protection Agency's draft 'Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2017) (hereafter referred to as 'the EPA Draft Guidelines') explains that cumulative effects are '*the addition of many minor or significant effects, including the effects of other projects, to create larger, more significant effects*'.

This chapter assesses the cumulative and in-combination effects associated with the proposed Relevant Action. These two types of environmental effects are defined in the EIA Directive as:

- In-combination Effects - Interrelationships that occur between the individual environmental effects of the proposed Relevant Action and the way that these effects have the potential to combine together to cause cumulative effects with one another at certain sensitive locations and lead to significant effects; and
- Cumulative Effects - The potential for effects of the proposed Relevant Action to combine with effects from other projects in the vicinity and lead to significant effects.

The in-combination and cumulative effects have been assessed using a combination of professional judgment and the finding of assessments carried out in relation to other projects in the vicinity of the proposed Relevant Action.

21.2 Legislative Context

The EIA Directive was transposed into domestic law on the 1st September 2018 in the form of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (hereafter referred to as 'the EIA Regulations') (EU, 2018).

21.3 Assessment Methodology

21.3.1 In-combination Effects

The assessment of in-combination effects of different types of impact, or impact interaction, from the proposed Relevant Action on particular receptors considers each of the environmental topics addressed within the EIAR and reported as part of this Environmental Impact Assessment Report (EIAR). The in-combination effect is focussed on the operational phase after the proposed Relevant Action is in place, as the proposed Relevant Action relates to the operating conditions of the runway system at night only.

This assessment only considers the residual effects and therefore takes into account any specific design or environmental management mitigation measures identified within each technical assessment (Chapters 7-20).

As In-combination effects are defined as a combination of impacts, only those receptors identified in multiple assessments can be considered. Population and health inherently assesses the in-combination effects by drawing on the assessment provided in *Chapter 13: Air Noise and Vibration*, *Chapter 14: Ground Noise and Vibration* and *Chapter 10: Air Quality*.

This assessment considers the residual effects for each topic and takes into consideration the significance of each individual identified effect and the duration over which these effects would be experienced in-combination.

The main potential impacts are outlined below:

- Changes in aircraft noise patterns;

- Changes in emissions of pollutants to air; and
- Changes in Risk of Hazard from Bird Strike.

21.3.2 Cumulative Effects

The Site is defined as being located at Dublin Airport, Co. Dublin, in the townlands of Collinstown, Toberbunny, Commons, Cloghran, Corballis, Coultry, Portmellick, Harristown, Shanganhill, Sandyhill, Huntstown, Pickardstown, Dunbro, Millhead, Kingstown, Barberstown, Forrest Great, Forrest Little and Rock on a site of c. 580 ha. North Runway is currently under construction within the northern extent of the Airport.

Cumulative effects consider the impacts of other undeveloped permitted projects and reasonably foreseeable development within the vicinity and context of the project. This will include other projects planned by daa, and any known permitted or planned projects by third parties. The following section details the process followed to identify those schemes with the potential to result in significant cumulative effects when considered in combination with the proposed Relevant Action.

The cumulative effects assessment presents a summary of the combined effects of the proposed Relevant Action with relevant schemes identified below for each of the environmental topics covered within the technical chapters (7-20) of this EIAR. These effects have been interpreted and classified using professional judgement, developing upon the assessment methodology outlined in technical chapters (7-20).

The first stage of the assessment is to establish criteria to identify a list of schemes in the vicinity of the application site.

Due to the fact that there are no works proposed as part of the proposed Relevant Action and that the Relevant Action will only result in the amendment and replacement of operating restrictions at night time, it is assessed that schemes outside that of the airport boundary will not result in any potential cumulative effects and so have been scoped out of this assessment. This is due to the fact that the proposed Relevant Action relates to night time operations only, and does not seek to alter the existing layout, location, flight paths, design, or infrastructure of the airport, and does not involve any construction.

The proposed Relevant Action does not seek any amendment of conditions of the North Runway Permission governing the general operation of the runway system (i.e., conditions which are not specific to night-time use, namely conditions no. 3 (a), 3(b), 3(c) and 4 of the North Runway Planning Permission) or any amendment of permitted annual passenger capacity of the Terminals at Dublin Airport. Condition no. 3 of the Terminal 2 Planning Permission (Fingal County Council Reg. Ref. No. F04A/1755; ABP Ref. No. PL06F.220670) and condition no. 2 of the Terminal 1 Extension Planning Permission (Fingal County Council Reg. Ref. No. F06A/1843; ABP Ref. No. PL06F.223469) provide that the combined capacity of Terminal 1 and Terminal 2 together shall not exceed 32 million passengers per annum.

The Fingal County Council planning porta (FCC, 2020) alongside a list of other airport projects provided by daa has been used to generate a list of schemes that have potential to form cumulative effects when combined with the Proposed Relevant Action.

A long list of schemes included in the cumulative effects assessment has been identified and filtered to short list 'other developments' for purposes of the assessment of cumulative effects together with the proposed Relevant Action. Each technical assessment within the EIAR has considered which of these schemes may result in cumulative effects together with the proposed Relevant Action from the perspective of the relevant technical assessment.

In addition to the above, and due to the proposed Relevant Action relating to night time operations only, and no construction or changes to infrastructure, the following criteria was used to determine which schemes to consider further within the cumulative assessment. If an identified scheme was categorised as one of the following, it was not considered as part of the list of schemes:

- Those outside of the airport boundary;
- Applications submitted before 1st November 2015 (5 years);
- Works to trees;
- Change of land use;
- Small scale schemes (e.g. less than five new dwellings/buildings);

- Changes of building use;
- Extensions to existing buildings;
- Cosmetic alterations to existing property/buildings;
- Roof mounted solar PV panels;
- Ground mounted solar PV panels with less than 50kW output;
- Renewal of planning permission for retention of existing operational use; and Variation to planning permissions, including reserved matters applications (where original application would be excluded).

Table 21-1 provides details of the identified schemes and justifies why each scheme is, or is not considered within this assessment of cumulative effects. Where an identified scheme did not have sufficient environmental information, it was not considered within this assessment. Sufficient detail relates to the availability of environmental reports or assessments; to enable a cumulative assessment to be made, potential environmental impacts of a scheme are required to understand the potential for any cumulative effects. Environmental assessments are usually contained as part of the planning application and are made available through the Fingal County Council planning portal, where a scheme is not yet present on the portal or does not contain environmental assessments, then those schemes are not considered to be reasonably foreseeable and have therefore not been considered further in the assessment.

Table 21-1 List of schemes identified through local planning portal and direct contact with daa

Scheme ID	Scheme Name	Application reference	Scheme description	Considered in the assessment	Justification
1	Substation F	F20A/0295	Replacement substation on the North Apron - single-storey free standing c.5m tall substation (approximately 18m x 21m), within which will be enclosed; a medium voltage ring main unit room; a medium voltage switch gear distribution room; a communications room; a transformer room; a generator change over panel room; a generator room; a main distribution room; and an entrance lobby.	No	Considered to be of a scale that will not result in any potential cumulative effects.
2	South Apron Widening	FS5/024/20	Enhancement of taxiway system to ease airfield congestion - The construction of new and rehabilitated taxiway pavement along with all associated ancillary development including surface water drainage and attenuation, road markings and signage, and Aircraft Ground Lighting.	No	No construction as part of the proposed Relevant Action and so no potential for cumulative effects.
3	Green Car Park/ Red Express North	F20A/0331	Application for temporary continuance of use of passenger car park for a period of 7 years	No	Renewal of planning permission for retention of existing operational use.
4	Terminal Forecourts /Tolling	F20A/0455	Insertion of traffic barriers on Dublin Airport private roads and associated works including lane realignment. Provision of Free Waiting Zone	No	Considered to be of a scale that will not result in any potential cumulative effects.

Scheme ID	Scheme Name	Application reference	Scheme description	Considered in the assessment	Justification
5	Pre-screening compound	TBC	Logistics and security compound. Taking over NR compound.	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
6	Demolition of vacant properties	TBC	Demolition of vacant buildings at various locations	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
7	North Apron Extension (12 Replacement Stands)	F20A/0550	Aircraft Stands in the North Apron to replace stands lost to North Runway (APC)	Yes	Potential cumulative Effects for: Noise and Vibration Population and Human Health Traffic and Transportation Landscape and Visual Biodiversity, Flora and Fauna: Terrestrial Ecology Water (Drainage)
8	Vehicle Maintenance Base/Logistics Building	F20A/0058	Construction of a vehicle maintenance building comprising of 2 no. units with mezzanine levels, 2 no. storage areas (tanks and bunds)	Yes	Potential for cumulative Biodiversity, Flora and Fauna: Terrestrial Ecology effects. Noise and Vibration.
9	Terminal 1 Façade and Offices	F20A/0553	Upgrade the façade of T1, renovate L4 & 5 and change of use of part of a car park to office use The development will consist of the installation of a new facade and thermal envelope to all elevations of the upper two storeys of the original Terminal 1 building (i.e. 'Levels 40 & 50'), with enhanced and consolidated daa office space to be provided across both levels, and associated development at roof level and Level 10 (i.e. Arrivals Level).	No	Considered to be of a scale that will not result in any potential cumulative effects.
10	Bus Shelter	F20A/0394	New bus shelter and taxi shelter extension	No	Considered to be of a scale that will not result in any potential cumulative effects.
11	Flight Catering Building	TBC	Demolition of side flanks, change of use to existing flight catering building to office and provision of substation	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
12	Pre-Boarding Zone	TBC	Permanent use of Pre-Boarding Zone building, associated canopy and covered pedestrian walkway and omit Condition 2 attached to the	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.

Scheme ID	Scheme Name	Application reference	Scheme description	Considered in the assessment	Justification
			permitted development Reg. Ref. F16A/0483		
13	Runway 10 Line Up	TBC	Additional line up point for the 10/28 Runway	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
14	Infrastructure Application	TBC	Application for airport infrastructure to increase capacity at Dublin Airport and all associated infrastructure. Full details of the Principal elements of this project are not yet available but will likely consist of new aprons and Pier extensions.	No	The environmental assessments have not yet been finalised and currently insufficient information available to undertake a cumulative assessment.
15	North Runway Physical Amendments	F19A/0023 PL06F.305298	Physical amendments to permitted north parallel runway and taxiways.	No	The proposed Relevant Action will result in no changes to the design or construction of the North Runway Permission.
16	Dispatch Hut and Tug Shelter	TBC	Single-storey free-standing General Aviation Tug Shelter on the West Apron	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
17	Cargo Relocations	TBC	Development of new cargo facilities and relocation of tennants.	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
18	Pedestrian Walkway	F18A/0552	Covered 80m pedestrian walkway at Pier 4 (total floor area 160sqm)	No	Considered to be of a scale that will not result in any potential cumulative effects.
19	Airside Operational Buildings/Animal Welfare Facility	F19A/0426	Animal Welfare Facility (376 sqm), Airside Operations Facilities (Parking, storage tanks, foul waste disposal) & Substation	Yes	Potential cumulative Effects for: Biodiversity, Flora and Fauna: Terrestrial Ecology Soils, Geology and Hydrology Air Quality Water (Drainage) Noise and Vibration
20	Thermal Storage Tank	F19A/0084	Thermal Storage Tank (250m³) for the storage of hot water. It will be used to store excess heat and improve energy efficiency of the existing Combined Heat and Power Plant serving T2.	No	Considered to be of a scale that will not result in any potential cumulative effects.
21	Hold Baggage Screening	F18A/0638 F19A/0168	Demolition of existing Carousel Building and extension of the existing Terminal 1 baggage hall in	No	Considered to be of a scale that will not result in any potential cumulative effects.

Scheme ID	Scheme Name	Application reference	Scheme description	Considered in the assessment	Justification
			two locations to facilitate the mandatory upgrade of the airport security screening system for passenger baggage.		
22	P1/P2 Immigration Hall	F19A/0049	Extension to the existing Terminal 1 Pier 1 and Pier 2 Immigration Hall at Dublin Airport.	No	Considered to be of a scale that will not result in any potential cumulative effects.
23	Covid Medical Centre	n/a	1. Change of use of the current prefabricated unit known as the 'Dublin Airport Central Marketing Suite', located next to the T2 Multi-storey Car Park 2. Erection of a temporary unit to be used for COVID-19 testing on the Dublin Airport campus (exact location details TBC later this week) 3. Erection of a temporary unit to be used for COVID-19 testing on the Cork Airport campus (exact location details TBC later this week)	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
24	Gate Post 9	FS5/018/19	Construction of a Security Gatepost (Security Gatepost 9A) and the demolition of existing Gate 9, all in the townland of Huntstown, Dublin Airport, Co. Dublin.	No	Considered to be of a scale that will not result in any potential cumulative effects.
25	Critical Taxiway	FS5/017/19	New Taxiway and rehabilitation of existing taxiway	No	Considered to be of a scale that will not result in any potential cumulative effects.
26	Gate Post 1B	FS5/045/18	Erection of a new security gatepost, and all associated infrastructure including access to Castlemoate Road and modifications to the CPSRA boundary fence and the construction of a temporary access to serve planned rehabilitation/ upgrade works to the North Apron.	No	Considered to be of a scale that will not result in any potential cumulative effects.
27	Link 7	CLASS32/001/19	Notification in respect of proposed development in North Apron.	No	Considered to be of a scale that will not result in any potential cumulative effects.
28	Sub station T	F18A/0747	A replacement substation to serve the airfield with power.	No	Considered to be of a scale that will not result in any potential cumulative effects.

Scheme ID	Scheme Name	Application reference	Scheme description	Considered in the assessment	Justification
29	P1 P2 Immigration Hall Alteration to Permission F19A/0049	F20A/0262	Permission to alter previous approval F19A/0049 relating specifically to an approved porch extension. The proposal obtained permission to change the materials and foot print of the porch and included for advertising	No	Considered to be of a scale that will not result in any potential cumulative effects.
30	Solar Farm	TBC	Development of a Large PV Solar Farm	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.
31	Dublin Airport Central	F16A/0155 ABP: 247299	Demolition and part demolition of buildings to provide for 4 no. office blocks and other works at the former Aer Lingus Head Office Building and modifications to F14A/0436 for new access road.	Yes	Potential cumulative Effects for: Traffic and Transportation Air Quality Climate and Carbon Noise and Vibration Landscape and Visual Biodiversity, Flora and Fauna: Terrestrial Ecology Water (Drainage) Soils, Geology and Hydrogeology Material Assets Cultural Heritage
32	T2 Kitchen Refurbishment	FS5/019/20	Refurbishment of kitchen facility involving installation of ventilation panels	No	Considered to be of a scale that will not result in any potential cumulative effects.
33	Border Control Post	n.a	S.181 (2)(a)	No	Not currently available on Fingal Planning Portal. Insufficient information to carry out assessment.

21.4 Limitations and Assumptions

A limitation that exists for the cumulative effects assessment is that not all of the cumulative schemes identified could be assessed as some of the schemes do not have sufficient environmental information available. It is only possible to consider current schemes and those that will take place in the reasonably foreseeable future. Furthermore, the assessment can only be based on the data that is readily available. The reason for excluding the schemes on this basis is because the potential environmental impacts of a scheme are required to understand the potential for any cumulative effects.

It is also assumed that due to the nature of the proposed Relevant Action, cumulative schemes outside that of the airport boundary are not necessary to consider within the scope of the cumulative effects assessment. The basis for excluding schemes beyond the airport boundary from the cumulative effects assessment is because these

schemes are considered to be of a distance where cumulative effects with the proposed Relevant Action would not arise. The nature of the impacts identified with the proposed Relevant Action are such that they relate very specifically to Dublin Airport and the operation of the runway system, and are not anticipated to interact with other developments beyond the airport boundary to form significant cumulative effects.

21.5 In-combination Effects

The following section reports the likelihood of receptors experiencing significant in-combination environmental effects as a result of the proposed Relevant Action. The receptors included within this assessment are reported within the technical chapters (7-20) of this EIAR.

The following receptor groups have been identified as likely to experience in-combination effects as a result of the proposed Relevant Action:

- Residential property, Schools and Community Facilities

Table 21-2 shows the likely residual effects on the receptors and provides a description of the likely in-combination effects experienced. It should be noted that the effects listed below only consider the operational phase as the proposed Relevant Action will not have a construction phase.

Table 21-2 In-combination effects assessment

Receptor	Description of combined effect	Likely significance
Residential property, Schools and Community Facilities	During operation, Residential property, Schools and Community Facilities surrounding the airport are likely to experience a combination of adverse noise and vibration, air quality and hazard and risk effects.	The combination of these effects are likely to all be experienced at the same time, with the magnitude of in-combination effects occurring as assessed in the individual assessments. It is therefore assessed that the in-combination effects are unlikely to combine and result in any significant effects due to the proposed Relevant Action relating to night time operations only.

21.6 Assessment of Cumulative Effects

This section presents a summary of the assessment of cumulative environmental effects with those schemes identified in Table 21-1 within Section 21.4 of this chapter.

21.6.1 Population and Human Health

Applications: F19A/0426 and F20A/0550

Chapter 7: Population and Human Health considers the assessments carried out in Chapter 13: Air Noise and Vibration, Chapter 14: Ground Noise and Vibration and Chapter 10: Air Quality. The population assessment determines that there is a moderate adverse effect on Amenity and Local Communities, although no mitigation is provided within the Population and Human Health chapter itself, mitigation is provided within the Noise and Vibration Chapters. It is assessed that the proposed Relevant Action will not cause any new cumulative effects in combination with applications **F19A/0426 and F20A/0550.**

The Human Health assessment provided in Chapter 7 assesses that due to the number of people being adversely affected within Chapter 13. Air Noise and Vibration, the impact of the proposed Relevant Action on air quality, noise and neighbourhood amenity as a determinant of human health and well-being is assessed to be negative (-).

21.6.2 Traffic and Transportation

Applications: F16A/0155 and F20A/0550

The proposed Relevant Action entails no change to the extent of excavation or size of structures required to the physical infrastructure of North Runway. There is no change to the permitted 32mppa capacity of the terminals as part of the proposed Relevant Action. As a result, the proposed Relevant Action combined with applications

F19A/0426 and F20A/0550 will not result in any significant cumulative effects for traffic and transportation throughout construction or operation.

21.6.3 Air Quality

Applications: F19A/0426 and F16A/0155

The Air Quality assessment provided in Chapter 10, concluded that annual mean concentrations of all the pollutants considered are below the relevant limit values for all of the assessed receptor locations. It is assessed that the concentration changes resulting from the combined proposed Relevant Action and the schemes highlighted above will not breach these limits as the residual effects of the applications above are assessed as **not significant**.

The proposed Relevant Action does not have a construction phase, this combined with the small scale and temporary nature of the identified schemes construction phases enables the conclusion to be drawn that the cumulative effect of the schemes considered above would not result in any cumulative effects.

21.6.4 Climate and Carbon

Applications: F16A/0155

As described in chapter 11, GHG emissions resulting from the operational phase of the proposed Relevant Action are inevitable. However, the size and scale of the schemes assessed as having potential cumulative effects are not considered to be large enough to change the assessment carried out for the proposed Relevant Action. The effects of the proposed Relevant Action GHG assessment is not considered to be of significance, therefore it is assessed that there will be no cumulative effects on GHG emissions or any other Climate and Carbon parameter.

21.6.5 Noise and Vibration

Applications: F19A/0426, F16A/0155, F20A/0455 and F20A/0550

The proposed Relevant Action will not result in any changes to the design or construction of North Runway. As a result, the proposed Relevant Action will not result in any construction related environmental effects to noise and vibration. With the exception of application F16A/0155 and F20A/0550, the noise and vibration impacts from the schemes identified as having potential cumulative effects are temporary in nature as they arise from the construction phase of the developments. Through the implementation of suitable mitigation measures outlined in these developments respective CEMPs, significant cumulative effects will be avoided.

Application F20A/0550 is assessed within *Chapter 14: Ground Noise and Vibration* and is referred to as the 'Apron 5H scenario'. The Apron 5H scenario is an assessment of the scenario where both the proposed Relevant Action has been taken and the planning application for Apron 5H granted. It is, in effect, a scenario in which the cumulative effects of the two are assessed.

The assessment concluded that the residual effect when comparing the number of people exposed to high or very high residual L_{den} Noise Levels (defined within Chapters 13 and 14) and the number of people exposed to high or very high residual L_{night} Noise Levels did not change between the proposed Relevant Action scenario and the Apron 5H scenario; which was assessed as being 3 people exposed to high or very high residual L_{den} Noise Levels and 6 people exposed to high or very high residual L_{night} Noise Levels in 2022 and 2025 respectively. It is therefore assessed that no significant cumulative effects will arise.

As part of application F16A/0155, four areas of operational noise are highlighted in their environmental impact statement (daa, 2020), these are as follows: Building Services Noise, Car Parking on the Site, Delivery Activity and Additional Vehicular Traffic on Public Roads. All of these sources of noise do not require mitigation, except for 'building services noise' which with the implementation of mitigation measures does not produce any significant adverse residual effects on the local ambient noise environment during the construction or operational phases of application F16A/0155. Through the implementation of the mitigation measures described in the EIAR for application F16A/0155, and the assessment of the Apron 5H scenario in this EIAR, it is concluded that no significant cumulative effects will arise. Further details on the assessment of the Apron 5H Scenario is provided in *Chapter 14: Ground Noise and Vibration*.

21.6.6 Landscape and Visual

Applications: F16A/0155 and F20A/0550

The proposed Relevant Action entails no change to the extent of excavation or size of structures required to the physical infrastructure of North Runway. There is no change to the permitted 32mppa capacity of the terminals as part of the proposed Relevant Action. The proposed Relevant Action relates to night time operations only. As a result, the proposed Relevant Action will not result in any cumulative landscape and visual effects with applications: F16A/0155 and F20A/0550.

21.6.7 Biodiversity, Flora and Fauna: Terrestrial Ecology

Applications: F20A/0455, F19A/0426, F16A/0155 and F20A/0550

As stated in Chapter 14 of this EIAR, there are no sensitive ecological features within the airport which will be subject to significant impacts. The proposed Relevant Action entails no change to the extent of excavation or size of structures required to the physical infrastructure of North Runway. There is no change to the permitted 32mppa capacity of the terminals as part of the proposed Relevant Action. The proposed Relevant Action relates to night time operations only. As well as this, implementation of the Wildlife Management Plan by Dublin Airport, actively prevents flocks of birds and other fauna species which may be considered important from occurring in the vicinity of Dublin Airport. It is assessed that the active bird management operations at the airport will ensure that likely significant effects are avoided through mitigation, therefore it can be concluded that no cumulative effects will arise.

21.6.8 Water (Drainage)

Applications F19A/0426, F16A/0155 and F20A/0550

As stated in Chapter 12, there will be no change to the extent of excavation or size of structures required due to there being no changes to the physical infrastructure of North Runway. As a result, the proposed Relevant Action will not result in any construction effects already approved via the North Runway Permission. It is therefore assessed that no significant cumulative effects will arise.

21.6.9 Land and Soils

Applications F19A/0426 and F16A/0155

The proposed Relevant Action entails no change to the extent of excavation or size of structures required to the physical infrastructure of North Runway. There is no to the permitted 32mppa capacity of the terminals as part of the proposed Relevant Action. As a result, there will be no changes to the land and soils baseline of the North Runway and so it is assessed that no cumulative effects will occur as a result.

21.6.10 Material Assets

Applications: F16A/0155

The proposed Relevant Action entails no change to the extent of excavation or size of structures required to the physical infrastructure of North Runway. There is no change to the permitted 32mppa capacity of the terminals as part of the proposed Relevant Action. As a result, there will be no requirements for any further material assets and so it is assessed that no cumulative effects will occur as a result.

21.6.11 Cultural Heritage

Applications: F16A/0155

The proposed Relevant Action entails no change to the extent of excavation or size of structures required to the physical infrastructure of North Runway. There is no change to the permitted 32mppa capacity of the terminals as part of the proposed Relevant Action. As a result, there will be no changes to the cultural heritage baseline of the North Runway and so it is assessed that no cumulative effects will occur as a result.

21.7 Summary

It is considered that the proposed Relevant Action will not result in any cumulative effects or in-combination effect interactions, this is mainly due to the nature of the proposed Relevant Action itself, which concerns operation at night time only and does not make any changes to the design or construction of North Runway or the runway system at the airport. Any effects that have been identified are likely to remain not significant due to the mitigation

already present within this EIAR and any mitigation present in the the schemes identified as relevant for the purposes of the cumulative assessment.

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