Environmental Impact Statement - Non-Technical Summary

daa
DAC Project
IE0311582-22-RP-0003, Issue: B

Issue date: April 2016

Document Sign Off

Environmental Impact Statement - Non-Technical Summary

daa
DAC Project
IE0311582-22-RP-0003, Issue B

File No: IE0311582.22.080

CURRENT ISSUE					
Issue No: B	Date: April 2016	Reason for issue: Revised for Planning			
Sign Off	Originator	Checker	Reviewer	Approver	Customer Approval (if required)
Print Name	Paul O'Sullivan	Rory O'Dwyer		Matt Farrelly	
Signature	**Authorised Electronically**				
Date	April 2016	April 2016		April 2016	

PREVIOUS ISSUES							
Issue No	Date	Originator	Checker	Reviewer	Approver	Customer	Reason for issue
A	Dec 2015	P O'Sullivan	R O'Dwyer		D Donnelly		Draft for Planning

Contents

1 Introduction

daa is proposing to build the first phase of a multi-phase development of high value office accommodation and associated car parking. The proposed development is to be located on a portion of land located within the Dublin Airport campus lands to the north of Terminal 2 and to the east of the Terminal 2 multi-storey car park.

daa is a state-owned commercial company, headquartered at Dublin Airport. daa's principal activities include airport management and development, domestic and International airport retail management and airport investment. The company's domestic operations include the running of Dublin and Cork airports.

The proposed development (also known as Cluster A) consists of the first phase outlined in Fingal County Council's (FCC) Masterplan known as the Dublin Airport Central (DAC) Masterplan[1]. This Masterplan details proposed plans for an area of land within the Dublin Airport campus lands known as Zone 1. Therefore Cluster A corresponds to Phase 1 of Zone 1.

Figure 1.1 illustrates the location of Dublin Airport, while Figure 1.2 illustrates the location and extent of the proposed development site, as well as the extent of Zone 1.

This proposed development includes the 4 no. commercial office buildings providing a total of approximately 41,677m^2 of office accommodation for multi-national companies, a retail building, and a 5 storey car park to provide parking for occupants of the commercial buildings. The buildings will be constructed sequentially with the final sequence to be confirmed when the Contractor is appointed.

The proposed development will bring a number of benefits to Dublin Airport, the Greater Dublin Area, and Ireland as a whole, such as the following for example:

- It will provide seamless connectivity between Dublin and other major international cities;
- It will generate employment opportunities;
- It will act as an economic hub;
- It will rejuvenate and improve the visual appearance of the landside portion of Dublin Airport.

The Fifth Schedule of the Planning & Development Regulations, 2001 (SI No. 600 of 2001) sets out a comprehensive list of project types and development thresholds that are subject to Environmental Impact Assessment. The proposed development does not come under the Fifth Schedule of the Planning & Development Regulations, 2001. Therefore the preparation of an Environmental Impact Statement for the proposed development is not mandatory. In any case, this sub-threshold Environmental Impact Statement has been prepared for the development as part of the planning application to Fingal County Council in line with the appropriate Environmental Protection Agency Guidance Notes[2,3,4,5] in order to identify the potential environmental impacts arising from both the construction and operational phases of the proposed development. It also outlines a number of mitigation measures to reduce any potential environmental impacts identified.

The Environmental Impact Statement was completed by PM Group with contributions from a number of specialist consultants for certain aspects of it.

Please see Chapter 1 of the Environmental Impact Statement for further details.

---

[1] Fingal County Council. Dublin Airport Central Masterplan (2016)

[2] Environmental Protection Agency (EPA). Guidelines on the information to be contained in Environmental Impact Statements (2002);

[3] EPA. Advice Notes on Current Practice (in the Preparation of Environmental Impact Statements) (2003)

[4] EPA. Draft Revised Guidelines on the Information to be contained in Environmental Impact Statements' (2015)

[5] EPA. Draft Advice Notes for Preparing Environmental Impact Statements (2015)

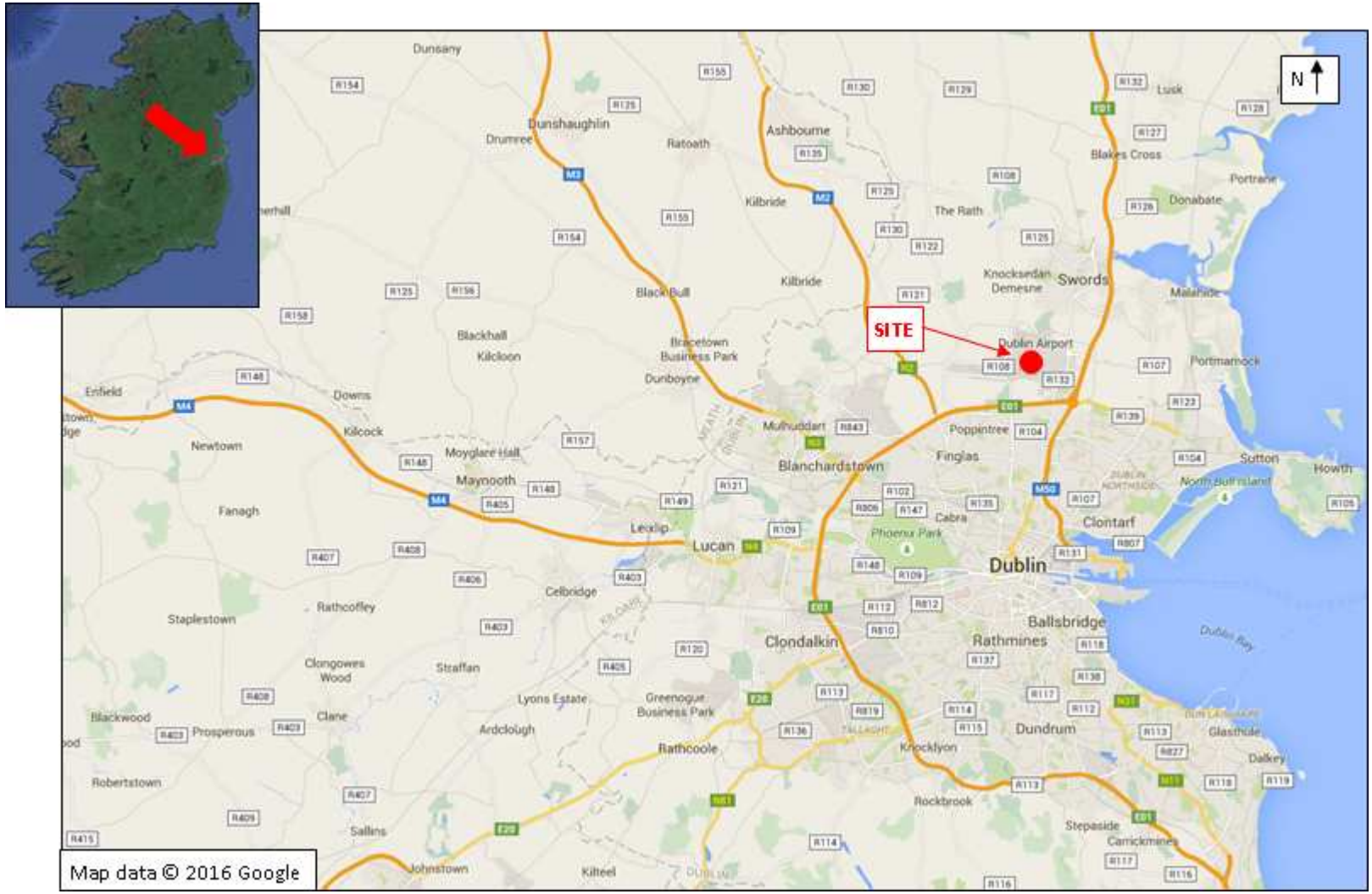

Figure 1.1: *Site Location Map (Annotated by PM Group)*

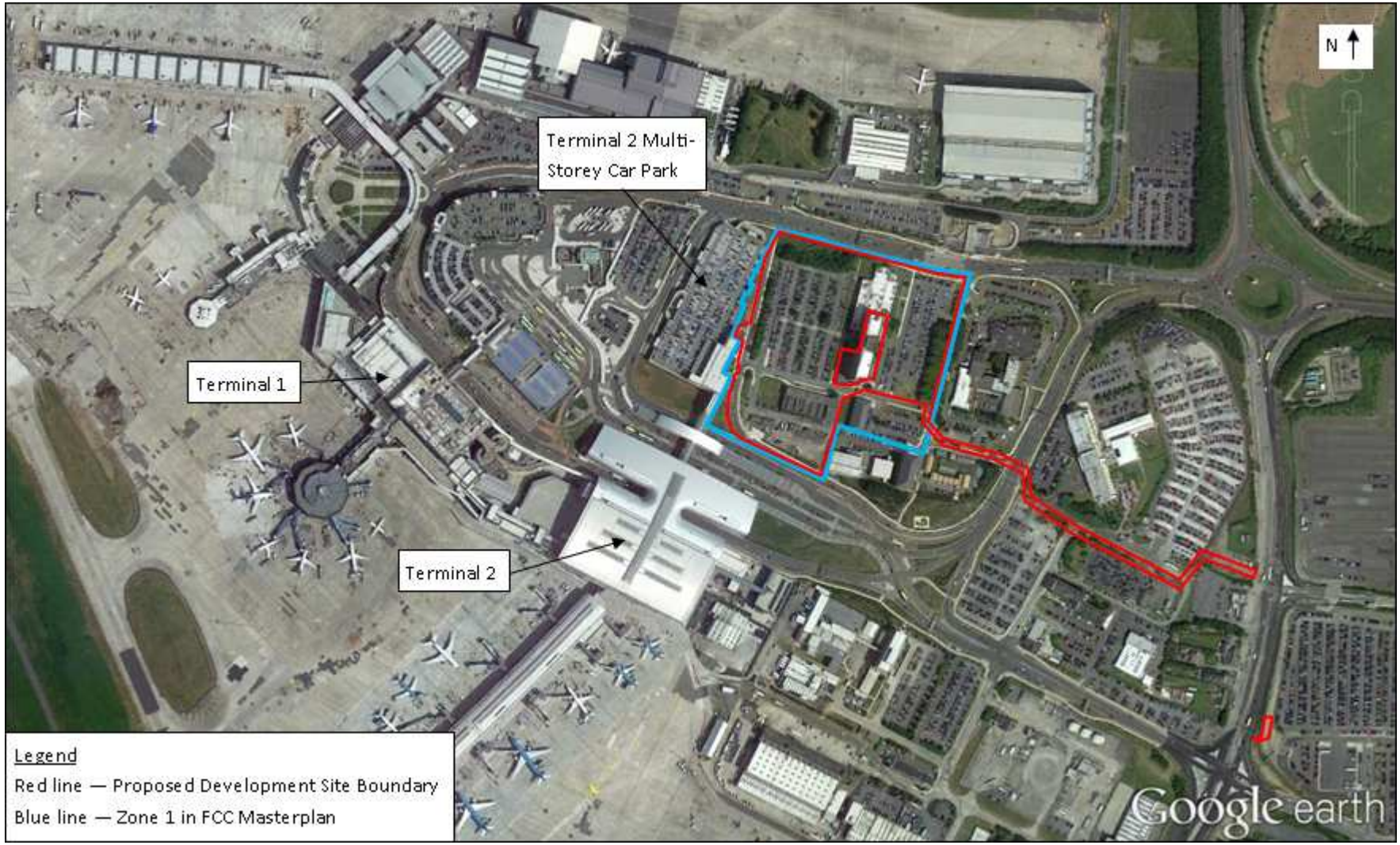

Figure 1.2: *Proposed Development Site Boundary (Including Boundary of Zone 1) (Annotated by PM Group)*

2 Description of the Proposed Development

The proposed development site (also known as Cluster A) includes the first phase as outlined in Fingal County Council's Masterplan known as the Dublin Airport Central Masterplan.

The Masterplan concept focused on developing a new business destination in a strong urban environment while also creating a softer landscape, both of which are essential to create a vibrant employment destination.

The proposed development will consist of the demolition of existing buildings on the site (equating to a floor area of approximately 2,150m^2), the construction of 4 no. office buildings, a multi-storey car park to serve the office users, a pavilion café, a restaurant/café area on the south part of the ground floor of Building A6, a substation, a raised pedestrian link from the central courtyard to the Terminal 2 multi-storey car park building to link with the public concourse, hard and soft landscaping features including the provision of a 'City Square' and 'City Gardens', temporary landscaping, and all ancillary site works and services (collectively known as Cluster A) on a portion of land which is located furthermost to the west of the DAC Masterplan lands (see Figure 2.1). The proposed site is situated to the north of Terminal 2 and to the east of the Terminal 2 multi-storey car park. The commercial office buildings will provide approximately 41,677m^2 of office accommodation, and will range from 6 to 7 storeys in height.

The proposed development will require a number of building services and utilities including electricity, building services plant, potable water services, a fire hydrant main; lighting and CCTV, and telecommunications. Also included as part of the proposed development are individual building 10kV switchrooms; a new site access; internal roadways and walkways; car parking (multi-storey car-park and surface parking); perimeter fencing; photovoltaic solar panels; potable water storage tanks; rainwater collection tanks; hard and soft landscaping; a new foul drain connecting to the existing sewer in the R132; the upgrade of a foul drainage pump station at the intersection of the R132 / Corballis Road South; and bicycle parking which will be provided external to the office buildings and within the multi-storey car park.

The area of the proposed development site is approximately 4.58ha.

The public realm design principles for the proposed development are driven by a strong urban grid that underpins the buildings, streets and spaces to create a legible design framework. Within this framework different spaces are created that respond to the adjacent building uses and create a variety of experiences within the urban realm. These range from the creation of a new 'City Square' to the south of the office buildings as a focal point and social gathering space, to the development of office courtyards, raised seating lawns and city gardens.

It is proposed to supply the new facilities at 10kV from existing substations in the locality of the development utilising new and existing underground ducts. New individual building 10kV switchrooms are proposed to be located on the ground floor of each building and will step-down the voltage to 400V for local distribution. Renewable resources such as photovoltaic solar panels will be provided to supplement power requirements in the proposed buildings and to provide on-site sustainable energy.

It is proposed to make a connection to the existing potable water main which is supplied from the daa reservoir to the north of Corballis Road North, as there is sufficient water pressure available at the proposed potable water connection point. Potable water will be distributed to each tenant and will also serve landlord plant and equipment, including filling cold water storage tanks. It is estimated that the potable water requirement for the proposed development will be approximately 90m^3/day. Given the existing capacity of 14,500m^3 available in the existing daa water reservoir and the current water consumption rate of approximately 1,733m^3/day[6], the proposed development will not affect daa's 3 day storage requirement.

[6] Source: Fingal County Council. Dublin Airport Central Masterplan (2016)

Surface water runoff generated on building roofs and hardstading areas, such as courtyard areas between buildings and footpaths around buildings, will flow by gravity from sloped surfaces and collected via gutters, roof drains, road gullies and channels. The flow will then be conveyed by gravity to a new underground surface water pipe system. This system will then connect to the existing daa underground surface water system within the proposed site boundary, before ultimately discharging to the off-site Kealy's stream via an attenuation tank located under the Eastland's car park located to the east of the proposed site. The proposed surface water network has been designed in accordance with Greater Dublin Drainage Strategy guidelines and includes a climate change increase of 10% in rainfall intensity. A number of Sustainable Urban Drainage Systems will be included in the design. Due to a reduction in impervious surface area on the site of approximately 2,900m^3, preliminary calculations indicate that there will be a reduction in surface water run-off from the site post-development. Infiltration testing which was undertaken as part of recent geotechnical investigations discovered that highly impermeable clay is underlying the site. This indicates a greenfield runoff rate of 7.8 l/sec/ha would be applicable in accordance with Greater Dublin Drainage Strategy guidelines.

It is proposed to provide a foul drainage connection to the existing public foul sewer located along the R132 at the existing road crossing to the north of Kiely's Pub (routed via the north of Cloghran House / south of the Radisson Hotel). This foul sewer discharges to the North Fringe Sewer, before ultimately discharging to the Ringsend Wastewater Treatment Plant.

It is proposed to provide two vehicular entry points to the proposed development. The primary entry point will be located at the existing junction providing access to the Maldron Hotel from the East Link Road. This access will cater for traffic coming from the Airport Roundabout. Generally, the existing form of this junction will be maintained with only inbound vehicular movements being accommodated. The second vehicular access point will be provided along the entry route to the Terminal 2 multi-storey car park. This route will primarily cater for traffic coming from Corballis Road South. The form of this entry/one-way system will be maintained in future. A single exit point will be provided from the proposed development at the existing Corballis Avenue/Corballis Road North signalised junction. No road/junction improvements are required as part of the proposed development.

With the exception of the entry and exit roads, all internal roads within the proposed development site will accommodate two-way traffic movements. The primary internal routes will provide access to the car parking areas associated with the development including the existing car parking located to the east of the proposed site. A number of secondary roads (cul-de-sacs) will also be provided to facilitate service vehicle and emergency access to all buildings in the site. Turning heads will be provided at the end of these roads to allow vehicles to turn around.

It is proposed to provide 742 car parking spaces as part of the proposed development. These car parking spaces will be located in 2 car parking areas. The primary car parking area is the multi-storey car park located to the north of the proposed site and will accommodate 694 car parking spaces. A secondary at-grade car park is proposed to the north-east of the proposed site which will accommodate 48 car parking spaces.

The proposed development will consist of a highly permeable pedestrian network. Access from the external pedestrian network will be achieved from the northern, eastern and western boundaries via a number of access locations. A number of pedestrian crossings are identified which will provide safe crossing points for pedestrians from the wider road network.

On approach to the proposed development, cyclists will be accommodated on the existing bicycle infrastructure provided within the Airport Campus. Access to the proposed development will be achieved via either the vehicular or pedestrian access points. Internal roads will be designed such that low vehicle speeds are encouraged thus providing a safe and inviting cycling environment. A number of bicycle parking spaces will be provided within the proposed site. These will be provided in the multi-storey car park as well as bicycle stores adjacent to the commercial office buildings. These spaces, which will cater for commuting cyclists, will be provided for in a sheltered, well lit area within a locked cage. In total there will be approximately 94 bicycle spaces provided in the proposed multi-storey car park and approximately 164 bicycle spaces provided within bicycle stores.

In relation to access to public transport, the proposed site is located in close proximity to the Ground Transportation Centre at the Airport, the Terminal 2 Bus Set Down, and the North Corballis Road Bus Stop.

The construction of the facility will consist of three distinct stages, namely:

- Demolition of the existing building on the proposed site. These works are expected to commence in mid to late 2016, and is dependent on the planning permission process and the construction schedule not yet finalised.
- Site Development Works – Excavation works on-site are required to bring the existing ground levels to the required levels for the building. The majority of soil excavated will be removed from site by a licenced contractor.
- Building Construction Works – Subject to Planning Permission and following excavation works, building construction works will commence for the erection and fit-out of the various building structures.

Construction of the proposed development is anticipated to commence in mid to late 2016. This is dependent on the planning permission process and the construction schedule of the Building Contractor (not yet appointed).

The construction phase will be phased over approximately 2-3 years, subject to the construction schedule which is not yet confirmed.

It is estimated that approximately 1,635 jobs (job years) could be created during the course of the construction of the proposed development with peak number of construction employees being on site of 400 persons.

Operational employment provision for the proposed development is estimated to be approximately 2,838 direct jobs with an additional ca. 2,325 indirect and induced jobs[7].

[7] Employment Density derived from Driver Jonas Deloitte - Employment Densities Guide, 2nd Edition 2010

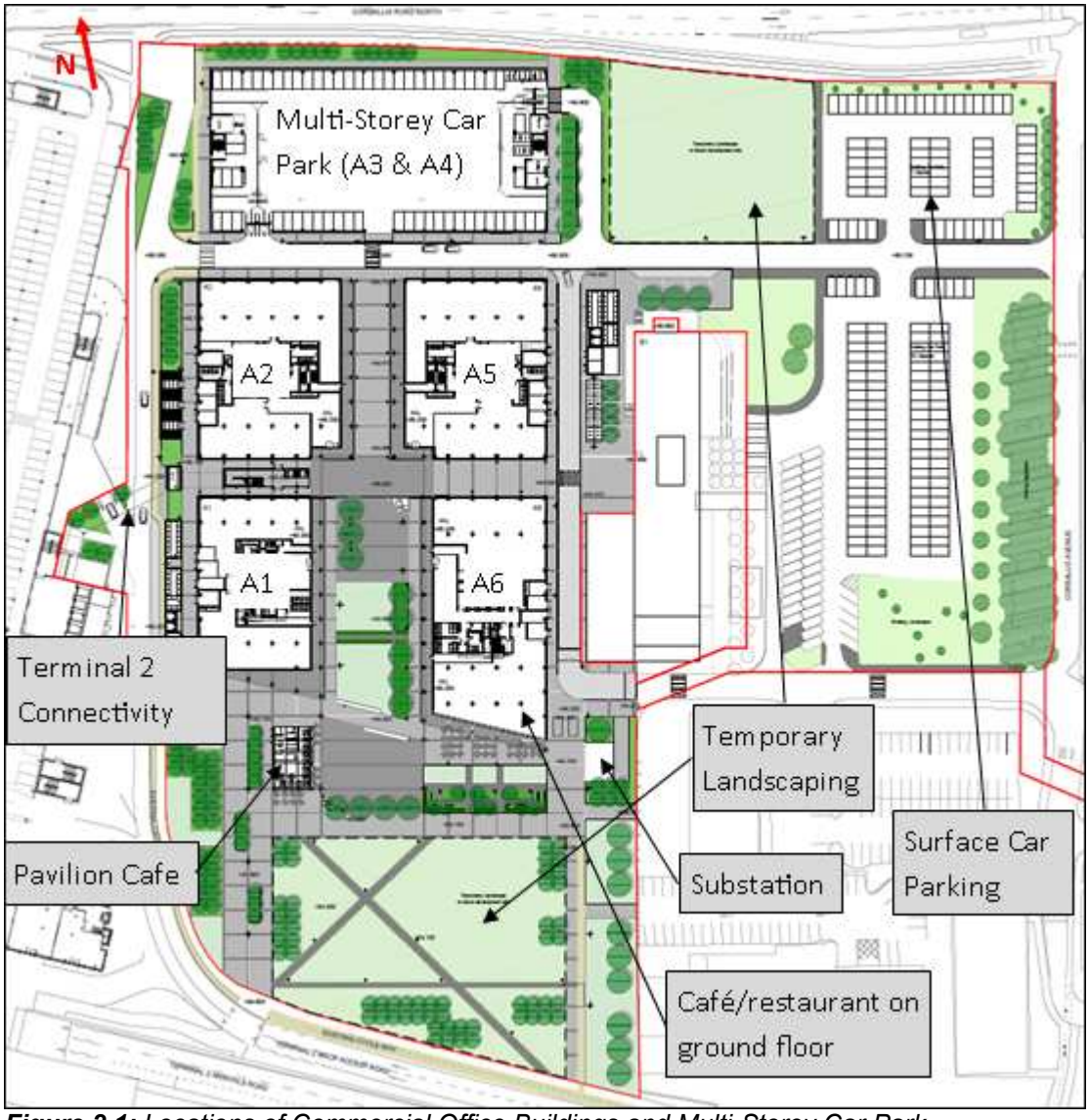

Figure 2.1: *Locations of Commercial Office Buildings and Multi-Storey Car Park*

It is noted that as part of this Environmental Impact Statement, Phase 2 of Zone 1 (also known as Cluster B), which this planning application does not relate, has been considered and a high level assessment of impacts undertaken. This assessment is included in the 'Future Phase of Dublin Airport Central' section of each chapter. In summary, Cluster B of Dublin Airport Central will be subject to a separate planning application and Environmental Impact Assessment as required. As this future phase will be of a similar nature to the phase for which this planning application relates to, it is not expected to have a significant impact on the various environmental aspects of the area. Where necessary, additional mitigation measures will be proposed for Cluster B to ensure it does not have a negative impact on the various environmental aspects of the area. These measures will be identified and detailed as part of the detailed design and Environmental Impact Assessment for that development. Furthermore, any Environmental Impact Statement for this future phase of development will cumulatively assess Cluster A at that time.

Included in each chapter of this Environmental Impact Statement is a cumulative impact assessment in which the proposed development has been assessed cumulatively with other live applications in the Airport which are not part of the existing environment. The projects that have been considered as part of the cumulative impact assessment in each chapter are as follows:

- Radisson Hotel - Live permission for a separate hotel as well as an extension to the existing hotel (Planning Ref. F08A/0381/E1);
- Fuel Farm – Permission for an extension of duration of application was granted by FCC for the redevelopment of the fuel farm site (Planning Ref. F06A/1463/E1);
- Terminal 2 multi-storey car park and hotel – Remainder of development (Planning Ref. PL06F.0008);
- Runway – To construct on airport lands, a runway (Planning Ref. F04A/1755);
- HOB Redevelopment (Planning Ref. F14A/0436);
- 'Corballis Cottage', Old Airport Road – To demolish the existing single storey dwelling house and construct a split level 2 and 3-storey Core Aviation type office building (Planning Ref. F07A/1659/E1);
- Two-bay aircraft maintenance hangar located in the Northern Apron of Dublin Airport (Planning Ref. F13A/0402);
- Aviation fuel pipeline from Dublin Port to Dublin Airport (Planning Ref. F15A/0141);
- 'Into-Plane' fuel facility and associated works - Planning permission for development of infrastructure to enable loading of aviation fuel to aircraft from airfield store location (Planning Refs. F15A/0234 and F15A/0580);
- Pier 2 Passenger Segregation Works (Planning Ref. F16A/0046; Note that FCC issued a Notice of Decision to Grant in April 2016; at the time of preparation of this EIS the application is in the appeal period);
- Terminal 2 Apron Bus Facilities (Planning Ref. F16A/0081; decision pending);
- Pier 1 Pre-Boarding Zone (Planning Ref. F16A/0121; decision pending);
- TASC Building – New Rooftop and ground floor plant rooms and extension of fire escape stair to ground floor (Planning Ref. F16A/0126; decision pending).

Other live permissions in the vicinity of the airport have been considered in the overall cumulative assessment of the lands through the inclusion of background information and growth forecasts in the relevant chapters of the Environmental Impact Statement.

Please see Chapter 2 of the Environmental Impact Statement for further details.

3 Alternatives Considered

It is a fundamental requirement of the Environmental Impact Assessment process that viable alternatives to the key project decisions have been evaluated in the context of environmental impact, and that the project as proposed represents the most appropriate solution in meeting the objectives of the development.

The development of the proposals contained in this planning application has involved the following key project decisions:

- Why build this facility?;
- Selection of the preferred site;
- Selection of the preferred arrangement of the site;
- Selection of preferred processes.

The Dublin Airport Central Masterplan has established a long term vision and framework for major commercial development of international scale at Dublin Airport. It projects Dublin Airport into the global market for airport based commercial office development. It will provide both significant national and international benefits to the airport and Ireland, such as the following for example:

- It will provide seamless connectivity between Dublin and other major international cities;

- It will generate employment opportunities;
- It will act as an economic hub;
- It will rejuvenate and improve the visual appearance of the landside portion of Dublin Airport.

In addition, 'National, Regional and Local Planning Policy' provides support for further economic development at Dublin Airport. It is a key consideration of the National Spatial Strategy 2002-2020 of '*facilitating the national roles of Dublin Airport and Dublin Port*'. The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 highlight the importance of continuing to attract investment into the Greater Dublin Area and acknowledge the importance of Dublin Airport as a '*key competitiveness factor for Dublin*' and the surrounding area. It is a strategic recommendation of the Guidelines (ER7) that:

> "*Promote and support the role of Dublin Airport as the primary gateway to Ireland and the GDA and as an important employment hub and business location in the region through land use planning which facilitates future airport capacity needs and by improved transport linkages to the city and region.*"

Further, strategic recommendation PIR7 also outlines that '*suitable lands should be zoned to allow future expansion*' of Dublin Airport and inappropriate development should be restricted in public safety zones and approach zoned of airports.

The Fingal County Development Plan 2011-2017 encourages the sustainable economic development of Fingal and promotes the growth of employment opportunities in the County. The Development Plan includes a number of policies and objectives relating to Dublin Airport. The landside portion of Dublin Airport campus currently comprises a mix a mix of land uses and buildings of varying age and condition. Lands to the north-east of Terminal 2 are subject to zoning objective 'HT' which seeks to:

> "*Provide for office, research and development and high technology/high technology manufacturing type employment in a high quality built and landscaped environment.*"

The proposed development site is located within this land bank identified in the Development Plan to provide for office, research and development uses.

There is a scarcity of locations in Greater Dublin where units greater than 10,000m^2 can be built. The extensive land bank available within the Masterplan lands provides significant opportunities for the provision of major commercial development.

The Masterplan projects Dublin Airport into the global market for airport based commercial office development and it will provide both significant national and international benefits to the airport and Ireland. The proposed development will offer seamless connectivity in a number of different ways.

- The commercial office buildings will allow tenants to connect more easily with international partners and customers. Currently 82% of visitors to the Republic of Ireland go through Dublin Airport. There are 480 flights per day to 175 global destinations. An important factor for emerging businesses is the need for highly connected offices.

  Tenants will be able to host meetings, training sessions, etc. with international colleagues, partners and customers without them having to leave the airport. Terminal connectivity will be provided by the provision of a pedestrian link to the Terminal 2 multi-storey car park. Tenants will also be able to fly out to international meetings with no additional travel associated with getting to an Airport.

  This will make it a very attractive location for potential tenants, including international companies that may not have an established business base in Ireland at present but are either in the process or examining the prospect which of course will be of benefit to the Irish economy as a whole.

- Connectivity will be provided to the Dublin region through the proximity of the proposed development to the Ground Transportation Centre in the landside portion of the site and also the good road network and public transport services available to and from the Airport with the proximity of a number of bus stops.

- The proposed development will act as an Economic Hub and provide economic connectivity between the Airport and its Metropolitan Region due to its proximity to Dublin City Centre.

A major aim of the Masterplan is to create quality and value to the Airport. The landside area of Dublin Airport area is generally very under-developed compared to other airports such as Dusseldorf, Schiopal, and Frankfurt, for example. It is a brownfield site currently consisting mainly of surface car parking. The buildings on site are quite dilapidated resulting in the area not looking particularly attractive. Therefore there is an opportunity to regenerate the area. The Masterplan concept focused on developing a new business destination in a strong urban environment while also creating a softer landscape, both of which are essential to create a vibrant employment destination. The proposed development, consisting of buildings with high quality architectural finishes, and an urban realm consisting of courtyards, a city square and city gardens will regenerate the area and help to greatly improve its visual appearance. In this way the proposed development will help to make the landside portion of the Airport look much more visually attractive which will help to attract potential tenants to the office buildings, and also improve the initial impression visitors to Ireland get of the country when they arrive at the Airport.

The selection of the proposed site ensures that the development has access to a number of essential site requirements in order to meet the basic criteria for the long term success of the project such as:

- Availability of a highly skilled and professional labour force to support the construction and operational phases of the development;
- The necessary infrastructure to support the development and operation of the facility without compromising the project schedule;
- A sufficient developable site area to meet long-term development goals;

The general arrangement of the site is informed by the Fingal County Council Development Plan and the Fingal County Council Dublin Airport Central Masterplan. The layout as outlined in the Masterplan has been taken by the Project Architects and developed to ensure that the layout of the site will meet the requirements of the development.

Alternatives considered in relation to the layout of the buildings, the public realm design chosen, the facades of the proposed buildings and multi-storey car park, and also the design of the various services required for this development have been outlined in Chapter 3 of the Environmental Impact Statement.

Please see Chapter 3 of the Environmental Impact Statement for further details.

4 Planning and Development Context

This section outlines national, regional and local planning and sustainable development policy which are relevant in the context of the proposed development.

National Planning Policy

The *National Spatial Strategy for Ireland 2002-2020* is a strategic planning framework document providing guidance for future development throughout the country. The NSS aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning.

A 'Key Consideration' for the National Spatial Strategy is:

> *"Facilitating the national roles of Dublin Airport and Dublin Port."*

The National Spatial Strategy is due to be superseded by a new National Planning Framework in the near future to provide the context for national spatial planning for the next decade and beyond.

A *National Aviation Policy for Ireland* commissioned by the Department of Transport, Tourism and Sport was published in August 2015 and aims to create the conditions to encourage aviation services to and from Ireland and to support tourism and business.

The National Aviation Policy outlines that the size and location of Dublin Airport distinguishes it from other airports in the Country with a major increase in passenger numbers in recent years. It states that an opportunity now exists to develop the airport as a vibrant secondary hub which competes effectively with the UK and other European airports.

The National Aviation Policy states that Ireland has twenty eight licensed aerodromes (including Dublin Airport) and that the regional airports underpin economic activity in Ireland and that the:

> *"availability of land with investment/development potential within and around our airports presents possibilities for the creation of new business activities to underpin the core airport business".*

The *Smarter Travel Policy* seeks to support and assist in delivering a sustainable transport system. In the Policy the Government reaffirms its vision for sustainability in transport through a number of goals. To achieve these goals the Policy sets out a number of key targets, including:

- *Future population and employment growth will predominantly take place in sustainable compact forms, which reduce the need to travel for employment and services.*
- *500,000 more people will take alternative means to commute to work to the extent that the total share of car commuting will drop from 65% to 45%*
- *Alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work*
- *The total kilometres travelled by the car fleet in 2020 will not increase significantly from current Levels*
- *A reduction will be achieved on the 2005 figure for greenhouse gas emissions from the transport sector.*

Regional Planning Policy

The *Regional Planning Guidelines for the Greater Dublin Area 2010-2022* provide a robust sustainable planning framework for the Greater Dublin Area Region within the context of the National Spatial Strategy for Ireland 2002-2020. The objective of the Regional Planning Guidelines is to provide a long-term strategic planning framework for the development of the Greater Dublin Area for a period of 12 years.

Strategic Recommendation ER7 seeks to:

> *"Promote and support the role of Dublin Airport as the primary gateway to Ireland and the Greater Dublin Area and as an important employment hub and business location in the region through land use planning which facilitates future airport capacity needs and by improved transport linkages to the city and region."*

The Regional Planning Guidelines state that:

> "*In order to deliver the Greater Dublin Area as an attractive international destination for business it is imperative the city region and identified strategic economic growth centres continue to be a focal point for regional population growth and employment in order to sustain and attract economic activity and build upon the significant investments made to date in these areas. In achieving this, the 'critical mass' concept should be a core objective, supported by density levels which support competitiveness, sustainability and create opportunities for economies of scale to justify first class and strategic infrastructure provisions and to take full advantage of international transport hubs such as Dublin Airport and Dublin Port."*

The *Transport Strategy for the Greater Dublin Area 2016-2035* provides a framework for the planning and delivery of transport infrastructure and services in the in the Greater Dublin Area (GDA) up to the period 2035. The proposals in the new strategy are similar to those set out in the previous draft Strategy (2011 Draft Transport Strategy).

The Strategy seeks to "*contribute to the economic, social and cultural progress of the Greater Dublin Area by providing for the efficient, effective and sustainable movement of people and goods*".

Section 3.3.7 of the Strategy identifies Dublin Airport and Dublin Port as international gateways of high economic importance at both a regional and national level and states that "*the safeguarding of landside access to the national gateways at Dublin Port and Dublin Airport should be considered as a priority strategic objective for all of the relevant agencies*".

It goes on to state that:

> *"In 2014, Dublin Airport handled just under 22 million passengers, the third highest figure on record, and is forecast to grow further over the coming years. Serving Dublin Airport with a high-capacity, reliable and frequent public transport service to Dublin City Centre and improved public transport network connectivity at a national level is, therefore, a priority for the transport strategy."*

The Strategy outlines that it is intended to develop the light rail network in the Greater Dublin Area through the implementation of a number of projects including the new Metro North – a light rail link from St. Stephen's Green to Swords and serving Dublin Airport. The new Metro North will

> "*provide a high-speed, high-capacity, high-frequency public transport link from the city centre to Dublin Airport and Swords*"

The Strategy states that it will be necessary to provide a higher level of public transport capacity than the existing provision, both in advance of the Metro North and also to serve areas south of the M50 prior to the implementation of Metro North. This capacity will take the form of a Bus Rapid Transit service (the exact arrangements to still be determined but will be designed to be complementary to the new Metro North proposal).

Local Planning Policy

Fingal Development Plan 2011 – 2017

The *Fingal Development Plan 2011-2017* sets out Fingal County Council's overall strategy for the proper planning and sustainable development of the County to 2017 and beyond. It seeks to develop and improve, in a sustainable manner, the social, economic, cultural and environmental assets of the County.

Section 2.10 of the Development Plan relates to Dublin Airport and states:

> *"Dublin Airport is of national and international importance and represents the most significant single economic entity in Fingal and the Region. The Airport is the principle gateway to Ireland and an important driver of economic development, generating employment both directly and indirectly. Fingal has a unique role in facilitating the sustainable development of the airport and its environs and safeguarding its potential as a national resource."*

Although located within Dublin Airport, the subject site is zoned 'HT', rather than the general Airport-related 'DA' objective. The Objective for 'HT' zoning is to:

> *"Provide for office, research and development and high technology/high technology manufacturing type employment in a high quality built and landscaped environment."*

The 'HT' zoning at the Airport is of a different nature to other 'HT' zoned lands in Fingal, due to its inclusion within a designated Masterplan Area. Local Objective 378 applies to this area and makes specific provision for aviation and air transport infrastructure uses:

> *"Consider within the context of the Masterplan, the nature and scale of appropriate HT uses and enterprise centre related to aviation and airport business, research and development associated with airports or aviation and Air Transport Infrastructure, having regard to the sites strategic location within the Dublin Airport Authority lands."*

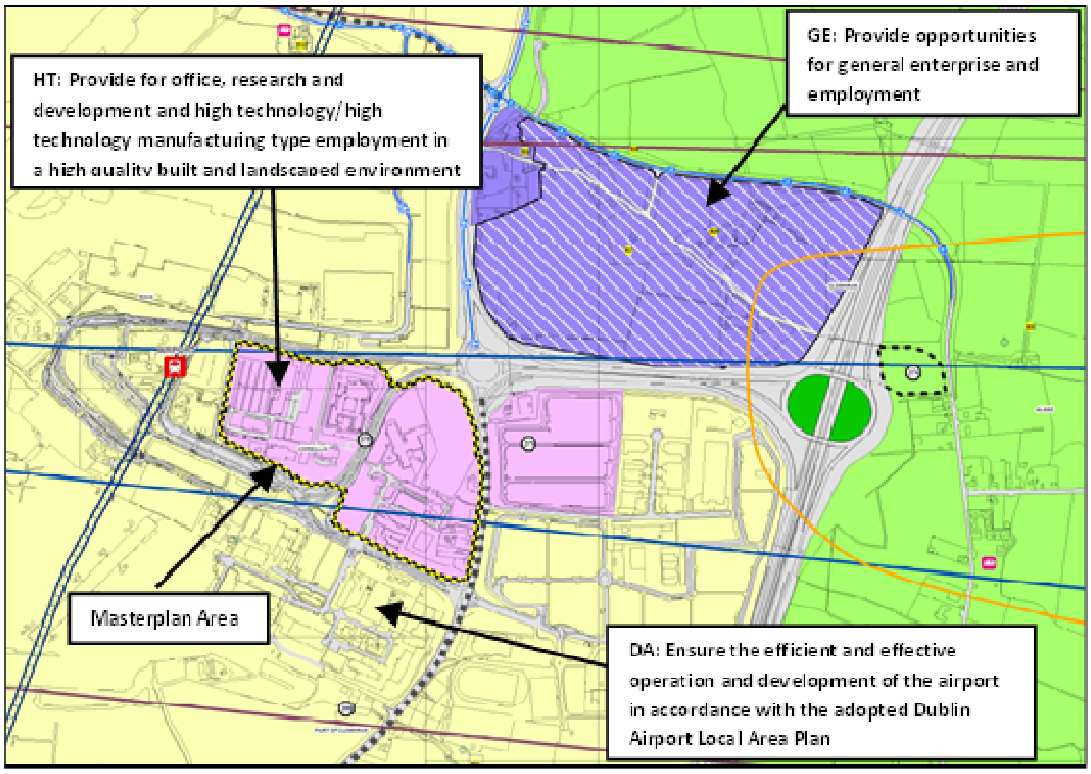

Figure 4.1: *Land Use Zoning Objectives (Source: Extract from Fingal Development Plan 2011 – 2017, annotated by Tom Phillips + Associates)*

This Objective is accompanied by the Vision for lands zoned as 'HT', which is to:

> *"Facilitate opportunities for high technology, high technology and advanced manufacturing, major office and research and development based employment within high quality, highly accessible, campus style settings. The HT zoning is aimed at providing a location for high end, high quality, value added businesses and corporate headquarters. An emphasis on exemplar on sustainable design and aesthetic quality will be promoted to enhance corporate image and identity".*

Additionally Objective EE30 seeks to;

> *"Encourage the development of corporate offices and knowledge based enterprise in the County on HT zoned lands and work with Government agencies, and other sectors to achieve such development".*

Draft Fingal Development Plan 2017-2023

The Draft Fingal Development Plan 2017-2023 was published on February 19th 2016 and is on public display until 29th April 2016, during which time submissions can be made on the Draft Plan by members of the public. From a review of the Draft Plan it is considered that the policies and objectives as they apply to Dublin Airport are generally similar to those of the current Plan. The Draft Plan includes Local Objective 57, relating to the subject lands which seeks to:

> *'Consider within the context of the Masterplan, the nature and scale of appropriate HT uses having regard to the sites strategic and unique location in proximity to an international airport within the Dublin Airport Authority lands.'*

Dublin Airport Local Area Plan 2006 – 2015

The subject lands are included within the wider area subject to the *Dublin Airport Local Area Plan 2006-2015*. The Local Area Plan was prepared during the life of the previous Fingal Development Plan 2005 – 2011. Prior to its intended expiration in 2012, the lifetime of the LAP was extended by three years up to 23rd June 2015. The Local Area Plan has now expired. We note that where there are conflicts between the Local Area Plan and the Fingal County Development Plan 2011-2017, the Development Plan takes precedence.

The Local Area Plan set out the planning policy applicable to the airport and whilst it is now expired, it identified the suitability of the subject lands for commercial development, including non-aviation related commercial development.

Dublin Airport Central Masterplan 2016

The *Dublin Airport Central Masterplan* provides the framework for the future development of lands strategically located adjacent to Dublin Airport. Fingal County Council adopted the Masterplan (non-statutory plan) in April 2016 as a framework for development of the area.

The development strategy for the Masterplan combines the requirements of the HT Zoning and Local Objective 378 of the FCDP 2011-2017. Section 4.2 of the plan states that:

> *"to comply with the requirements of Local Objective 378, in relation to determining the appropriate nature of HT and aviation related uses, and an appropriate scale of development in the Masterplan lands, analysis has been undertaken of economic growth and employment trends. Due to the requirement in Local Objective 378, for permissible HT uses to also be related to aviation and airport business, the focus of the analysis has identified and targeted towards corporate head quarter office based activities and services of international business which include professional, financial and insurance services; information and communication technologies; and administrative and support services".*

The delivery and implementation of the development framework for the lands is to be achieved in a gradual and logical manner, linked to key infrastructural requirements and services supports; including road network, public transport and water services improvements. The provision of office buildings are required to be in coherent clusters with car parking, ancillary uses and access to amenity opportunities.

The Masterplan highlights a number of classes of uses which are considered to be different between the Fingal County Development Plan HT zoning and the Masterplan interpretation. Office development of greater than 1,000 sqm and restaurant/café development for the local working population are considered to be permitted in principle as outlined in the Fingal Development Plan (Section 4.1.1.3 refers).

Phase 1 and 2 of Zone 1 of the Masterplan is organised into a number of development clusters and allows for the integration of existing buildings into the overall framework and phasing of development. The northern clusters are arranged around a central plaza which allows for an identifiable space. These phases typically comprise of up to 7 No. free standing buildings and are designed to have a high degree of flexibility with regard to the building typology, size and height.

The Masterplan outlines that:

> *"There is no specific time horizon for the lifetime of the Masterplan and the focus for all initial development is on Phases 1 and 2 of Zone 1".*

The Masterplan for Phase 1 and Phase 2 of Zone 1 outlines heights of 6 to 7 storeys. The proposed buildings forming part of this development provide for a range of heights from 6 to 7 storeys.

City Square is a central component of the Masterplan strategy, envisaged as a location for multi-modal movement between the ground transportation centre to the west and new development in Zone 1 and Terminal 2. The proposed development includes for the provision of such a square.

Please see Chapter 4 of the Environmental Impact Statement for further details.

5 Human Beings

This section examines the potential impacts of the proposed development on human beings and focuses on key demographic characteristics, such as population, age profiles and other relevant socio-economic indicators relating to residents within the defined study area.

Due to the location of the application site within daa's extensive landholding, the nearest dwellings are situated approximately 600m from the site. It is also of note that all of the roads within the Airport are private roads in the ownership of daa.

The application site is located within the Airport Electoral Division (Central Statistics Office Area Code ED 04001), while the overall Dublin Airport complex is split between the Airport Electoral Division, Dubber Electoral Division to the west and Balgriffin Electoral Division to the east. The Airport Electoral Division had a population of 4,032 as of the 2011 Census[8] making the Airport Electoral Division one of the fastest growing in the State (an increase of 150% on the 2006 population). Fingal is also recognised as the fasting growing County within the Greater Dublin Area with growth of 14.2%.

The Airport Electoral Division has a very distinctive population profile, highly skewed towards young adults in 2011 and with a very low level of dependents relative to the overall State, and with a very highly educated population. Non-Irish nationals accounted for 44.6% of the population of the Airport Electoral Division, compared with a national figure of 13.20%.

In terms of persons at work or unemployed by occupation, the Airport Electoral Division has a higher percentage of professional, associate professional and technical, and sales and customer services occupations, and a significantly lower percentage occupied in skilled trades and plant/machinery operatives. This is consistent with the high level of educational attainment recorded in the area. The Airport Electoral Division is also designated as an 'Affluent' area within the County, in contrast to Electoral Divisions to the south of the division.

The Central Statistics Office's Quarterly National Household Survey identified that by the end of 2015 the number of persons in employment in Ireland was 1,983,000, representing an annual increase in employment of 2.3%.

The seasonally adjusted unemployment rate decreased from 9.2% to 9.1% over the quarter, while the number of persons unemployed fell by 26,100 in the year to Q4 of 2015, bringing the total number of persons unemployed to 187,500. Unemployment has continued to decline in 2015, and the unemployment rate at the end of the year was 8.7%.

The Quarterly Economic Commentary, Winter 2015, (QEC) prepared by the Economic and Social Research Institute (ESRI), summarises the state of the Irish economy in 2015, and looks forward to 2016. The ESRI believe that the Irish Economy will grow strongly in 2016, with Gross National Product (GNP) set to increase by c. 5.3% and Gross Domestic Product (GDP) set to increase by 4.8%.

The Dublin Economic Monitor, Autumn 2015 outlines that unemployment rates in Dublin have fallen to 8.1%.

Air transport links form a fundamental element underpinning Ireland's tourism sector. Expenditure by tourists visiting Ireland was estimated to be worth €4.5 billion in 2013, representing an increase of 12% on 2012.

Dublin Airport is the busiest International Airport in Ireland, with 21.7 million passengers in 2014. There has been continued growth in passenger numbers since 2010. Dublin Airport had its busiest year ever in 2015, as 25 million passengers travelled through the airport, with passenger numbers increasing by 15% on 2014 figures (an additional 3.3 million people). This growth in numbers is expected to continue into 2016.

[8] It should be noted that the majority of housing located in the Airport ED is to the south of the M50 with the immediate population figures in the vicinity of the airport likely taken up by persons staying in hotels on the night of the census.

A report entitled '*Demographic and Socio-Economic Profile: Statistical Baseline*' was prepared for Fingal County Council by Exodea Consulting, in order to inform the preparation of the Fingal Local Economic and Community Plan. The report sets out a baseline assessment of Fingal and notes that Dublin Airport is a key employment location for Fingal with more than 12,000 employees across some 200 companies. It notes that the largest employers in Fingal are Aer Lingus and Dublin Airport, respectively. In addition it notes that daa is the largest commercial ratepayer in the County. The Dublin Airport Economic Impact Study, prepared by InterVISTAS Consulting Ltd. indicates that Dublin Airport directly supports 15,700 jobs, which is equivalent to 4% of the Gross Value Added of the Irish Economy.

Due to the location of the application site within the daa landholding, and the nature of surrounding land uses, it is not considered there will be an impact on residential amenities in the vicinity of the site. There may be an impact on private or commercial properties in the immediate surrounding area however we note that daa has substantial experience in the construction of large scale projects at this location (i.e. Terminal 2 and Terminal 2 Multi Storey Car Park) and that there have been no significant issues in the past during construction of these projects.

Local businesses are likely to benefit in the short term from increased patronage in the area due to an inflow of workers during construction. During the construction phase, additional employment will be created in the site preparatory works, demolition of existing structures, excavation of soils, and in the construction of proposed structures, plant and machinery, and site infrastructure.

It is estimated that ca. 1,635 jobs (job years) could be created during the course of the construction of the proposed development with peak number of construction employees being on site of 400 persons. Operational employment provision for the proposed development is estimated to be ca. 2,838 direct jobs, with an additional ca. 2,325 indirect and induced jobs[9], which is expected to have a long term positive impact on the local and national population, both directly though sustaining and increasing employment provision and indirectly as a result of spin-off benefits associated with this increase in employment provision.

If the proposed development does not proceed, the lands in question will remain as surface car parking and accommodate low density development to the south. The identified development of the application site to provide for office development in the Dublin Airport Central Masterplan will not be satisfied in the short to long term if the site is not developed.

As regards potential cumulative impacts, being cognisant of permitted and proposed developments in the vicinity of the site, during construction (dependent upon timing of projects) there should be an increase in economic activity in the area due to the additional employment created during this period and a subsequent positive impact on local businesses. The permitted/proposed development (particularly with regard to the Radisson Hotel permission and the former Aer Lingus Head Office Building redevelopment which is ongoing) will result in a cumulative positive economic and employment impact in the local area through the creation of new jobs.

The social-economic impacts of the proposed development will be positive, given the improvement in facilities that will be provided as part of the development of these lands through the provision of commercial floorspace and employment generation. The residual impact of the operational phase is therefore considered to be long-term and positive at a local, regional and national level. The redevelopment of this site would have the capacity to be a catalyst for economic activity in the surrounding area and particularly on lands to the east of the subject lands given the current demand for office floorspace in the County.

Please see Chapter 5 of the Environmental Impact Statement for further details.

6 Landscape and Visual Impact

This section outlines the landscape and visual impact of the proposed development on the visual and landscape amenity of the subject site itself and the contiguous area. It describes the landscape character of the subject site and its hinterland, together with the visibility of the site from

[9] Employment Density derived from Driver Jonas Deloitte - Employment Densities Guide, 2nd Edition 2010

significant viewpoints in the locality, and across its environs. An analysis of, the methodology utilised to assess the impacts, the receiving environment and the potential impacts of the development are described. Mitigation measures introduced to ameliorate or offset impacts are also considered.

The assessment uses the standard evaluation methodology used in the preparation of Landscape and Visual Impact Assessments for Environmental Impact Statements and primarily refers to the Guidelines on the Information to be contained in Environmental Impact Statements prepared by the Environmental Protection Agency (EPA) 2002 and the EPA's Advice Notes (2003).

The Landscape and Visual Impact Assessment methodology involved the preparation of 12 photomontages from viewpoints selected for being the most representative and potentially the most sensitive. Near and distant views were assessed and where appropriate to ensure a robust assessment of the proposal. In all cases the photomontages were assessed on the basis of the standard Environmental Protection Agency significance criteria in terms of magnitude; from Imperceptible to Profound, and in terms of quality; positive, neutral or negative. In all cases the impacts were considered to be permanent.

Dublin Airport is located to the north of Dublin City. The Airport dominates and determines the character of the landscape of its surrounds extending from the M50 in the south to Swords in the north and from the N2 Ashbourne Road in the west to the M1 Motorway and beyond in the east. By necessity it is a visually open landscape with minimal tall vegetation present, set within a wider more enclosed low-lying primarily agricultural landscape.

The surrounding landscape includes a wider variety of land uses including occasionally clustered but also widely dispersed residential development; amenities, including golf courses and sports grounds; and business and industrial uses.

Potential visual impacts during the construction phase are related to temporary works, site activity, and vehicular movement within and around the boundaries of the subject site. Vehicular movement will increase in the immediate area, and temporary vertical elements such as tower cranes, scaffolding, hoarding, etc., will be put in place.

The site compound with its array of buildings, tower cranes, scaffolding and temporary works will be visible during the construction phase, but this is generally viewed as a temporary and unavoidable feature of construction. Carefully considered temporary hoardings will be used on all perimeters to minimize visual impact at the lower levels during the construction phase.

The mitigation measures proposed revolve around the implementation of appropriate site management procedures – such as the control of lighting, storage of materials, placement of compounds, control of vehicular access, and effective dust and dirt control measures, etc.

In effect, the development represents an expansion and intensification of a major airport facility which can be considered as consistent with the existing and emerging trends of such a facility.

A total of 12 No. photomontages have been prepared which clearly illustrate the visual impact on the surrounding landscape. The viewpoints were selected in consultation with Fingal County Council Planning Department and during the pre-planning process.

Importantly, the photomontages prepared for this assessment consider the existing landscape, the permitted hotel and the proposed development. In that regard the following photomontages are included for each view:

- Existing
- Proposed (without unbuilt permitted hotel)
- Proposed (with unbuilt permitted hotel)

The overall visual impact of the redevelopment will be slight and positive or moderate and positive from most adjacent or near viewpoints, i.e. from within the Airport, specifically on approach or nearing Terminal 2. From greater distances, the visual impacts are generally slight and positive.

From some of the viewpoints considered, the proposed redevelopment will be imperceptible or not visible at all.

The proposed scheme is designed to integrate well within its existing architectural context. This will be accomplished through:

- Positioning and modelling of the higher elements, in order to assist in the visual reduction of the apparent building mass.
- Appropriate fenestration respectful of the existing architecture.
- Use of appropriate colour and materials.
- Appropriate architectural detailing to assist in the respectful integration of the external building facades with adjacent existing buildings.
- Provision of significant additional pedestrian spaces at ground level, establishing a fully considered relationship between the proposed buildings, the existing buildings and the open spaces
- Provision of planted courtyard spaces integrated providing a visual 'softening' and relief at a variety of levels within the buildings.

Periodic monitoring of the development will be necessary in relation to the effects of the proposed development on the surrounding landscape and the continued functioning and accessibility of public areas.

A detailed plan for improvements to the streetscape within the proposed development will be implemented. High quality paving, street furniture, etc. will be undertaken to provide a visually coherent public realm, and this treatment will be carried inside through the public routes at ground floor level, in order to reinforce its perception as an integral part of the public realm.

On-going maintenance of the building will be the responsibility of the owner, including the proper functioning of all the public elements within the site.

7 Transportation

A detailed transportation assessment has been carried out for the first phase of development within Dublin Airport Central. The proposed development at Dublin Airport Central provides for the construction of 41,677m^2 Gross Floor Area of office development within the Dublin Airport Campus. The location of the proposed development can be seen in the Figure 1.2.

The proposed development includes the provision of 742 spaces primarily provided for within a multi-storey car park with some surface parking spaces. The proposed development will be accessed via the existing internal road network within the Airport Campus.

A Workplace Travel Plan has been prepared for Dublin Airport Central which will be implemented in conjunction with the Airport Campus Mobility Management Plan. The proposed development has taken into account the objectives of the Workplace Travel Plan to encourage access to the proposed development by sustainable travel modes.

Transport Policy

National and local transport policy, including the Department of Transport, Tourism and Sport's '*Smarter Travel*', the current *Fingal County Council Development Plan* and the *Transport Strategy for the Greater Dublin Area* all seek to encourage a modal shift from private car usage to more sustainable modes (public transport, walking and cycling).

The Regional Planning Guidelines note the importance of Dublin Airport's role in the region's transportation network but also as a driver of economic development in the region. The Regional Planning Guidelines recognise the need for further infrastructural investment in the provision of public transport connections between Dublin City Centre and the Airport.

The stated policy in the Regional Planning Guidelines for Dublin Airport seeks to:

Promote and support the role of Dublin Airport as the primary gateway to Ireland and the Greater Dublin Area and as an important employment hub and business location in the region through land use planning which facilities future airport capacity needs and by improved transport linkages to the city and region.

Fingal County Council, in consultation with daa, has prepared the Dublin Airport Central Masterplan which was published in April 2016. The Masterplan sets out the framework for the future development of lands within the Airport Campus.

The proposed development has been prepared in line with the Fingal County Council Dublin Airport Central Masterplan including the level of car parking to be provided for different levels of development within Zone 1 of the Masterplan. The car parking rates outlined in the Masterplan are significantly more restrictive than the rates included in the Fingal County Development Plan and are designed to encourage travel to the site by more sustainable travel modes.

Receiving Environment

The Greater Dublin Area is served by a network of motorways radiating out from Dublin serving the regional towns and cities. The national motorway network converges on the M50 which acts as an orbital route around Dublin City. Dublin Airport is accessed from the M50 via the M1 Motorway

The regional road network in the Greater Dublin Area is dominated by the M50. The M50 provides a high capacity bypass of the city centre to the west of the city centre. The M50 has been upgraded over the last ten years to include road widening to three lanes in both directions and the provision of free-flow interchanges at all intersections with the national road network.

Dublin Airport is primarily accessed via two junctions off the R132 Swords Road. The primary access is via the Airport Roundabout, which is a partial-signalised roundabout. This junction provides direct access to the M1 Motorway via the M1 Link Road. The second access is via a signalised junction on the R132 south of the Airport Roundabout. This junction has recently been upgraded as part of the improvement works along the R132 (Swords Road). A third access from the north exists via the junction of Castlemoate Road and Naul Road.

Generally, traffic conditions in and around the Airport work well with little congestion noted during peak periods, however on the wider regional road network the M50 motorway can experience congestion during peak periods.

Dublin Airport is well served by public transport with buses and coaches connecting the Airport with destinations all over Ireland including Northern Ireland. Within the Dublin Region, Dublin Bus and Aircoach provides numerous daily services connecting the City Centre and its suburbs with the Airport. Figure 7.1 shows the primary local and city services which directly serve Dublin Airport.

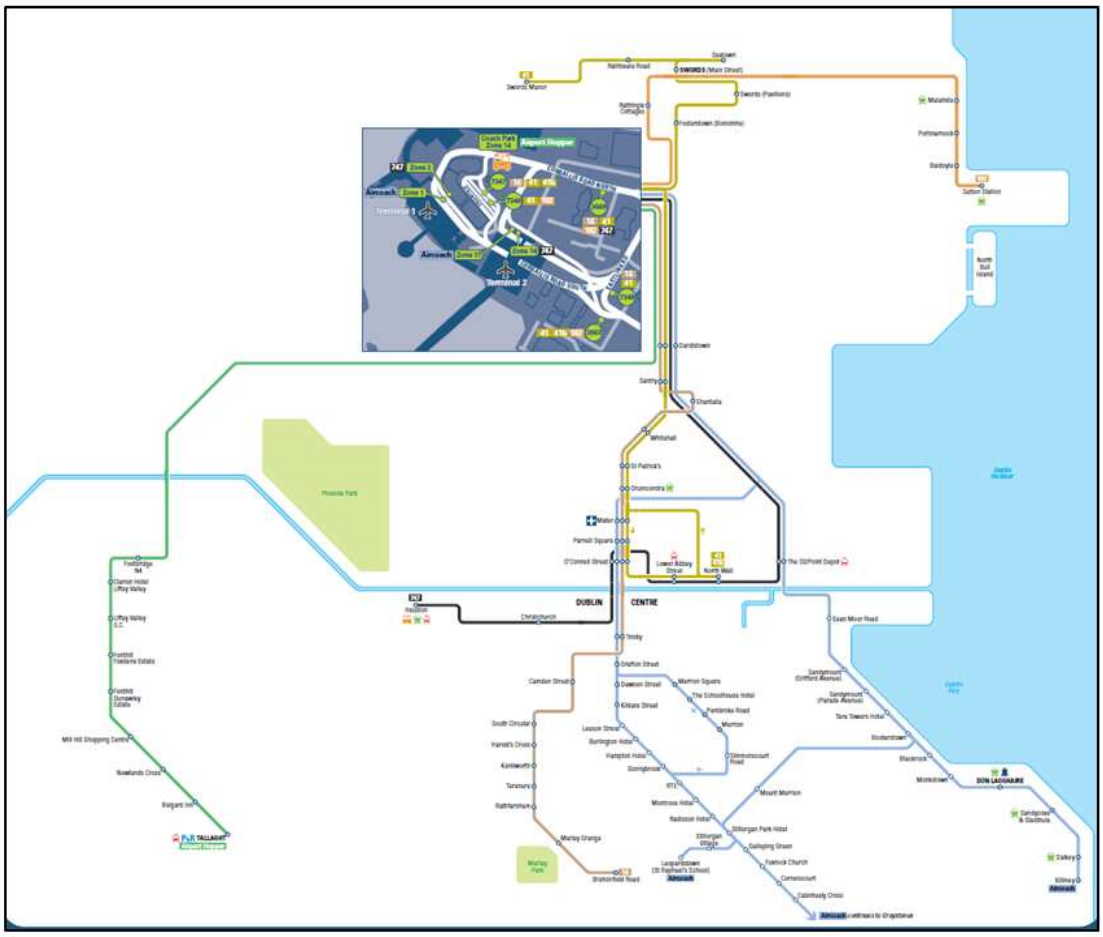

Figure 7.1: *Primary Local and City Services which Directly Serve Dublin Airport*

Proposed Development

The proposed development includes in total 41,677m^2 of office development (Gross Floor Area) and 742 car park spaces. The proposed development is located to the east of the existing Terminal 2 car park and it is bounded by North Corballis Road to the north and the existing Terminal 2 forecourt to the south.

The development proposals include good pedestrian access to the public transport nodes including the Ground Transport Centre and the bus stop located on North Corballis Road. In addition the development proposals include a pedestrian focused square within the centre of the scheme and a high level pedestrian link to Terminal 2.

The proposed development will be accessed via the existing network of roadways serving the Airport and no changes to the current traffic management system within the Airport are proposed.

The proposed development includes 742 parking spaces which is line with the requirements as presented in the Fingal County Council Dublin Airport Central Masterplan.

The proposed development includes the provision of 258 parking spaces which is equivalent to over 1 in 10 staff been provided with a cycle parking stand. In addition to dedicated cycle parking for staff each building includes the provision of showers and lockers for cyclists (and walkers) to assist encourage access to the proposed development by alternative modes.

Transport Appraisal

A detailed transport appraisal was undertaken to understand the potential impact the proposed development will have on the surrounding road network. The National Transport Authority's

SATURN traffic model was used to understand the wider implications of the development proposal, while VISSIM, a microsimulation modelling application was used to assess the local traffic impacts.

The volume of traffic generated by the proposed development has been based on the proposed level of parking provided at the proposed development. Table 7.1 presents the peak hour traffic generated by the proposed development based on the provision of 742 parking spaces.

Table 7.1: *Peak Hour Projected Traffic Flows*

Time Period	IN	OUT	Total
08:00 – 09:00	371 vehicles per hour (vph)	58 vph	429 vph
17:00 – 18:00	45 vph	324 vph	369 vph

The transport assessment was carried out for three different years (2018, 2023, and 2033) and has included for the projected growth in traffic associated with the continued increase in passenger traffic accessing the airport and the growth in traffic on the surrounding road network as derived from the National Transport Authority's traffic model.

In summary, the proposed development will increase traffic in the region of 2% to 3% along the M50 Motorway during peak periods; however it is recognised that queuing on parts of the M50 Motorway outside of the study area can impact traffic conditions on the M50 between the M1 and M2 Interchanges. The M50 Motorway in the vicinity of the study area is expected to be close to capacity under the Year 2018 assessment both with and without the proposed development. The Year 2033 assessment indicates that the M50 Motorway will be at capacity both with and without the proposed development.

The M1 Motorway south of the Airport Interchange is expected to experience traffic increases of less than 5% during the peak periods. The M1 Motorway south of the Airport Interchange is expected to be within capacity under both the Year 2018 and Year 2023 assessments. The Year 2033 assessment indicates that the M1 Motorway south of the Airport is expected to be over capacity both with and without the proposed development.

The M1 Motorway north of the Airport Interchange is expected to experience traffic increases in the region of 1%-2% during peak periods. The M1 Motorway north of the Airport Interchange is expected to operate at or above capacity under both the 'with development' and the 'without development' scenario for all assessment years assessed.

The M1 Link Road is expected to experience traffic increases in the region of 10%-11% westbound during the morning peak period, however the M1 Link Road is expected to be within capacity under each of the scenarios assessed. Finally, the R123 Swords Road is expected to experience increases in the region of 5% during the morning peak period and up to 12% during the evening peak period. The assessment of the link capacities along the R132 indicates that they have sufficient capacity to accommodate the projected increase in traffic.

The following neighbouring junctions were assessed using VISSIM;

- R132 Swords Road/ Clonshaugh Road (Cloghran Roundabout);
- R132 Swords Road/ Corballis Road North (Airport Roundabout);
- R132 Swords Road/ Airport Business Park;
- R132 Swords Road/ Corballis Road South
- R132 Swords Road/ Old Airport Road;
- Corballis Road South/ East Link Road;
- Corballis Road North/ Development Exit; and
- M1 Interchange.

It was noted from the junction analysis that the Airport Roundabout was approaching capacity and the introduction of traffic signals on the northern approach to the roundabout from the R132 improved traffic conditions along this approach.

The results of the junction assessment on the remaining junctions showed that they had sufficient capacity to accommodate the projected increase in traffic and that the recent road widening works along the R132 had increased traffic capacity significantly along the R132.

The expected level of traffic generated during the construction phase of the project is less than that projected during the operational stage of the project as construction staff will not be provided with access to car parking within the Airport Campus and therefore the potential impact during this phase of the project will be less than that presented as part of the operational phase of the project.

Workplace Travel Plan

The introduction of Workplace Travel Plans for each of the organisations within Dublin Airport Central forms a key objective of proposed development. The Workplace Travel Plans will be integrated with the overall Mobility Management Plan for the Airport Campus and a management structure has been developed to ensure that the organisations within Dublin Airport Central work with Dublin Airport on the delivery of the objectives of the Mobility Management Plan for the campus as a whole.

The Dublin Airport Central Workplace Travel Plans include the following key incentives:

- ***Cycling***
  - Provision of safe and secure bicycle parking spaces in the vicinity of each building;
  - High quality changing rooms and showering facilities;
  - Provision of clean and fresh towels in the changing areas on a daily basis for staff to use after showers;
  - Subsidised/Discounted dry cleaning services with collection and return offered from the building;
  - Promotion of the ‘Cycle to Work’ scheme through brochures, posters and information sessions;
  - Establishment and facilitation of cycle to work groups. Through the Airport Campus Mobility Management Plan, daa will arrange and co-ordinate an annual charity cycle;
  - Organise raffles, spot prizes and bi-annual bicycle serving on site in order to encourage and increase use;
  - Promotional breakfast campaigns, made up of cereal, juices, fruit and tea/coffee for those members of staff walk, cycle or run to work; and
  - Develop a Wayfinding Strategy within DAC directing staff to key destination points including bus stops, bike shelters, shower facilities and the terminal buildings.
- ***Public Transport Initiatives***
  - Provision of ‘Tax-Saver’ public transport tickets to staff. These will be made available in monthly and annual options and can be administered by daa;
  - Provision of public transport allowance for business use through centrally managed Leap cards or similar system;
  - Provide a new starters travel pack with maps of bus routes, stops, timetables and benefits/discounts;
  - Provide real time bus arrival and departure information screens in the foyer of each office to assist staff with planning their journey to and from work;

- Provide an on-line forum to facilitate communication between end users and the daa Mobility Manager to ensure campus wide issues associated with the public transport services are known and can be addressed by service providers;
- The daa Mobility Manager will actively engage with the National Transport Authority and bus operators to explore the potential for the improvement of existing services and the introduction of new bus services to complement the existing public transport services on offer at the Airport. New bus services serving local catchments and key transport nodes (i.e. Swords, Santry, Malahide, Northern Dart Line, etc.) direct to Dublin Airport will be reviewed; and
- daa will actively engage in the Government's Greater Dublin Area Transport Strategy to promote the improved connectivity between the Airport and Dublin City Centre prior to the delivery of Metro North.

– ***Car Park Management***

- The proposed development includes a limited number of staff parking spaces as prescribed in the Fingal County Council Dublin Airport Central Masterplan. The primary objective of limiting the number of parking spaces is to control the volume of traffic generated by the proposed development;
- daa will retain control of the car parks as part of Dublin Airport Central and tenants will be allocated permits through the daa's car park management system and only a limited number will be available for purchase;
- All staff wishing to use the car park must register their car on an annual basis in order to gain access to the car park and those with reduced public transport options will have preference; and
- A percentage of the car parking permit cost will be reinvested into the Workplace Travel Plan in order to assist fund the Workplace Travel Plan initiatives.

– ***Car Sharing***

- A car sharing scheme to include all organisations within Dublin Airport Central will be provided for using the NTA car sharing platform www.carsharing.ie and/ or a specific car sharing platform for Dublin Airport. The car sharing scheme will be launched and heavily promoted in the initial days of building occupation, offering financial incentives (e.g. toll payments; fuel allowances) as well as other benefits of use including priority spaces for car poolers. This will help shape peoples mode choice and form a car sharing culture; and
- Each organisation will set aside 5% of their total parking stock for car sharers only.

– ***Car Pooling***

- The daa Mobility Manager will actively engage with the car rental companies based at Dublin Airport to investigate the possibility of using stocked cars for carpooling during the working day for tenants of DAC; and
- The existing Go Car carpooling model, successfully in operation in many high profile city centre locations will also be explored in the DAC development to facilitate business trips.

– ***Promotion and Marketing***

- The building tenants will individually become members of the National Transport Authority's Smarter Travel Workplaces programme and take part in the various programmes and events which they run to promote sustainable modes of travel to work. These include the cycle challenge, the pedometer challenge etc.
- To encourage new staff to use sustainable modes, a *Dublin Airport Staff Travel Guide* will be put together which will include all public transport information, walking routes, accessibility maps, details of the taxsaver commuter ticket scheme and the cycle to work scheme, location of staff cycle stands etc.

- To encourage visitors to use sustainable modes, a travel section on the Dublin Airport website will be setup. This will outline the public transport facilities in the vicinity of the office, walking and cycling routes, location of visitor cycle stands etc.
- Six months after any building is fully occupied, a staff travel survey will be carried out. This will allow baseline staff travel patterns to be established, targets to be set and be a forum for staff to comment on any issues relating to their commute. Following this, a travel survey will be carried out every year. This will allow for changes in travel patterns to be monitored and any issues to be addressed on a regular basis.

– ***Monitoring and Review***

  A set of travel surveys and traffic counts will be carried with the agreement of the Steering Group (Fingal County Council, National Transport Authority, Transport infrastructure Ireland) to monitor the success of the Workplace Travel programme and guide the introduction of future incentives to achieve the targets for the campus as a whole.

8 Soils, Geology, and Hydrogeology

This section assesses the impacts to the soils, geology and groundwater for the proposed development. The existing site conditions within the area of the proposed development have been interpreted from a desktop study of information available online from Geographical Survey of Ireland (www.gsi.ie), a Geographical Survey of Ireland Site Investigation Report No. 5884: Aer Lingus Office Refurbishment Works, Dublin Airport, Co. Dublin, 2014, and Environmental Impact Statement, Volume 2 by Arup Consulting Engineers for the Terminal 2 multi-storey car park and hotel, 2008 (Planning Ref. PL06F.0008). A site specific geotechnical investigation was also carried out by IGSL.

According to these sources:

– During the site specific geotechnical survey, rotary core drilling found that under the location for the proposed multi-storey car park to the north of the site, the site underlain by approximately 10-11m of grey/brown sandy gravelly clay. Further south on the site under the proposed locations for the office buildings, the site is underlain by grey/brown sandy gravelly clay ranging in depth between approximately 7.6m and 9.5m.

– During the site specific geotechnical survey, rotary core drilling found that underlying the sandy gravelly clay discussed above, is medium strong, medium to thinly bedded, very dark grey/black, fine-grained, limestone (predominantly calcareous mudstone with very occasional calci-siltite lenses). The rock appears good and moderately strong. Core hole drilling 3m into rock indicates that there are no caves or large air voids in the rock.

– The western portion of Zone 1, the majority of the proposed development site, is underlain by an aquifer which is classified as locally important - bedrock which is moderately productive in local zones only. The south eastern corner of the proposed development site is underlain by an aquifer classified as poor- bedrock which is generally unproductive except for local zones.

– The groundwater vulnerability under Zone 1 varies from High in the eastern portion to Extreme in the western portion of the proposed site.

– As part of the site specific geotechnical investigation, environmental testing was carried out on a selection of samples from trial pits and window samples as part of the site investigation that was carried out. This testing was carried out to investigate for the presence of contaminated material, particularly within the made ground deposits on that portion of land. Samples were analysed for Mineral Oil, BTEX group, polycyclic aromatic hydrocarbons (PAH's) and polychlorinated biphenyls (PCB's). The level of total organic carbon (TOC) was also measured in each sample. The results of the environmental testing were compared with Dutch Target and Intervention Values from the *Ministry of Housing, Spatial Planning and Environment, Directorate-General for Environmental Protection, 2000*. This testing revealed no concentrations that exceeded the Action Level in accordance with the Dutch standards. The geotechnical investigation carried out did highlight pyrite levels of aggregates exceeding 0.5%

at a depth of 2-3.4m bgl in one window sample to the northwest of the proposed site. Based on such findings, excavated material from this location will not be reused for engineering works.

There will be no direct discharges to soil or groundwater during either the construction or operational phases of the development. In addition, given the nature of the proposed development, there will be minimal quantities of hazardous chemicals stored on site, with only small quantities of diesel required for standby generators. All storage tanks will be double-skinned.

Section 8.5 of the Environmental Impact Statement outlines a number of mitigation measures which will be carried out in order to ensure that there will be no potential impacts to the soils, geology and hydrogeology environment during the construction and operational phases of the proposed development. With the adoption of these mitigation measures it is not envisaged that there will be any significant impacts arising for soils, geology and hydrogeology from the project.

The proposed development when considered cumulatively with the other live applications in the area is not considered to have a significant impact in relation to the soils, geology, and hydrogeology in the area during both the construction and operational phases.

Please see Chapter 8 of the Environmental Impact Statement for further details.

9 Flora and Fauna

The assessment considered the potential direct, indirect and cumulative ecological impacts on terrestrial ecology within the ecological study area (zone of influence) of the proposed development. The assessment was undertaken in line with a number of guidance documents including the CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom[10].

The footprint of the proposed development consisted of the following habitat types, which follow Fossitt 2000 (Guide to Habitats in Ireland):

- Amenity Grassland (GA1);
- Dry Meadows and Grassy Verges (GS2);
- (Mixed) Broadleaved Woodland (WD1);
- Mixed Broadleaved/Conifer Woodland (WD2);
- Scattered Trees and Parkland (WD5);
- Mosaic of WD5 and GS2;
- Scrub (WS1);
- Buildings and Artificial Surfaces (BL3);
- Spoil and Bare Ground (ED2); and,
- Recolonising Bare Ground (ED3).

A number of specialist surveys were carried out to establish the baseline ecology of the site including:

- Habitat Surveys;
- Mammal Surveys;
- Bat surveys; and
- Bird surveys.

There are 17 European designated sites located within 15km of the proposed development. The nearest European designated sites are Malahide SAC (000205) and Malahide SPA (004025), which are both located ca. 3km north-east of the proposed development site. The proposed

[10] IEEM (2006) Guidelines for Ecological Impact Assessment.

development site is indirectly to European sites located in Dublin Bay and in the Irish Sea north of Dublin Bay via Kealy's Stream and sewerage networks which will service the proposed development site and will discharge to Dublin Bay via Ringsend Wastewater Treatment Works. The Appropriate Assessment Screening Report included with this planning application has addressed the potential for significant effects on European Sites within 15km of the proposed development site, and concluded that none are likely to arise as a result of the proposed development, either alone or in combination with other plans or projects.

There were no records of rare or protected species within the site or environs, and there were no invasive species recorded on the site.

Key sources of potential significant impact arising from the proposed development have been identified as a result of surface water run-off during construction, temporary noise, vibration and physical disturbance and habitat loss during construction. Before implementation of mitigation, the proposed redevelopment could result in a range of significant impacts, which include impacts to Irish Hares and loss of refuges and impacts to breeding birds via noise, physical disturbance or direct habitat loss of breeding areas.

Mitigation measures for construction phase impacts include timing of works and pre-works checks for breeding birds. Following implementation of mitigation the proposed redevelopment will result in no significant residual impact. No potential significant impacts were identified during the operation phase.

The proposed development when considered cumulatively with the other live applications in the area is not considered to have a significant impact in relation to the ecology the area during both the construction and operational phases.

Please see Chapter 9 of the Environmental Impact Statement for further details.

10 Noise and Vibration

This section assesses the noise and vibrational impacts of the proposed development. A baseline noise measurement study was carried out by PM Group on the 27th and 28th May 2015. This was carried out in accordance with the Environmental Protection Agency's NG4 Guidance Note[11] and was carried out at 4 no. locations in the vicinity of the proposed development site which were made up of a combination of boundary locations and noise sensitive locations.

According to the NG4 Guidance Note, the existing environment is not classified as a 'Quiet Area' or an 'Area of Low Background Noise', as the average daytime L_{A90} is not less than or equal to 40dBA; the average evening time L_{A90} is not less than 35dBA and the average night-time L_{A90} is not less than or equal to 30dBA. The dominant noise sources at the monitored locations were road traffic and a relatively faint constant hum from the airside of the airport. Intermittent air traffic was also considered loud when it was audible.

The primary sources of noise during construction will be temporary and include:

- Ground preparation phase – excavators, dump trucks and dozers for ground excavation, spreading, fill and levelling.
- Structural phase – installation of pile foundations and erection of new buildings involving the use of equipment such as compressors, generators, pneumatic tools, hand-held power tools and mobile/fixed cranes.
- Vehicular movements to and from the site which will make use of existing roads.

There are four primary sources of noise in the operational context as follows:

- Building service noise;
- Car parking on site;

[11] Environmental Protection Agency, Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4), 2016

- Delivery activity; and
- Additional vehicular traffic on public roads.

Mitigation measures will be in place for the construction phase of the development and reference will be made to *BS 5228-1:2009+A1:2014: Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise*, which offers detailed guidance on the control of noise and vibration from demolition and construction activities. Proposed measures of mitigation are outlined in Section 10.5 of the Environmental Impact Statement.

During the operational phase of the development the only source of noise that will require mitigation measures is the building service noise. Details of the proposed mitigation measures for this can be found in Section 10.5 of the Environmental Impact Statement.

The proposed development when considered cumulatively with the other live planning applications in the area is not considered to have a significant impact in relation to the existing noise environment of the area during both the construction and operational phases.

Please see Chapter 10 of the Environmental Impact Statement for further details.

11 Surface Water and Drainage

This section of the Environmental Impact Statement assesses the impacts to the surface water environment associated with the construction and operational phases of the proposed development, and includes mitigation measures to reduce such impacts, where necessary. A number of sources of information were used in the compilation of this assessment such as Environmental Protection Agency surface water monitoring data, daa on-site surface water monitoring data and the Environmental Impact Statement Volume 2 prepared by Arup for the Terminal 2 multi-storey car park planning application.

Regional water quality was assessed based on the two rivers closest to the airport that are currently monitored by the Environmental Protection Agency – the Mayne River and the Santry River. Since 1988, monitoring of the Mayne River has consistently concluded that it is moderately polluted. The quality of water in the Santry River has been improving since 1988, but was still moderately polluted in the latest round of sampling in 2013. The results of the EPA monitoring reflect the water quality of the watercourses at the sampling location. These results are influenced by a wide range of commercial, agricultural and domestic activities upstream of the location.

The proposed development is located within the Kealy's Stream sub-catchment. The assessment of the existing on-site water quality utilises the 2014 monthly monitoring of this stream, as provided by the daa. It is noted that Kealy's Stream is not monitored by the Environmental Protection Agency. Overall Kealy's Stream may be considered to be a "slightly to moderately" polluted stream.

The construction phase of the development can have an adverse effect on existing surface water quality in the event of discharge of site waste or spillage of fuels and hazardous chemicals. The turbidity of the existing surface water could also be affected by high concentrations of suspended solids from vehicle wheel wash water, spoil heaps or cement washdown areas. Inappropriate handling of hazardous material could also lead to contamination of waterbodies.

Surface water runoff generated on building roofs and hardstading areas, such as courtyard areas between buildings and footpaths around buildings, will flow by gravity from sloped surfaces and collected via gutters, roof drains, road gullies and channels. The flow will then be conveyed by gravity to a new underground surface water pipe system. This system will then connect to the existing daa underground surface water system within the area before ultimately discharging to Kealy's Stream via an attenuation tank under Eastland's car park.

Potential impacts of the proposed development during the operational phase include uncontained spillage of domestic wastewater, fuels and also floodwater and stormwater run-off from roofs and paved areas.

Mitigation measures to reduce the impact on surface water during the construction phase include:

- Measures to ensure ponding of water containing high concentrations of silt or suspended solids is not released to natural surface water bodies.
- Measures to prevent the contamination of contamination of surface waters leaving the site due to construction run-off by implementing appropriate chemical and fuel storage protocols.

During the operational phase of the development, proposed mitigation measures will be implemented including the following:

- Surface water from paved areas will pass through a bypass separator and the drainage system will operate at a minimum self-cleansing velocity.
- Only uncontaminated water will be discharged to surface water drain.
- Appropriate storage of fuels will be observed.

SUDS (Sustainable Urban Drainage Systems) will be employed where possible to treat and control runoff. The following methods will be considered as part of the detailed civil engineering design:

- Post development reduction of impermeable area;
- Permeable paving along with subsoil filter drains to treat and control surface water runoff;
    - Ground conditions at the site mean that the ground has low permeability; therefore permeable paving will be used to control surface water runoff. A subsoil drain network will be installed to convey runoff from permeable paved areas to the piped surface water network.
- Bypass oil separators to be utilised to treat surface water runoff from road areas; and
- Rainwater harvesting (from roof areas).

Preliminary surface water calculations indicate that there will be a post-development surface water runoff reduction from the site. This is due to a reduction of impermeable surface area of approximately 2,900m^3 at the site compared to the existing situation, and from the inclusion of various SUDS methods (see below) and the landscaping proposals as previously detailed in Section 2.3. As there will be a post-development surface water runoff reduction from the site, there will not be any increase in runoff reaching the attenuation tank under Eastland's car park, and it is considered that additional attenuation is not required for the proposed development.

Infiltration testing has been undertaken as part of recent geotechnical investigations which discovered highly impermeable clay underlying the site. This indicates a greenfield runoff rate of 7.8 l/sec/ha would be applicable in accordance with the Greater Dublin Strategic Drainage Study guidelines.

The proposed development will not result in any increase in the discharge rate from the existing attenuation tank under Eastland's car park.

The proposed development when considered cumulatively with the other live applications in the area is not considered to have a significant impact in relation to existing watercourses in the area during both the construction and operational phases.

Please see Chapter 11 of the Environmental Impact Statement for further details.

12 Air Quality and Climate

This section assesses the impact of the development on ambient air quality. A desktop study using the most recent air quality monitoring data from the Environmental Protection Agency was carried out to assess the existing air quality of the development area and the Design Manual for Roads and Bridges screening method was used to assess the impact on air quality associated with the additional traffic that will generated as a result of the proposed development.

Environmental Protection Agency data suggests that overall, relative to other European Union states, Ireland continues to enjoy good air quality which is largely due to the clean westerly air flow

from the Atlantic, a small number of large cities and an industrial sector which is relatively clean and well regulated.

The ambient air quality monitoring results for Dublin are below the relevant air quality standard limit values for the majority of parameters listed, indicating reasonably good air quality. The monitoring results for NO_x are relatively high, which the Environmental Protection Agency report attributes to transport/vehicle emissions in urban centres.

The overall climate of Ireland is mild and does not suffer from extremes due to the influence of the Atlantic Ocean and the warm North Atlantic Drift. Winters in Ireland tend to be cool and windy, while summers are mostly mild and less windy[12].

Various construction activities on site could result in the generation of dust and emissions from vehicles/equipment which could adversely impact ambient air quality and on the existing climate in the area. Mitigation measures which will be implemented to prevent this will include:

- Appropriate surfacing of roads
- Good housekeeping practices of material storage
- Appropriate damping and cleaning of roads

Operational emissions are not predicted to have any significant adverse impact on ambient air quality. Therefore no specific mitigation measures are deemed necessary. Nonetheless, the following measures will be implemented to further mitigate any potential impact on ambient air quality:

- All equipment will be designed, inspected and maintained to an appropriate standard to prevent/minimise any potential impact on ambient air quality.
- The sprinkler pumps (emergency and testing use only) will operate on low sulphur (0.1% sulphur by mass) diesel.

An assessment was carried out to determine the impact the additional traffic generated by the development may have on ambient air quality. This assessment concluded the difference in the concentrations of the various pollutants when the development is operational in comparison to the 'do nothing' scenario is ≤1%.

In relation to minimising carbon emissions associated with the proposed development, the following mitigation measures will be adopted during the operational phase:

- The Workplace Travel Plan included in Chapter 7 of this EIS will be adapted throughout the lifespan of the proposed development, which will encourage personnel travelling to and from the development to utilise sustainable transport modes, such as public transport.
- It is targeted that the proposed development will be accredited to the LEED Gold standard (discussed further in Chapter 16 of this EIS); therefore carbon emissions from the development will be optimised throughout the detailed design of the project.

The proposed development when considered cumulatively with the other live applications in the area is not considered to have a significant impact in relation to the ambient air quality in the area during both the construction and operational phases.

Please see Chapter 12 of the Environmental Impact Statement for further details.

13 Waste Management

Both the construction and operational phases of the proposed development will result in the generation of wastes.

The construction phase will involve initial site development to include cut and fill works as well as the demolition of the existing buildings within the proposed site boundary (refer to the Demolition

[12] Met Eireann Online Information www.met.ie

Plan accompanying this planning application for the extent of the proposed demolition works). This will be followed by the construction of the proposed buildings themselves. Without the implementation of appropriate mitigation measures there is a risk of an adverse impact on the environment from the incorrect disposal and storage of demolition waste generated, in particular due to the presence of asbestos in the buildings being demolished. Other waste generated during the construction phase includes excavated material, rubble, steel, timber, plastics, cardboard packaging, office waste, canteen waste, and small quantities of hazardous waste (e.g. oil, adhesives and paint containers).

Activities at the proposed development during the operational phase will unavoidably generate a range of wastes. The facility will generate maintenance and general office/domestic waste. Maintenance waste will be generated during required general maintenance of the facility. There is the potential for pollution if the waste is not properly managed on or off site.

Mitigation measures will be implemented through comprehensive waste management plans for the construction and operational phase of the development.

During the construction phase, waste will be managed as part of the overall Construction and Demolition Waste Management Plan which is being submitted as part of this planning application. Any waste being removed from the site will be done so by waste contractors with the appropriate waste licenses/permits and disposed of at appropriate licensed waste management facilities.

During the operational phase a well-developed Waste Management Strategy will be implemented at the office buildings, which will outline site-wide strategies for waste management, minimisation, segregation and auditing at the proposed site.

The proposed development when considered cumulatively with the other live applications in the area is not considered to have a significant impact in relation to waste management during both the construction and operational phases.

Please see Chapter 13 of the Environmental Impact Statement for further details.

14 Material Assets

Material assets comprise of the physical resources in the environment, which may be of human or natural origin. The objective of the assessment is to ensure that these assets are used in a sustainable manner with respect to the proposed development.

The material assets, which have been identified as being within and adjacent to the proposed site and which may be directly affected by the proposed development, are addressed in Section 14.2 of the Environmental Impact Statement in terms of existing environment, impacts and mitigation measures.

In relation to electricity supply, it is proposed to supply the new facilities at 10kV from existing substations in the locality of the development utilising new and existing underground ducts. New individual building 10kV switchrooms are proposed to be located on the ground floor of each building and will step-down the voltage to 400V for local distribution. Renewable resources such as photovoltaic solar panels will be provided to supplement power requirements in the proposed buildings and to provide on-site sustainable energy.

In terms of providing heating to the office buildings, it is proposed to install 2 no. gas fired boilers on the roof of each of the office buildings, which will connect to the existing gas supply in the airport campus. Installation of gas pipework will be carried out on a phased to avoid disruption to the existing gas services to daa buildings as well as to the site on an ongoing basis throughout the development. The layout of the proposed gas skid locations is included with the planning application. A gas fired hot water cylinder will be installed in each building to generate domestic hot water for wash hand basins and showers in the proposed office buildings. The estimated gas utility demand for proposed site 4.33MW. The existing gas infrastructure in the area has the capacity to support this additional demand.

A separate potable water main and fire hydrant main are proposed for the proposed development. It is proposed to make a connection to the existing potable water main which is supplied from the

daa reservoir to the north of Corballis Road North, as there is sufficient water pressure available at the proposed potable water connection point.

Surface water runoff generated on building roofs and hardstading areas, such as courtyard areas between buildings and footpaths around buildings, will flow by gravity from sloped surfaces and collected via gutters, roof drains, road gullies and channels. The flow will then be conveyed by gravity to a new underground surface water pipe system. This system will then connect to the existing daa underground surface water system within the area before ultimately discharging to Kealy's Stream via an attenuation tank under Eastland's car park. The proposed surface water network has been designed in accordance Greater Dublin Drainage Strategy (GSDS) guidelines and includes a climate change increase of 10%. Preliminary surface water calculations indicate that there will be a post-development surface water runoff reduction. This is due to a reduction of impermeable surface compared to the existing situation at the site and from the inclusion of various SUDS methods, and the landscaping proposals for the site. Infiltration testing which was undertaken as part of recent geotechnical investigations discovered that highly impermeable clay is underlying the site. This indicates a greenfield runoff rate of 7.8 l/sec/ha would be applicable in accordance with GSDS guidelines.

It is proposed to provide a new foul drainage connection to the existing public foul sewer located along the R132 at the existing road crossing to the north of Kealy's Pub (routed via the north of Cloghran House / south of the Radisson Hotel). Therefore the proposed site will no longer discharge to the existing 150mm diameter foul sewer outfall located to the south of Zone 1, which is currently operating at capacity as discussed previously, resulting in the situation at this existing sewer outfall being improved post-development. The proposed new sewer has been designed to cater for the proposed development for which this planning application relates to as well as potential future development in Zone 1. The sewer located in the R132 will discharge to the North Fringe Sewer, before ultimately discharging to the Ringsend Wastewater Treatment Plant. A 24 hour storage tank for foul drainage will be included in the design which will only be utilised in the event that there is a failure in the pumps within the foul drainage network. This foul storage tank and pumps will be located at the intersection of Corballis Road South and the R132 (refer to proposed services drawings submitted with this planning application). The above design features will meet the requirements for the proposed development lands as outlined in the Environmental Report for the Strategic Environmental Assessment[13] that was carried on the Fingal County Council Masterplan.

It is proposed to extend the existing local main network communication rooms to new network communication rooms in the proposed buildings utilising new and existing underground ducts. Final communications connections to the proposed buildings will be within Zone 1 and will utilise new underground ducts. New building communications rooms are proposed to be located on the ground floor of each of the proposed buildings.

There will be an interface established with relevant service providers (e.g. ESB, Fingal County Council, Eir, etc.) within the locality during the construction planning phase of the project. This interface will be managed in order to ensure a smooth construction schedule without disruption to the local and business community.

Mitigation measures associated with material assets assessed in other chapters, e.g. the local road network, are described in the respective sections of the Environmental Impact Statement.

The proposed development when considered cumulatively with the other live applications in the area is not considered to have a significant impact in relation to the material assets in the area during both the construction and operational phases.

Please see Chapter 14 of the Environmental Impact Statement for further details.

[13] Brady Shipman Martin on behalf of Fingal County Council. Environmental Report for Strategic Environmental Assessment (2016)

15 Archaeology, Architecture and Cultural Heritage

The proposed development within Dublin Airport led to the requirement for an archaeological impact assessment to be prepared. A number of sources were consulted in order to assess the archaeological significance of the subject lands and to establish the archaeological potential of the area.

The initial desk top study was followed up by a field inspection which confirmed that the area proposed for development has been subject to considerable development in the last 30 years through the construction of number of buildings and surface car parks. The greatest potential impact of any development is to hitherto unknown archaeological features that may be uncovered during stripping of topsoil prior to construction work.

The site proposed for development in Dublin Airport is currently occupied by one Service Annex Building and a number of small Aer Lingus buildings and surface car parks and their construction some 30 years ago would have involved considerable ground disturbance and alteration of levels. It is likely that these works would have destroyed any potential archaeological features and finds that may have been present at the location and consequently it is recommended that no further archaeological involvement is required during the demolition of the existing buildings and their replacement with new structures.

The proposed development when considered cumulatively with the other live applications in the area is not considered to have a significant impact in relation to archaeology during both the construction and operational phases.

Please see Chapter 15 of the Environmental Impact Statement for further details.

16 Sustainability

This section outlines how the sustainability principles outlined in the Fingal County Council Dublin Airport Central Masterplan have been adopted and included in the design of the proposed development and how they will also be adopted in the construction and operational phases of the proposed development.

Sustainable development is considered in terms of optimising the use of social, environmental and economic resources to capitalise on the value creation potential of new developments.

The Fingal County Council Masterplan for the Dublin Airport Central development site outlines a set of sustainability principles. These are listed below:

- Developing a sustainable, secure, people-centred district;
- Creating an employment base that is easily accessible, well connected to and supports the economic growth of key urban centres within Fingal, and the wider Dublin region;
- Delivering an urban environment which optimises and protects natural resources; and
- Ensuring that new built forms are designed and constructed in an energy efficient manner.

The four sustainability principles for Dublin Airport Central above provide the framework for a range of sustainability themes, demonstrating the development, integration and embedding of sustainability commitments, opportunities and solutions within the Masterplan. These themes are listed below:

- Urban Design
- Community and Social Well-being
- Connectivity
- Sustainable Procurement
- Energy and Carbon
- Water and Wastewater

- Landscape and Biodiversity
- Material Selection and Efficiency
- Employment Creation
- Whole Life Value

daa has also declared that certification to the US Green Building Council built environment sustainable assessment accreditation scheme, Leadership in Energy and Environmental Design (LEED), is a target for the proposed development.

A target of LEED Gold certification has been set for the proposed development. An initial LEED assessment has been carried out and is based on a suite of measures that can be applied to the design/build process. There is a certain amount of flexibility in this process to ensure that the contractor can select from the suite of measures whilst still ensuring that LEED Gold is achieved.

Potential future phases of development will be subject to separate planning applications and Environmental Impact Assessment (EIA) as required, and will follow the same principles outlined above for the proposed development in relation to sustainability.

Details of these sustainable development policies and examples of potential targets can be found in Section 16 of the Environmental Impact Statement.

17 Interaction between Environmental Factors

This section considers the impacts of the development which occur as a result of cumulative or indirect impacts, or interaction of impacts.

The potential cumulative impacts with current and known future developments in the area in each of the various environmental media were examined during the Environmental Impact Assessment and the different stages of both the construction and the operational phases were examined. Details of the cumulative impact assessment for each of the environmental media are included its respective Section of the Environmental Impact Statement.

The interactions between the various impacts identified in the individual sections of the Environmental Impact Statement the generation of an interactions matrix. There were two potential areas identified where further assessment / discussion is required over and above the issued dealt with in the individual sections;

- Landscape & Visual Impact and Human Beings;
- Traffic and Air Quality / Noise.

Indirect impacts were assessed and it was concluded that the proposed development will lead to a number of indirect spin-off employment opportunities through local contractors, service providers and suppliers.

Off-site treatment and disposal of the wastes and wastewaters generated at the proposed facility will have a potential indirect impact on air, soil, surface water, and groundwater quality at the off-site treatment/disposal sites. However as discussed in the relevant sections of the Environmental Impact Statement these activities will be carried out by licensed operators and contractors and therefore will have an imperceptible negative impact only.

It is concluded that there are no significant cumulative or indirect impacts associated with the proposed development. It is concluded that the interaction of the impacts does not lead to significant impacts beyond those identified for each of the individual environmental media.

Please see Chapter 17 of the Environmental Impact Statement for further details.