



# ESB Link Road & Link to Arena Road

## Part 8 Planning Environmental Report

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## ESB Link Road and Link to Arena Road

### Part 8 Planning Environmental Report

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## **Non-Technical Summary**

### **1.0 Introduction**

This Environmental Report (ER) has been prepared by Roughan & O'Donovan - AECOM Alliance (ROD-AECOM) for Dún Laoghaire Rathdown County Council (DLRCC) as part of the documentation to accompany a Part 8 planning process for the proposed ESB Link Road and Link to Arena Road between M50 Junction 14 and Blackthorn Road. The scheme includes the replacement of the roundabout at ESB Junction 14 with a signalised junction and the construction of a new signalised junction on Blackthorn Road. The ER documents the assessment of the impact of the proposed development on the environment in the vicinity of that development.

This non-technical summary summarises the outcome of the environmental assessment and highlights, in non-technical language, the main impacts of the proposed scheme.

### **2.0 Background to the Scheme**

The Sandyford Urban Framework Plan has planned for the increase in the working and living population within the area from an estimated 15,000 in 2006 to 40,000 in 2016 and to 55,500 by 2030. The traffic study carried out during the development of the SUFP determined that this growth requires, in the short term, to be supported by a number of additional elements of road and public transport infrastructure, including the proposed ESB Link Road and Link to Arena Road.

The Sandyford Urban Framework Plan was incorporated into the Dún Laoghaire - Rathdown County Development Plan in September 2011 as Variation No. 2.

### **3.0 Description of Proposed Scheme**

The development site is located in the Sandyford and Leopardstown Road area of South Dublin. The proposed development comprises: -

- The provision of a new road link between the existing signalised roundabout at M50 Junction 14 and Blackthorn Road.
- A link from the new road above to the existing cul-de-sac at Arena Road
- The replacement of the signalised roundabout at Junction 14 with a signalised junction.
- Construction of a new signalised junction on Blackthorn Road.
- Improvements to pathways, cycleways and crossings and improvements to the quality of the public realm locally.
- Upgraded public lighting

### **4.0 Alternatives Considered**

At the time of the development of the Sandyford Urban Framework Plan, a number of alternatives were considered:

- (i) A slip road from the M50 southbound off-slip onto Heather Road;
- (ii) Construction of the Burton Hall Road Extension instead.
- (iii) Do Nothing

Both of the above were examined individually and in conjunction with the ESB Link Road and Link to Arena Road. In the case of the former, the National Roads Authority had significant concerns and expressed a strong preference that the scheme be combined with the ESB Link Road so as to have one exit point only towards Sandyford Business District from the M50 southbound off-slip. In the case of the latter two options, the development aspirations for Sandyford Business District could not be accommodated without the development of both the Burton Hall Link Road and the ESB Link Road and Link to Arena Road. Therefore, both schemes were included as Objectives of the Development Plan.

## 5.0 Traffic

The Transportation Study that informed on the preparation of the Sandyford Urban Framework Plan determined a road configuration that represents the level of new road infrastructure required to facilitate the future office development envisaged. This roads configuration was included in the Sandyford Urban Framework Plan as TAM18: Six-Year Roads Objectives and incorporates the following schemes: -

- Burton Hall Road Extension
- Leopardstown Roundabout Reconfiguration
- Leopardstown Link Road (with access to car parks in Central Park)
- Direct access from M50 Junction 14 diverge ramp (the preferred option for which is to the ESB Link Road and Link to Arena Road)
- Bracken Road Extension
- Blackthorn & Arena Road Links (or ESB Link Road and Link to Arena Road)
- Sandyford Orbital Quality Bus Corridors

Consideration was also given to the NRA's recent M50 Demand Management Study. However, no adjustment of future traffic demand forecasts has been made in this study and as such the traffic analysis represents a robust assessment of the road network within the Sandyford Business Estate and that of the National Road network.

Traffic analysis shows that the road will operate at near full capacity at the time of opening. Daily traffic flows of 10,000 vehicles are predicted for the route. The road will mitigate congestion on the local road network, especially at the Leopardstown Roundabout/ proposed signalised junction.

The preferred scheme will not have any significant impact on the traffic demand or operation of the M50. Specifically the provision of a fully signalised junction to replace the current signalised roundabout will ensure that any queuing back along the M50 southbound off-slip will be controlled by the timings of the signals to ensure that queues do not extend back towards the M50 mainline.

## 6.0 Impact on Human Beings

The area adjacent to the proposed road is a mix of brown field, commercial, open space and institutional land uses. Most existing development consists of commercial office and warehouse type development. Future population growth in the area is an objective of the County Council Development Plan, and this will depend on the provision of new commercial residential development as envisaged by the Sandyford Urban Framework Plan. Improvements to the local transportation infrastructure as

set out in the SUIP are a prerequisite to support the anticipated population growth in the area.

The proposed road will facilitate further residential and commercial development in the Sandyford area by mitigating congestion that would otherwise arise on the existing road network.

The proposed road scheme, in conjunction with other transportation initiatives will ensure that the area of Sandyford Business District will remain an attractive location for businesses. This will support demand for commercial and professional services, thereby increasing local employment opportunities.

## **7.0 Environmental Issues**

### **7.1 Noise and Vibration**

During the construction phase of the project there will be some small impact on nearby properties due to noise emissions from site traffic and other activities. The transient nature of construction works, the application of binding noise limits and hours of operation, along with implementation of appropriate noise control measures, will ensure that noise impact is kept to a minimum.

The predicted noise level generated by the proposed road development during the operational phase is not expected to represent a significant increase on current noise levels in the area.

Ground vibrations produced by road traffic are unlikely to cause perceptible structural vibration in properties located near to well-maintained and smooth road surfaces.

### **7.2 Air Quality and Climate**

The air quality in the vicinity of the proposed ESB link Road will not be significantly affected by vehicle exhaust emissions.

### **7.3 Hydrology and Hydrogeology**

The proposed scheme will have no impact on and water quality. Mitigation measures to ensure water quality is maintained during construction are provided.

### **7.4 Soil**

The proposed ESB link Road will have no impact on the soil along the scheme.

## **8.0 Ecology (Flora & Fauna)**

A flora and fauna survey was carried out along the proposed ESB Link road and Link to Arena Road project in November 2012. The flora and fauna survey was carried out to investigate the potential impacts of a proposed development flora and fauna.

The site for the proposed project consists mainly of buildings and artificial surfaces, non-native shrub and immature tree lines and built ground. There is one culverted stream under the proposed link road. No flora, fauna or habitats of conservation importance were discovered during the present survey. Mitigation measures are recommended, mainly with respect to timing of clearance works and water quality, to help prevent unnecessary negative impacts to local wildlife populations and aquatic environment.

There are a number of nature conservation designated areas within 10km of the site. These include South Dublin Bay Special Area of Conservation (SAC) and South Dublin Bay and Tolka Estuary Special Protection Area (SPA) downstream of the proposed works. An Appropriate Assessment Screening for potential impacts on the Natura 2000 network of SAC's and SPA's has been carried out and is reported in Appendix 1 of this document. Following an appraisal of the potential impacts of the proposed ESB Link Road & Link to Arena Road on the Natura 2000 network, the likelihood of significant negative impacts arising on either the qualifying interests (South Dublin Bay SAC and South Dublin Bay and Tolka Estuary SPA) or on the integrity of any Natura 2000 site, has been ruled out. Therefore it is possible to screen out the need for an Appropriate Assessment and it is not deemed necessary to undertake any further stages of the Appropriate Assessment process.

## **9.0 Landscape and Visual Impacts**

The proposed scheme will not have an adverse impact in its setting. A reinforced concrete retaining wall is required along one section on the east boundary of the road otherwise the proposed road generally follows the existing ground levels. The route travels through an industrial / business district that has no landscape and visual sensitivities.

## **10.0 Material Assets**

The proposed ESB Link Road will run between two warehouses on lands owned by Aviva Insurance. This area is currently used as a yard to service the warehouse to the west, which is owned by Aviva. As such, there will be a significant negative impact on this land.

It is understood that both other directly affected landowners; ESB and EIRCOM; intend to redevelop their sites in the medium term and the delivery of the proposed ESB Link Road will facilitate this. Therefore, while the proposed road scheme may have a moderate negative impact on the landholdings in the short term, its medium term impact will be significantly positive.

The warehouses to the east of Aviva are in the control of Brooks Ltd. The impact on these will be neutral, as the proposed road will cause additional severance but will provide more direct access.

## **11.0 Architectural, Archaeological and Cultural Heritage**

All works will take place, with only minor surface effects, either within the corridor of the existing road or directly adjacent to the existing road in land that has been subject to recent development. All works will take place outside the boundary and curtilage of the protected structure of Burton Hall. Consequently there are no predicted impacts on architectural, archaeology and cultural heritage.

## **12.0 Construction Phase**

The construction of the road scheme will cause an increase in noise during working hours, but contract conditions will limit this noise to acceptable levels. Working hours will be limited, thereby avoiding the potential for disturbance of residents at night. The Contract will include requirements for appropriate measures to prevent an accidental spillage of pollutant materials into watercourses. The Contractor will be obliged to ensure that the surrounding roads are kept free from dirt. Construction

traffic for the scheme will be directed to use main roads to access the site and residential areas will not be affected.

### **13.0 Mitigation Measures**

The following is a summary of the mitigation measures that will be undertaken to reduce the potential environmental impacts of the proposed ESB Link Road & Link to Arena Road scheme:

- Noise control measures during construction will minimise disturbance to local residents.
- Machinery and compounds will be positioned, where possible, to avoid undue disruption.
- Pollution control measures will be taken to protect the surface water drainage system during construction.
- The contractor will be required to prevent dirt from being released onto public roads.

### **14.0 Further Information**

Copies of the full Part 8 Environmental report may be inspected at the following locations: -

Dún Laoghaire - Rathdown County Council,  
County Hall,  
Marine Road,  
Dún Laoghaire,  
Co. Dublin.

Dún Laoghaire - Rathdown County Council,  
Dundrum Office Park,  
Main Street,  
Dundrum,  
Dublin 14.

### **15.0 Planning Process**

Section 179 of the Planning and Development Act 2000 as amended, and Part 8 of the Planning and Development Regulations, 2001 to 2011 set out the process to be used for planning approval of local authority projects that are not subject to a requirement for a formal Environmental Impact Statement under other relevant legislation. The planning approval process will involve a period of public consultation after which Dún Laoghaire - Rathdown County Council will review any submissions made by the public. The final decision to approve or reject the scheme will be made at a meeting of the elected members of the County Council.



## Chapter 1

## Introduction

### 1.1 Introduction

This Environmental Report (ER) has been prepared by Roughan & O'Donovan - AECOM Alliance (ROD-AECOM) for Dún Laoghaire Rathdown County Council (DLRCC) as part of the documentation to accompany a Part 8 planning process for the proposed ESB Link Road and Link to Arena Road between M50 Junction 14 and Blackthorn Road.

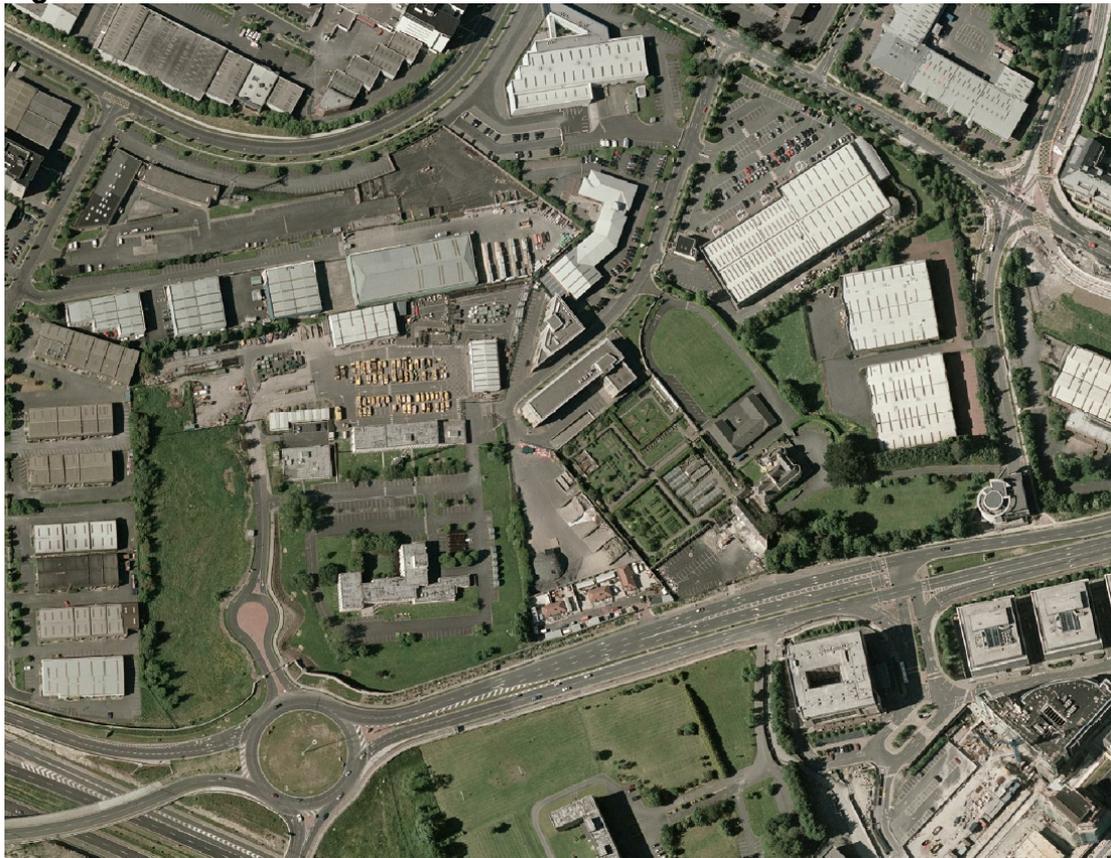
The construction of the ESB Link Road and Link to Arena Road is a six-year objective of DLRCC included in the Sandyford Urban Framework Plan, an approved Variation to the current County Development Plan (2010 – 2016). As the impacts of the scheme are local to the Dún Laoghaire - Rathdown County Council administrative jurisdiction, the scheme does not feature in national or regional policy, but sits within such broader policy in the context of the approved Dún Laoghaire - Rathdown County Development Plan.

**Figure 1.1 M50 Junction 13 / 14**

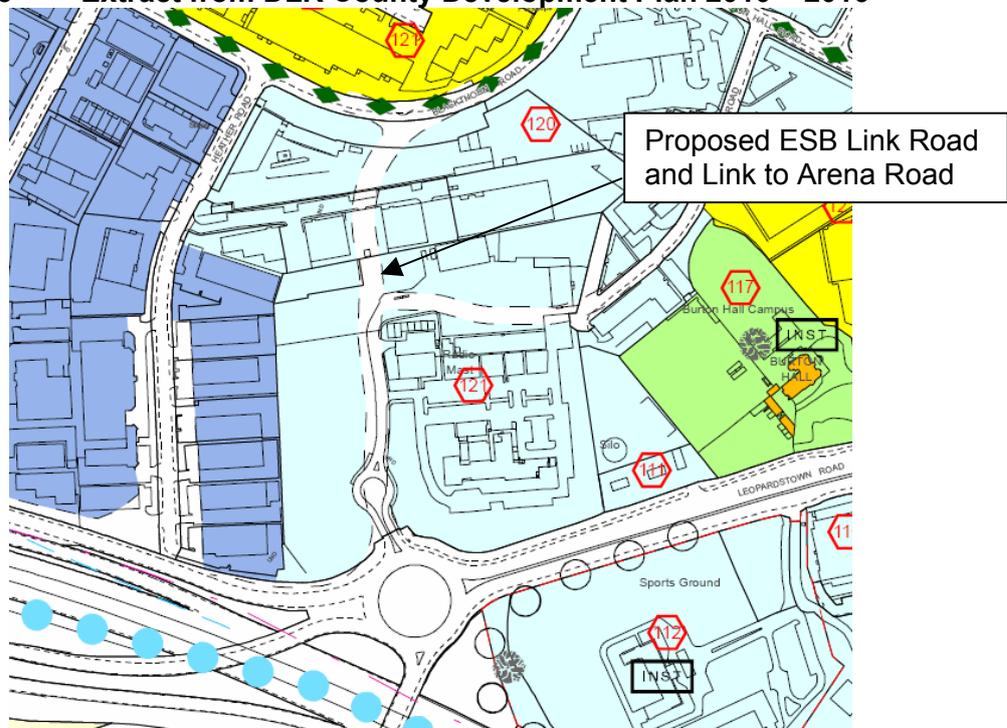


The principal requirements of the proposed project are to deliver increased levels of accessibility to Sandyford Business Estate for all modes to avoid a situation where further development leads to an increase in congestion on existing approaches, particularly along the M50 and N11 approaches. The scheme will facilitate and support the expected growth in traffic arising from the future development envisaged by the Sandyford Urban Framework Plan and will fulfil the improved public transport objectives for the area (the ESB Link Road forms part of the Sandyford Orbital Bus Route). The delivery of the scheme will proceed in parallel with various initiatives to encourage the use of sustainable transport modes, as documented in the County Development Plan and supporting documentation.

**Figure 1.2 Aerial View**



**Figure 1.3 Extract from DLR County Development Plan 2010 – 2016**



## 1.2 Planning Process

The planning for the proposed project is undertaken in accordance with the legislative requirement in Part XI, Section 179 of the Planning & Development Act, 2000 as amended. Part 8 of the Planning and Development Regulations, 2001 to 2011 details the class of development that is prescribed for the purposes of Section 179 of the Act and the relevant class for the proposed scheme is as follows:

*b) "Construction of a new road or widening or realignment of an existing road, where the length of the new road or of the widened or realigned portion of the existing road, as the case may be, would be – in the case of a road in an urban area, 100 metres or more,"*

Under Part 8 of the Regulations, the Local Authority is required to make details of the proposed road development available for public inspection and comment and to prepare a report in relation to the proposal for consideration by the elected members of the local authority. This Environmental Report (ER) contains information on the potential environmental impacts of the proposed scheme. It has been prepared in accordance with the information requirements of the Planning and Development Act (2000) and Planning and Development Regulations (2001).

The purpose of the ER is to identify the potential impacts the proposed scheme will have on the environment and to propose measures to avoid, reduce or remedy undesirable potential impacts as appropriate.

## 1.3 Legislative Requirement for an Environmental Impact Report

Article 8 of the Roads Regulations 1994 prescribes the types of proposed road development that require the preparation of an Environmental Impact Assessments as: -

- Construction of a motorway.
- Construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be 8km or more in length in a rural area or 500m or more in length in an urban area.
- Construction of a new bridge or tunnel, which would be 100m or more in length.

The proposed ESB Link Road will involve the provision of approximately 350 metres length of new single carriageway road linking Blackthorn Road and the roundabout at M50 junction 14. The proposed scheme also includes the provision of a new northbound quality bus corridor a new signalised junction at Blackthorn Road and the replacement of the signalised roundabout at M50 junction 14 with a signalised junction. A link from the proposed road to Arena Road will involve the provision of approximately 145 metres length of new single carriageway road. Improvements will also be made to the existing Blackthorn Road at the approaches to the new junction. As such the ESB Link Road & Link to Arena Road development does not require the preparation of an Environmental Impact Statement under the relevant legislation. However it was decided by Dún Laoghaire Rathdown County Council to prepare an Environmental Report (ER) for this scheme, broadly following the same process as would be undertaken for a full Environmental Impact Statement.

Approval for the South Eastern Motorway scheme was granted by the Minister for the Environment and Local Government on the 19th October 1998 under section 51 of the Roads Act 1993 without any modifications. The South Eastern Motorway (SEM) scheme approved consisted of the construction of approximately 10.9 kilometres of

two by two lane motorway, six motorway interchanges, 21 structures, 2.7 kilometres of dual carriageway and 4 kilometres of ancillary roads.

Having regard to the nature, complexity and scale of the overall SEM project it is considered that the modifications now proposed, i.e. the modifications to the ESB roundabout, are not of such significance as to change the essential nature of the development or to result in the proposed road development being of a significantly different development from that for which approval has been previously granted.

Therefore, whilst due regard was had to the Environment Impact Statement (EIS) prepared for the South Eastern Motorway (September 1997) it is considered that the Environmental Report prepared for the ESB Link Road & Link to Arena Road adequately addresses any potential impacts on the environment of the proposed scheme.

#### **1.4 Format of the Environmental Impact Report**

The ER is prepared having regard to the requirements of Section 50 of the Roads Act 1993 as amended.

Section 50 of the Roads Act and the Environmental Impact Assessment Regulations require that the following information be included in an EIS:

*“A description of the proposed road development comprising information on the site, design and size of the proposed road development;*

- A description of the measures envisaged in order to avoid, reduce and, if possible remedy significant adverse effects;*
- The data required to identify and assess the main effects which the proposed road development is likely to have on the environment;*
- An outline of the main alternatives studied by the road authority concerned and an indication of the main reasons for its choice, taking into account the environmental effects;*
- A summary in non-technical language of the above information.*

*An Environmental Impact Statement also requires, in addition to and by way of explanation or amplification of the specified information referred to above further information on the following matters:*

*A description of the physical characteristics of the whole proposed road development and the land-use requirements during the construction and operational phases, An estimate, by type and quantity, of the expected residues and emissions (including water, air and soil pollution, noise, vibration, light, heat and radiation) resulting from the operation of the proposed road development.*

*A description of the aspects of the environment likely to be significantly affected by the proposed road development, including in particular-*

- Human beings, fauna and flora,*
- Soil, water, air, climatic factors and the landscape,*
- Material assets, including the architectural and archaeological heritage, and the cultural heritage,*
- The inter-relationship between the above factors;”*

The Environmental Report has been prepared with regard to the above requirements. The format used in this Environmental Report document seeks to allow the reader to access the issues of interest to them as easily as possible.

## Chapter 2

## Background to Scheme

### 2.1 Objectives of the Proposed Road

The Sandyford Urban Framework Plan has planned for the increase in the working and living population within the area from an estimated 15,000 in 2006 to 40,000 in 2016 and to 55,500 by 2030. The traffic study carried out during the development of the SUFP determined that this growth requires, in the short term, to be supported by a number of additional elements of road and public transport infrastructure, including:

- M50 junction 14 diverge ramp access to Sandyford
- Revised access to South County Business Park (the Leopardstown Link Road) including an access to the car parks within Central Park
- The Bracken Road Extension to the Drummartin Link Road
- Burton Hall Road Extension to Leopardstown Road
- ESB Link Road and Link to Arena Road
- Reconfiguration of the Leopardstown Roundabout
- Bus/Luas Interchange at the Stillorgan Luas stop
- Lower Kilmacud Road Quality Bus Corridor
- Internal circular Quality Bus Corridor
- Tallaght to Sandyford Quality Bus Corridor
- Cycling and Walking Routes

Several studies and traffic models were undertaken in selecting the schemes to feature in the final plan. These included the Sandyford Land Use and Transportation Study by FaberMaunsell and modelling for the SUFP itself by Mott McDonald. This process is summarised in the Transportation Background Paper for the SUFP, available on the DLRCC website.

At the time of the development of the Sandyford Urban Framework Plan, a number of alternatives was considered:

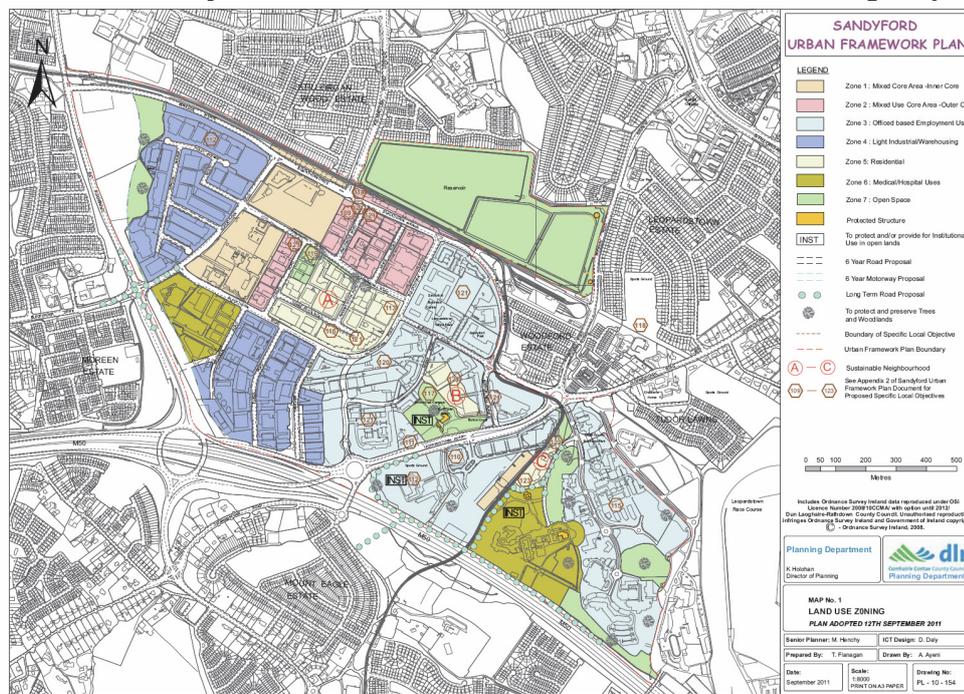
- (i) A slip road from the M50 southbound off-slip onto Heather Road;
- (ii) Construction of the Burton Hall Road Extension instead.
- (iii) Do Nothing

Both of the above were examined individually and in conjunction with the ESB Link Road and Link to Arena Road. In the case of the former, the National Roads Authority had significant concerns and expressed a strong preference that the scheme be combined with the ESB Link Road so as to have one exit point only towards Sandyford Business District from the M50 southbound off-slip. In the case of the latter two options, the development aspirations for Sandyford Business District could not be accommodated without the development of both the Burton Hall Road Extension and the ESB Link Road and Link to Arena Road. Therefore, both schemes were included as Objectives of the Development Plan.

## 2.2 Recent Developments

The Council adopted the Sandyford Urban Framework Plan as Variation No.2 to the County Development Plan 2010-2016 at the Council meeting held on 12th September 2011. The variation includes the ESB Link Road and Link to Arena Road as a six-year roads objective and details the road reservation on the “Land Use Zoning” map.

**Figure 2.1 Sandyford Urban Framework Plan – Land Use Zoning Map**



## 2.3 Objectives of the ESB Link Road and Link to Arena Road

All of the access routes constructed into Sandyford Business District from the M50 were designed to prioritise the movement of vehicular traffic and remain, despite some improvements, hostile to pedestrians and cyclists. This has resulted in many commuters being put off these modes - even for short trips from the far side of the M50 motorway. One of the key principles being adopted for the design of the ESB Link Road and Link to Arena Road scheme is that the facilities provided for pedestrians and cyclists are as good as or better than the facilities being provided for private cars.

The development of the scheme design coincided with the launch of the Design Manual for Urban Roads and Streets. Additionally, the design team liaised extensively with the design teams working on developing lands along the route, thereby ensuring that the completed scheme would integrate well into the future urbanised context.

The ESB Link Road and Link to Arena Road forms part of the proposed orbital bus route in Sandyford Business District, and therefore it is a requirement that the scheme provide good quality facilities for buses in the northbound direction.

The scheme has been designed having regard to the geometric criteria of the Design Manual for Urban Roads and Streets, permitting tighter radii to regulate traffic speeds. The proposed vertical alignment has been designed with a maximum gradient of 4% so as to ensure its attractiveness to pedestrians and cyclists.

## Chapter 3

## Description of Proposed Scheme

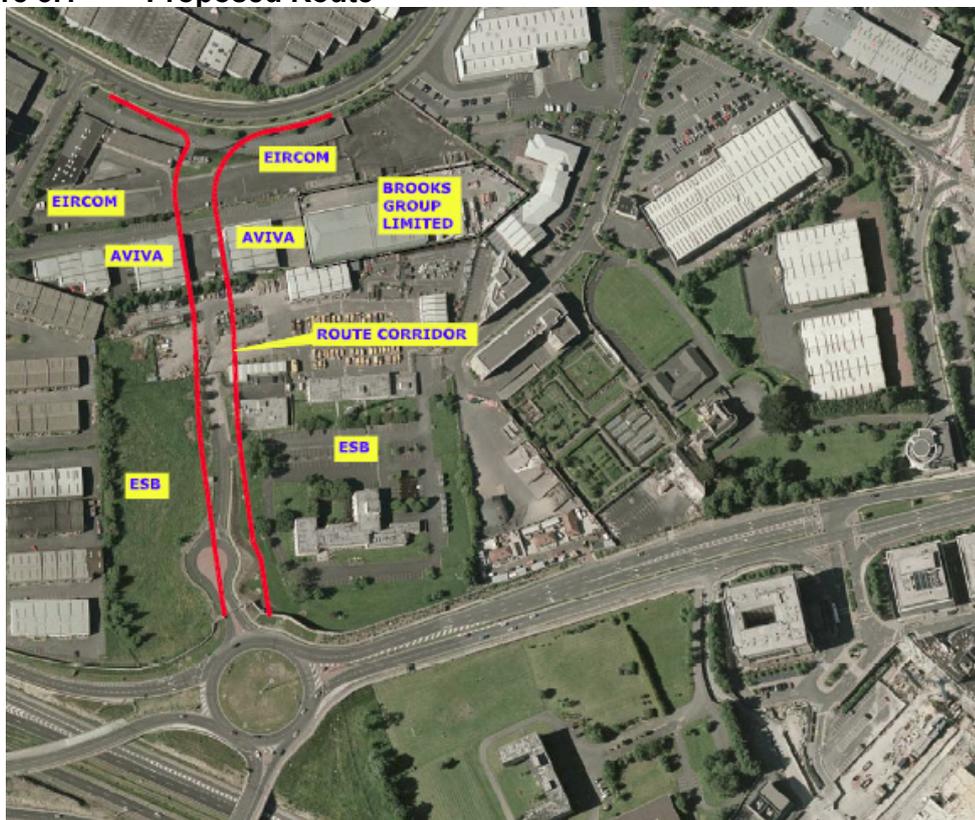
### 3.1 Road Layout

Based on the principle of providing pedestrian and cycle facilities as good as or better than the facilities for cars, the following general layout has been proposed for the scheme:

- Footways: A 2m footpath to be provided on either side of the road.
- Cycleways: A 2.5m two-way cycle track to be provided on either side of the road.
- Public Transport: A 3m bus lane to be provided in the northbound direction.
- Car traffic: One 3.25m through traffic lane in each direction and a 3m central reservation for turning lanes to serve the development lanes on either side. Additional turning lanes provided at major junctions.
- Landscaping: A 2.0m verge to be provided on either side of the road between the kerb-line and the cycle tracks to accommodate landscaping. The verges shall be kept clear of longitudinal services to facilitate tree planting.

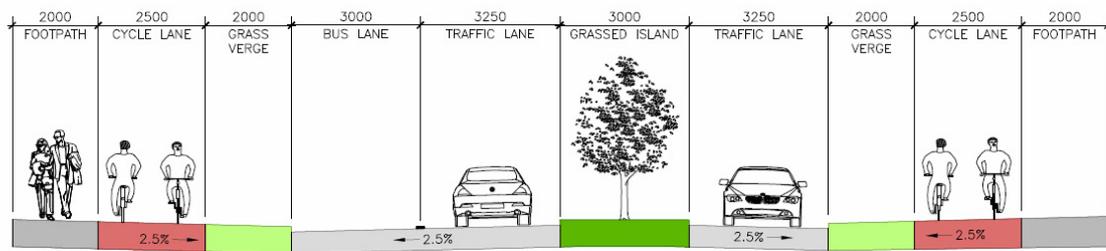
The route of the proposed scheme runs north from the M50 Junction 14 northern roundabout through the ESB Lands. The route then cuts between two warehouses owned by AVIVA to the north through the yard between the two warehouses. The route then curves eastward through lands owned by EIRCOM to join Blackthorn Road East.

**Figure 3.1 Proposed Route**



The scheme has been the subject of a Road Safety Audit and a Road User Audit, the recommendations of which have been incorporated by the Design Team, as appropriate.

**Figure 3.2 Typical Cross Section**



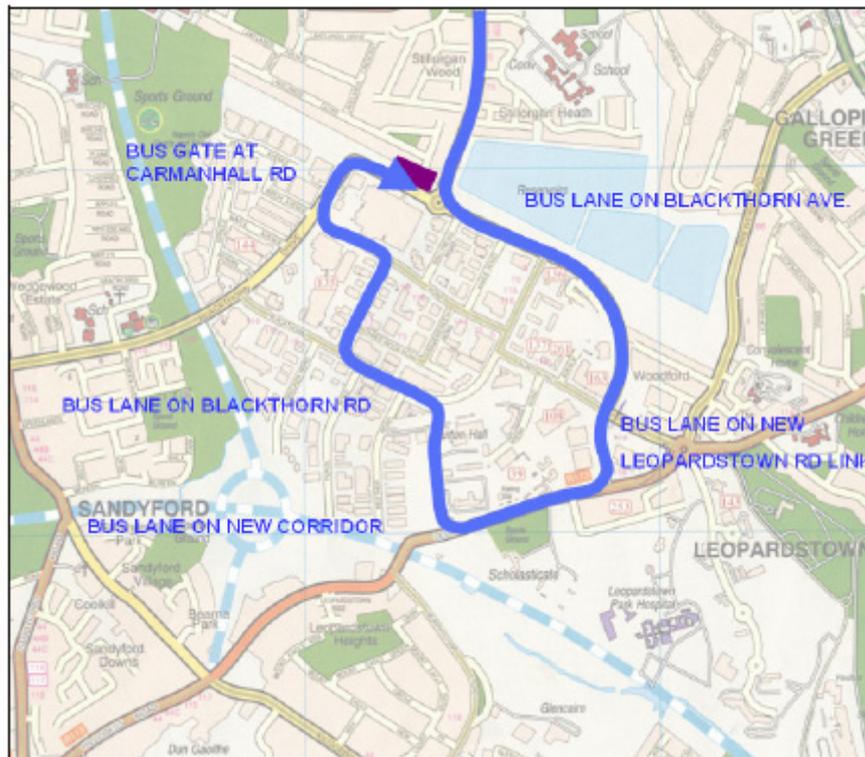
### 3.2 Cycling and Walking Facilities

The Dún Laoghaire - Rathdown County Development Plan Policy T12 is to promote cycling and walking through the provision of cycle and pedestrian facilities in the design of public transport routes and road schemes. The Sandyford Urban Framework Plan adopted as Variation No.2 to the County Development Plan 2010 – 2016 includes objective TAM6 to implement this cycling and walking route as part of the provision of this new road proposal. In accordance with the Development Plan and the Sandyford Urban Framework Plan, pedestrian and cycle facilities will be provided on both sides of the ESB Link Road and Link to Arena Road scheme.

### 3.3 Sandyford Bus Route

The Sandyford Land Use and Transportation study 2006 proposed a bus route as shown below, with a view to providing a fast and effective route through Sandyford. It provides good connectivity with the Luas and development throughout the Sandyford Business District.

**Figure 3.3 Sandyford Orbital Bus Route**



The ESB Link Road and Link to Arena Road forms part of the proposed orbital bus route in Sandyford Business District, and therefore it is a requirement that the scheme provide good quality facilities for buses in the northbound direction.

### **3.4 Public Lighting**

A public lighting scheme has been devised, taking account of the different character of various affected roads, including the proposed urban environment of the ESB Link Road and Link to Arena Road and the motorway environment at M50 Junction 14. Columns of 10m and 12m are proposed at various locations, with wattages varying from 150W to 400W, as detailed on the accompanying drawings. Class CE1 lighting is to be provided at junctions, with Class ME2 on all roads except Arena Road Link, which will have Class ME3a.

### **3.5 Drainage**

The drainage arrangements may ultimately be influenced by the attenuation proposals for adjoining lands, however, a notional design has been proposed that can function and be constructed independently of the development of the adjoining lands. The areas beneath the verge and cycle track construction should be constructed of permeable materials to permit infiltration into the surrounding soils. A partially perforated pipe should be incorporated to allow the conduct of water when the infiltration zone reaches saturation. At the lower reaches, larger fully enclosed pipes should be used to allow online attenuation. The drainage will discharge to the Sandyford Stream at its culvert in the Eircom lands. A hydrobrake should be installed to limit the rate of discharge to the stream and the upstream attenuating pipes sized accordingly. The drainage of the proposed M50 Junction 14 signalised junction should discharge to the existing piped drainage network at the roundabout.

### **3.6 Structures**

No significant structures are required to accommodate the proposed scheme. Retaining walls (approximately 150m in length) may be required through the ESB lands to limit the footprint of the scheme. The retaining walls will be reinforced concrete with a patterned finish or as may be agreed with the relevant landowner. The maximum height of any such wall is approximately 2.75m above ground level.

The scheme runs over a culvert carrying the Sandyford Stream in the Eircom lands. The culvert is approximately 2m below the proposed road and already carries traffic above. The structure will be assessed at the detailed design stage to ensure its adequacy in the long term.

### **3.7 Earthworks**

The proposed vertical alignment falls at a constant gradient through the ESB lands before following existing ground levels from the northern boundary of the ESB site to Blackthorn Road. Approximately 2,500m<sup>3</sup> of imported fill will be required to achieve the proposed vertical alignment through the ESB site.

### **3.8 Road Construction**

It is anticipated that the road construction will consist of:

- 300mm of capping material (large crushed stone)
- 150mm of sub-base (small crushed stone)
- 150mm of road base
- 65mm of binder course
- 35mm of surface course.

The proposed surface course is polymer modified stone mastic asphalt, which generates less noise when trafficked than other materials and is therefore more suited to an urban area.

The depth of capping material required will have to be confirmed at detailed design stage, subject to confirmation of the strength of the underlying sub grade. It is anticipated that 300mm should be adequate, as there is very strong granite at shallow depth and the materials above are likely to consist of weathered granite.

### **3.9 Junctions**

A detailed traffic analysis of the scheme was undertaken to inform the design of the junctions at either end. The following synopsis the initial findings:

- The heaviest traffic movements at the northern end of the scheme are between Blackthorn Road East and the ESB Link Road. On that basis, the priority on Blackthorn Road has been changed such that the through traffic movement will be between Blackthorn Road East and the new link road. Blackthorn Road West will be accessed via a signalised junction. A right turning lane will be provided for traffic from the north. The bus lane will stop 30m south of the junction to accommodate left turners from the ESB Link Road. The traffic analysis has indicated that the bus lane will be sufficiently close to the junction to allow a bus to pass the stop line in a single signal cycle.
- The northern roundabout at M50 Junction 14 was recently signalised to improve throughput of traffic and to prevent queuing onto the M50 mainline. The recent improvements have significantly enhanced capacity. The traffic analysis has indicated that the introduction of a significant new road access onto the roundabout will be incompatible with the current signalised roundabout layout. Furthermore, the existing layout is unconducive to the safe passage of pedestrians and cyclists. Therefore, it is proposed to convert the existing signalised roundabout to a four arm signalised junction.

### **3.10 Landscaping**

A landscaping scheme has been developed for the proposed Link Road in consultation with the Developers of the adjoining lands so as to ensure the proposed scheme integrates into the future urbanised environment. The selection of trees and shrubs has been made having regard to the sometimes windy conditions and the need to design the planting accordingly. The design of the landscaping also takes account of the desire to minimise the ongoing maintenance requirement. Further details of the landscaping proposals are shown on the detailed drawings forming part of this Part 8 planning application.

### **3.11 Other Utilities and Services**

It is likely that the final scheme will include ancillary underground elements to serve the Sandyford Business District, including, inter alia:

- Watermains
- Diverted ESB cables
- Foul sewerage.

Other utilities such as gas mains may also be required. These features will not impact appreciably on the design of the road, as they will be constructed below ground under the footpaths and cycle tracks. The verge shall be kept clear of services in order to facilitate tree planting. However it may be necessary for services to cross the verge at particular locations. The exact nature and number of services to be accommodated will be established during the detailed design stage.

## Chapter 4

## Alternatives Considered

### 4.1 Alternatives Considered

In developing the road strategy for the Sandyford Urban Framework Plan a number of alternative road configurations were considered and examined using the SATURN traffic model. The conclusion of the SUFP roads study determined the optimum configuration required to facilitate the further development envisaged by the plan for the area. This optimum configuration includes the ESB Link Road and Link to Arena Road and the M50 junction 14 diverge ramp access to Sandyford (provided via a free flow slip to the ESB Link Road).

At the time of the development of the Sandyford Urban Framework Plan, a number of alternatives were considered:

- A slip road from the M50 southbound off-slip onto Heather Road;
- Construction of the Burton Hall Road Extension instead.
- Do Nothing

Both of the above were examined individually and in conjunction with the ESB Link Road and Link to Arena Road. In the case of the former, the National Roads Authority had significant concerns and expressed a strong preference that the scheme be combined with the ESB Link Road so as to have one exit point only towards Sandyford Business District from the M50 southbound off-slip. In the case of the latter two options, the development aspirations for Sandyford Business District could not be accommodated without the development of both the Burton Hall Road Extension and the ESB Link Road and Link to Arena Road. Therefore, both schemes were included as objectives of the Development Plan.

The proposed route has been developed in conjunction with landowners along the scheme extent and is considered optimal taking into account both existing land uses and proposed future developments.

The do nothing scenario presents an alternative to the proposed scheme, however this alternative would not facilitate any further development within the Sandyford Business District, without exacerbating traffic congestion.

The design of a do minimum scenario was considered involving the construction of the ESB Link Road without the quality bus corridor. However, this was dismissed in order to fulfil the improved public transport objectives for the area.

## Chapter 5

## Traffic Impacts

### 5.1 Traffic Model

The primary analysis tool that has been used for the traffic assessment and project appraisal is the Sandyford VISSIM Model, developed by AECOM and Roughan & O'Donovan in 2011 on behalf of the NRA as a decision making tool in the signalisation of the ESB Roundabout. The Sandyford models were developed as microsimulation models using the transportation modelling software VISSIM (V5.4-02). This type of model is particularly suited to small scale congested urban networks, simulating the behaviour of individual vehicles within the network.

The VISSIM model has been developed specifically to account for route choice effects of network interventions through the Sandyford area, and to allow replication of the complex interaction through a number of complex junctions. The study area of the Sandyford VISSIM model is outlined below in Figure 3.1.



**Figure 5.1: Boundary of Sandyford VISSIM Model**

The models were developed to replicate a Base year of 2012, covering the AM Peak period (07:00 – 10:00) and PM Peak period (16:00 – 19:00).

The model calibration process was undertaken in accordance with the requirements of PAG Unit 5.2: Construction of Traffic Models and with reference to the calibration criteria outlined in Table 5.2.2 of that Unit. The models were developed based on traffic information for 31 junctions (including significant SCATS data) and utilising a number of journey time surveys. The models have been calibrated to a standard compliant with the PAG criteria for all user classes and all time periods.

The outputs of the Sandyford VISSIM models (for instance travel time, delay time and vehicle kilometres) have been utilised to inform an appraisal of the scheme.

Full details of the various models are included in the Traffic Modelling Report (Appendix 3).

## **5.2 M50 Demand Management Study**

The NRA in conjunction with a number of local authorities in the Greater Dublin Area, including: Dún Laoghaire Rathdown; Fingal; and South Dublin County Councils recently undertook an extensive study into traffic demand measurements along the M50. These objective traffic management measures were to reduce demand on the M50, such that it operates without congestion for longer; and improve the safety and reliability of the M50 by reducing congestion. Measures were identified in order to achieve these objectives. These measures are as follows:

- Fiscal Measures – multi point tolling along the M50;
- Intelligent Transport Systems/Traffic Control – variable speed limits and incident management services;
- Information – information from the traffic control systems to be provided to the public via the internet;
- Smarter Travel – area based travel planning, most notably in the Sandyford Area; and
- Provision of a traffic control centre.

Modelling undertaken to supplement the M50 Demand Management Study indicated that the measures outlined above would have a significant impact on travel behaviour including: reassignment to avoid the tolls; some mode shift from the private car; and demand changes. Consequently, the study forecasts a reduction in demand along the M50 and also a reduction in traffic volumes using the on and off ramps at M50 Junction 14 to the order of 45% during the AM peak. Therefore, no adjustment of the demand matrices was considered necessary. As such, the traffic modelling undertaken represents a robust assessment of the road network within the Sandyford Business Estate and that of the National Road network.

## **5.3 M50/M11 Corridor Study**

The subject study has been undertaken with reference to the M50/M11 Corridor study. The M50/M11 Corridor study was undertaken to understand transport pressures between Sandyford and Fassaroe in Wicklow. The study included a range of road upgrades and traffic management measures within the study area. The final future scenario included some 40 separate schemes and included the subject scheme, the ESB Link Road and Link to Arena Road. Additional schemes within the study area, that were also included within the M50/M11 Corridor study include: Burton Hall Extension; signalisation of Leopardstown Roundabout; Leopardstown Link / Central Park to South County Business Park Link Road; Murphystown Link Road. Each of these schemes have been considered to some extent within the subject study.

## **5.4 The Sandyford Urban Framework Plan**

The Sandyford Urban Framework Plan (SUFP) identified a number of road improvement schemes in the Sandyford area, which are in the final stages of planning/pre construction and are due to be constructed within the next two years. For the purposes of this study it is assumed these will be in place in advance of the ESB Link Road and Link to Arena Road being implemented. These improvements constitute the “Do-Minimum” Scenario. The “Do-Something” Scenario is then taken as the addition of the proposed ESB Link Road and Link to Arena Road scheme.

### Schemes included in the Do-Minimum Scenario

- Scheme 1: Burton Hall Road Extension
- Scheme 2: Replacement of Leopardstown Roundabout with signals

### Schemes included in the Do-Something VISSIM models

- Scheme A: ESB Link Road to Blackthorn Road (incl different junction options)
- Scheme B: Additional link to Arena Road

Finally the forecast future traffic demand was calculated based on the proposed future development included in the SUFP. As described in the Traffic Modelling Report a design year of 2019 was taken for the completion of the SUFP.

AM and PM peak hour Do-Minimum and Do-Something models were created for both 2012 (current flows) and 2019 (SUFP flows). In addition a number of sub-models were developed to assess the performance of various different junction options in the design year of 2019. For the northern junction with Blackthorn Road different arrangements of a three arm traffic signalled junction were assessed before arriving at the preferred layout. For the southern junction, the existing ESB roundabout, options were explored for upgrading the current signalised roundabout and for replacing this with a conventional 4-arm traffic signal controlled junction. The Traffic Modelling Report describes the relative performance of these options in 2019 and explains why the preferred arrangement, a 4-arm signalised junction, was selected as the preferred scheme.

The 2012 and 2019 Do-Minimum and Do-Something traffic models were compared to identify the impact on traffic that the proposed scheme is forecast to have and to determine the traffic flows along the new link road. This comparison showed that the principal effect of the ESB Link Road will be to provide an alternative route into the Business Estate and ease traffic congestion that would otherwise occur if the scheme were not constructed. In particular there is forecast to be a significant reduction of the eastbound flow along Leopardstown Road in the AM peak period. In addition the left turning manoeuvre from Leopardstown Road into the Business Estate via the Leopardstown Roundabout or Burton Hall Road Extension is forecast to be reduced significantly.

Full details of these impacts are included in the Traffic Modelling Report. A summary of the overall impact of the scheme on the Sandyford road network is provided in Tables 3.1 and 3.2 below. These show that based on 2012 flows the scheme will have a relatively small positive impact on average traffic speed, travel time and distance travelled. Based on the forecast 2019 traffic flows associated with the SUFP the scheme has very significant positive impact on average speeds and travel times compared to the Do-Minimum scenario.

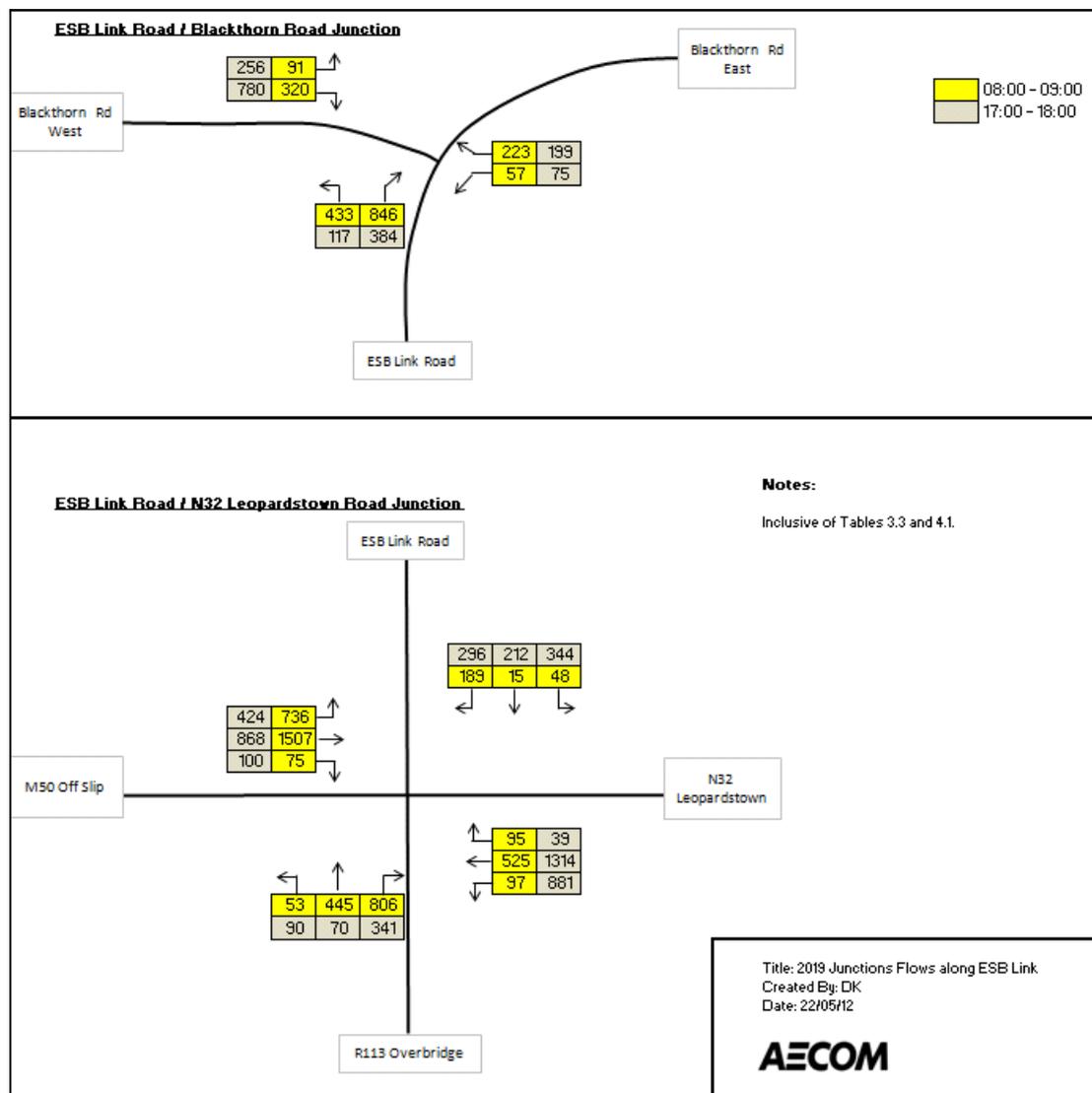
**Table 5.1: 2012 Network Performance Statistics**

Indicator	Units	Vehicles	AM Period		PM Period	
			Do Min	Do Some	Do Min	Do Some
Average Speed	(km/hr)	Lights	44.0	45.4	43.1	44.4
		Heavies	36.9	36.8	36.7	37.4
Ave. Travel Time / vehicle	(hrs)	All Vehicles	0.080	0.076	0.080	0.077
Average Distance Travelled	(km)	All Vehicles	3.483	3.432	3.439	3.421

**Table 5.2: 2019 Network Performance Statistics**

Indicator	Units	Vehicles	AM Period		PM Period	
			Do Min	Do Some	Do Min	Do Some
Average Speed	(km/hr)	Lights	10.4	32.0	6.3	22.6
		Heavies	11.8	30.7	6.6	22.6
Ave. Travel Time / vehicle	(hrs)	All Vehicles	0.345	0.108	0.584	0.152
Average Distance Travelled	(km)	All Vehicles	3.542	3.433	3.690	3.424

Forecast junction traffic flows for 2019 along the ESB Link Road are shown in the figure below.



**Figure 5.2 2019 Forecast Junction Traffic Flows**

## Chapter 6

## Impact on Human Beings

### 6.1 Introduction

This chapter of the Environmental Report describes the impact of the proposed project on the “human environment” in terms of population, employment and community impacts.

Sandyford Business District is one of the largest and most important employment districts in the country. The Business District includes numerous offices, services and apartment blocks and is home to over 600 major national and multinational companies. Future zoning for the immediate environs of the proposed ESB Link Road and Link to Arena Road is made up largely of office and enterprise development with open space and ancillary active recreational amenities and for the creation of sustainable residential neighbourhoods.

The proposed project will result in a loss of lands currently used as warehousing and storage for ESB, Eircom and tenants of Aviva (Ireland). The development will have a positive impact on all residential and commercial development and those working in the Sandyford District in terms of facilitating area-wide traffic management especially during peak hours. The additional traffic capacity provided by the ESB Link Road and Link to Arena Road, in conjunction with the other roads proposals identified in the Sandyford Urban Framework Plan will allow for future planned development in Sandyford Business District.

### 6.2 Population

#### Receiving Environment for Population

The area adjacent to the proposed road is a mix of brown field, commercial, open space and institutional land uses. Most existing development consists of commercial office and warehouse type development. Future population growth in the area is an objective of the County Council Development Plan, and this will depend on the provision of new commercial residential development as envisaged by the Sandyford Urban Framework Plan. Improvements to the local transportation infrastructure as set out in the SUFP are a prerequisite to support the anticipated population growth in the area.

#### Predicted Impact of Scheme for Population

The proposed road will facilitate further residential and commercial development in the Sandyford area by mitigating congestion that would otherwise arise on the existing road network.

### 6.3 Employment

The predicted impacts on employment due to the various stages of the scheme are outlined below:

#### Construction Phase

The construction phase of the roads scheme will generate construction employment on site in addition to jobs in support industries e.g. builders suppliers, local retailers etc.

### **Operational Phase**

The development of the scheme, in conjunction with other transportation initiatives for the area will insure that the area of Sandyford Business District will remain an attractive location for business at an important nodal point within a regional multi-modal transportation network. This will result in the increased demand for commercial and professional services, thereby increasing employment opportunities within the Sandyford Business District area.

### **Do Nothing Impact:**

If the road is not constructed, there will be an increase in traffic congestion on the local road network and the potential for future commercial and residential development in the area of Sandyford Business District will be curtailed.

## **6.4 Community Impact**

### **Receiving Environment**

The receiving environment is in brown-field industrial use and is zoned for redevelopment (contingent on the provision of the proposed road scheme).

### **Predicted Impact of Proposed Community Impacts**

The proposed scheme will increase permeability into and out of Sandyford Business District, benefiting both the population of the Business District and the population of hinterland areas south of the M50.

No additional severance will arise between communities because of the proposed road. There will be a beneficial community impact arising from the provision of additional communication routes for traffic, cyclists and pedestrians.

## Chapter 7

## Environmental Issues

### 7.1 Introduction

This chapter outlines the effects of the scheme and proposes mitigation measures required to ameliorate these effects, under the following headings: -

- (a) Noise & Vibration
- (b) Air Quality and Climate;
- (c) Hydrology & Hydrogeology;
- (d) Soil

### 7.2 Noise & Vibration

#### 7.2.1 Noise

There is unlikely to be significant noise impact as part of the construction phase of the scheme. Due to the nature of the scheme any noise nuisance will be temporary and localised. Standard limitations for noise will apply as laid out in the National Roads Authority (NRA) publication Guidelines for the treatment of Noise and Vibration, which sets out limits for construction activities.

A new road will be provided through a predominantly brownfield site. There are no residential properties located in the immediate vicinity of the site and therefore it is considered that there will be no impact as a result of noise during operation of the proposed project. Future developments adjacent to the ESB Link Road and Link to Arena Road will be designed taking account of the proposed road links and therefore noise won't adversely affect their residents.

Burton Hall, which contains a walled garden open to the public, and a training and rehabilitation centre for Cluain Mhuire is the closest noise sensitive receptor. The centre is contained within the walled grounds of Burton House and is over 100m from Arena Road. The facility is open during day time hours only. It is considered that any predicted increase in traffic will not have a significant impact as a result of noise on sensitive noise receptors.

#### **Construction Impacts and Mitigation Measures for Noise**

A variety of items of plant will be in use, such as excavators, lifting equipment, dumper trucks, compressors and generators. There will be vehicular movements to and from the site that will make use of existing roads.

The contract documents will clearly specify that the Contractor undertaking the construction of the works will be obliged to take specific noise abatement measures and comply with the recommendations of BS 5228: Part 1 and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001. These measures will ensure that:

- No plant used on site will be permitted to cause an ongoing public nuisance due to noise.
- The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract.

- Compressors will be attenuated models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use.
- Any plant, such as generators or pumps, that is required to operate before 07:00hrs or after 19:00hrs will be surrounded by an acoustic enclosure or portable screen.

During the course of the construction programme, supervision of the works will include ensuring compliance with the limits detailed in Table 8.9 using methods outlined in BS 5228 “Noise and Vibration Control on Construction and open sites”, Annex E. It should be noted that BS 5228 does not detail any specific noise limits in relation to construction noise.

### **Working Hours**

Normal working times will, in general, be during daylight hours 07:00 to 19:00hrs Monday to Saturday. Works other than the pumping out of excavations, security and emergency works will not be undertaken outside these working hours without the prior consent of the Employer or Employer's Representative. However some limited nighttime working will be required for the proposed new junction works. This permission, if granted, can be withdrawn at any time should the working regulations be breached.

### **Operational Phase**

The predicted noise level generated by the proposed road development during the operational phase is not expected to represent a significant increase on current noise levels in the area.

## **7.2.2 Vibration**

### **Potential Vibration Impacts – Operational Phase**

As a vehicle travels along a road, vibration can be generated in the road and subsequently propagate towards nearby buildings. Such vibration is generated by the interaction of a vehicle's wheels and the road surface and by direct transmission through the air of energy waves. Some of these waves arise as a function of the size, shape and speed of the vehicle, and others from pressure fluctuations due to engine, exhaust and other noises generated by the vehicle.

Ground vibrations produced by road traffic are unlikely to cause perceptible structural vibration in properties located near to well-maintained and smooth road surfaces. Problems attributable to road traffic vibration can therefore be largely avoided by maintenance of the road surface.

### **Potential Impacts – Construction Phase**

The potential for vibration at sensitive locations during construction is typically limited to demolition, excavation works, rock-breaking operations and lorry movements on uneven road surfaces. The more significant of these is the vibration from excavation and rock-breaking operations; the method of which will be selected and controlled to ensure there is no likelihood of structural or even cosmetic damage to existing neighbouring buildings.

## **7.3 Air Quality & Climate**

### **7.3.1 Air Quality**

#### **Construction Phase**

There is the potential for a number of emissions to the atmosphere during the construction of the scheme. In particular, the construction activities may generate quantities of dust. If a satisfactory dust minimisation plan is implemented, the effect of construction on air quality will not be significant.

The Contractor will be obliged by the local authority and the relevant legislation to ensure that the surrounding roads are kept free from dirt. In dry weather conditions, the Contractor will be required to minimise airborne dust from the site through spraying of exposed earthworks with water.

#### **Operational Phase**

Although some increase in pollutant concentrations may occur as a result of the proposed road development, it is considered that no significant increase in pollutant levels will occur. Therefore the road scheme will result in an imperceptible impact on air quality in the operational phase.

### **7.3.2 Climate Impact**

In terms of climate, Ireland ratified the Kyoto Protocol in May 2002 agreeing to limit the net growth of the six greenhouse gases to 13% above the 1990 level over the period 2008 to 2012. Traffic flows on the proposed road will be a source of greenhouse gas emissions. However, these will be insignificant in terms of Ireland's obligations under the Kyoto Protocol.

## **7.4 Hydrology and Hydrogeology**

The road drainage system will discharge to existing urban drainage systems and as such the risk of pollution to watercourses from the road is limited. However the road drainage system is designed in accordance with sustainable urban drainage systems (SUDS) best practice.

## **7.5 Soil**

This proposed ESB Link Road and Link to Arena Road will have no significant impact on soils along the proposed route.

## Chapter 8

## Flora and Fauna

### 8.1 Assessment Objectives

The objective of the survey was to assess the significance of the flora and fauna on the site proposed for the ESB Link Road and Link to Arena Road. Various legal instruments such as The Wildlife Acts (1976 and 2000) and the Flora Protection Order (1999) provide protection for species of conservation importance. The EU Habitats Directive (1992) obliges member states to protect species and habitats that are of importance on a Europe-wide scale. The EU Birds Directive (1979) protects birds of conservation concern.

### 8.2 Methodology

#### 8.2.1 Assessment of Flora and Habitats

A desktop survey and field assessment was carried out for the project in early November of 2012. The site was walked systematically while noting plant species and habitat types. Habitat types were assigned to categories (and given codes) according to the Heritage Council classification system (Fossitt 2000).

Information on sites of conservation importance (National Parks and Wildlife Service, web-based map viewer) for County Dublin, and various texts such as the Irish Red Data Book for vascular plants (Curtis and McGough, 1988) and Preston et al. (2002) were examined. Records for rare or locally important vascular plant species were checked (Dublin Naturalists' Field Club, 1998). Web site such as Biodiversity Ireland was also consulted to provide lists of all known recorded species within the study area.

#### 8.2.2 Assessment of Fauna

During the daytime survey the site was walked systematically while searching for signs of mammal activity. Signs of mammal activity include tracks and footprints, discarded prey items, scats and burrows or other resting places. Bird species were noted whenever encountered either visually or according to their song. Habitat suitability was also noted for all fauna species.

The National Parks and Wildlife (of Department of Environment, Heritage and Local Government) website showing conservation designations and rare species records was also examined for details of known areas or species of conservation interest in the vicinity ([www.npws.ie](http://www.npws.ie)). Bat records for the vicinity of the survey site were also checked ([www.batconservationireland.org](http://www.batconservationireland.org)). A review of Biodiversity Ireland website identified species which have been recorded within a 1km radius of the proposed development.

### 8.3 Results

#### 8.3.1 The Baseline Environment

The land surrounding the proposed development is largely urban, with office and light industrial units, busy roads and made ground.

The site proper is mostly flat and concreted with occasional street landscaping provided. There are no records of rare or protected species or conservation designations listed on the National Parks and Wildlife website for the immediate locality. There are, however a number of species listed within the Biodiversity Ireland

Website. In addition a number of Special Areas of Conservation, Special Protection Areas and proposed Natural Heritage Areas are situated within 10km of the site proposed for development.

One culverted stream runs through the study area. This watercourse flows into the Carysfort Stream at Leopardstown which in turn flows into Dublin Bay approximately 7 km downstream of the proposed works. This area is designated for Natura 2000 Sites: South Dublin Bay SAC and South Dublin Bay and Tolka Estuary SPA.

**Table 8.1 Species identified from Biodiversity Ireland Website**

<b>Species:</b>	<b>Common Name</b>	<b>Protected Status</b>
<i>Rana temporaria</i>	Common frog	Protected species EU Habitats Directive Annex V, and Wildlife Acts
<i>Cupressus macrocarpa</i>	Monterey Cypress	None
<i>Betula pendula</i>	Silver Birch	None
<i>Aeshana juncea</i>	Common Hawker	None
<i>Libellula quadrimaculata</i>	Four-spotted Chaser	None
<i>Didea fasciata</i>	Diptera (true fly)	None
<i>Eupeodes corolla</i>	Diptera (true fly)	None
<i>Eupeodes luniger</i>	Diptera (true fly)	None
<i>Heringia vitripennis</i>	Diptera (true fly)	None
<i>Merodon equestris</i>	Diptera (true fly)	None
<i>Platycheirus aurolateralis</i>	Diptera (true fly)	None
<i>Platycheirus splendidus</i>	Diptera (true fly)	None
<i>Scaeva pyrastris</i>	Diptera (true fly)	None
<i>Sphaerophoria scripta</i>	Diptera (true fly)	None
<i>Xylota florum</i>	Diptera (true fly)	None
<i>Nyctalus leisleri</i>	Leisler bat	Protected species: EU habitats directive Annex IV, and Wildlife Acts
<i>Pipistrellus pipistrelles sensu lato</i>	Pipistrelle	Protected species: EU habitats directive Annex IV, and Wildlife Acts
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	Protected species: EU habitats directive Annex IV, and Wildlife Acts

While a number of protected species are found in the above table within 1km kilometre radius of the proposal (bat species and common frog), there is no suitable habitat located within the study area for these species. Therefore it is unlikely that these species are present within or in proximity to the development site.

No signs of badger (e.g. setts, latrines, diggings or tracks) or otters were found nor is suitable habitat available in the vicinity of the works.

Rats (*Rattus norvegicus*) and field mice (*Apodemus sylvaticus*) are likely to occur but these species are not protected under conservation legislation. Signs of fox activity

were observed in the area although no evidence was found for the presence of a fox's earth. Foxes (*Vulpes vulpes*) are not protected under the Wildlife Acts.

There is no flora on the site that may be considered of conservation significance. No native rare or protected plants or habitat types were found during the present survey. The habitats present on the site are relatively common in the context of the surrounding landscape.

## **8.4 Impact of the proposed Development**

Overall the habitats that make up the site and surrounding area is made ground with occasional landscaping. There is no protected species or habitats found within the study area. The proposed development will result in loss of some non-native shrub/immature treelines, amenity grassland. Some semi-mature trees may be removed for the construction of the route at the entrance to the ESB site.

Potential nesting and foraging habitats for various song and other birds will be slightly reduced.

Trees that require removal as part of the proposed scheme will be removed outside of the bird breeding season and will be replaced with appropriate planting where feasible. There are no trees of significance within the Study area and therefore a tree survey has not been considered necessary.

A screening for appropriate assessment has been carried out (See Appendix 1). Following an appraisal of the potential impacts of the proposed ESB Link Road & Link to Arena Road on the Natura 2000 network, the likelihood of significant negative impacts arising on either the qualifying interests (South Dublin Bay SAC and South Dublin Bay and Tolka Estuary SPA) or on the integrity of any Natura 2000 site, has been ruled out. Therefore it is possible to screen out the need for an Appropriate Assessment and it is not deemed necessary to undertake any further stages of the Appropriate Assessment process.

## **8.5 Mitigation Measures**

### **8.5.1 Construction Phase**

Any shrub or tree lines which are proposed for removal should be scrubbed out during winter, between the end of September and late March to protect nesting birds.

Care should be taken to prevent damage to roots of existing trees that are to be retained during construction work in consultation with the DLRCC parks department.

Measures should be taken to ensure that surface water runoff is free from suspended solids and other pollutants.

## Chapter 9

## Landscape & Visual Impacts

The proposed scheme is located in the urban environment of the Sandyford Business District. Given the nature and design of the business park, which is made up of multi-storey buildings and warehousing units, there are limited extended views within the area and no protected landscape or visual amenity sites are identified within the Sandyford Business District area.

The proposed scheme will link the M50 Junction 14 via a new road through ESB, Eircom and Aviva (Ireland) land to Arena Road and Blackthorn Road. The overall length of new road construction is approximately 495 metres. The land required for the proposed road development is currently made up of hard surface (vehicle parking / storage and industrial units). There is some limited boundary treatment that will be impacted by the proposal where occasional trees will be removed along with the severance of small areas of hedgerow.

A reinforced concrete retaining wall is required along one section on the east boundary of the road otherwise the proposed road generally follows the existing ground levels.

The route travels through an industrial / business district that has no landscape and visual sensitivities. Therefore the proposed scheme will not have an adverse impact in its setting.

Proper landscape planning of the proposed route will mitigate any impact as a result of construction of the project and replacement planting will be provided.

## Chapter 10

## Impact on Material Assets

### 10.1 Impact on Material Assets

The proposed scheme will require occupy a permanent land area of approximately 0.9046 hectares. The impacts of the proposed road for each of the affected landholdings are considered as follows: -

#### Electricity Supply Board (ESB)

The proposed road scheme will require approximately 0.5847 hectares of the landholding in the ownership of the ESB. The scheme when constructed in its entirety will divide the ESB landholding into three distinct segments. However, it is understood that the ESB intend to redevelop their site in the medium term and the delivery of the proposed ESB Link Road & Link to Arena Road will facilitate this. Therefore, while the proposed road scheme may have a moderate negative impact on the landholdings in the short term, its medium term impact will be significantly positive.

It is recognised that the proposed link to Arena Road may interfere with the current strategic operations of the ESB. Therefore the construction of the Arena Road Link should be undertaken only when ESB operations have reduced to a level that permits construction.

#### Aviva Ireland Limited

The proposed ESB Link Road will run between two warehouses on lands owned by Aviva. The proposed road will divide the Aviva property into two distinct segments and would result in the loss of the existing service yard (approximately 0.1256 hectares) that serves the centrally located building. The proposed ESB Link Road will therefore have a significant adverse impact in terms of the continued use of the centrally located building as it will no longer have a service yard. It is understood that Aviva have no proposals to redevelop these lands at present but redevelopment of these lands is envisaged by the Sandyford Urban Framework plan and the delivery of the proposed ESB Link Road & Link to Arena Road will facilitate this. Therefore, while the proposed road scheme may have a significant negative impact on the landholding in the short to medium term, its medium to long-term impact will be significantly positive.

#### Eircom

The proposed road scheme will require approximately 0.1943 hectares of the landholding in the ownership of Eircom. The scheme when constructed in its entirety will divide the Eircom landholding into two distinct segments. However, it is understood that Eircom intend to redevelop their site in the medium term and the delivery of the proposed ESB Link Road & Link to Arena Road will facilitate this. Therefore, while the proposed road scheme may have a moderate negative impact on the landholdings in the short term, its medium term impact will be significantly positive.

#### Brooks Group Limited

The warehouse to the east of Aviva is owned by the Brooks Group Ltd. The impact on this landholding will be neutral in the short to medium term, as the proposed road will cause additional severance but will provide more direct access. The Sandyford Urban Framework Plan has envisaged the redevelopment of this land and the delivery of the proposed ESB Link Road & Link to Arena Road will facilitate this. Therefore, while the proposed road scheme may have a neutral impact on the landholding in the short to medium term, its medium to long-term impact will be significantly positive.

## **10.2 Provisions for Access to Existing and Future Development**

Access will be maintained to all properties throughout the construction phase. Provision has been made in the proposals to access existing and future development as follows: -

### Electricity Supply Board (ESB)

Two access points have been included to the existing and future development on the ESB lands to the west of the proposed road. Two temporary access points have also been provided for the existing ESB offices to the east of the proposed road. These eastern accesses are to facilitate the existing operations of the ESB and will be removed with the redevelopment of the ESB lands and the construction of the Arena Road Link. Access to the redeveloped ESB lands to the east of the proposed ESB Link Road will be provided from the Arena Road Link.

### Aviva and Brooks Group

Access to the Aviva properties on Fern Road to the west of the ESB Link Road will be maintained from the existing junction on Heather Road. Access to the Aviva and Brooks Group properties to the east of the ESB Link Road will be provided from the proposed new road where a right turning lane is proposed.

### Eircom

Access to the Eircom property to the west of the ESB Link Road will be maintained from the existing access on Heather Road. Access to the Eircom property to the east of the ESB Link Road will be provided from a proposed new access on Blackthorn Road where a right turning lane is proposed.

## **10.3 Boundary Treatment**

The proposed road boundary treatment will be subject to agreement between the Council and the respective landowners.

## Chapter 11 Architectural, Archaeological and Cultural Heritage

### 11.1 General

All works will take place, with only minor surface effects, either within the corridor of the existing road or directly adjacent to the existing road in land that has been subject to recent development. Consequently there are no predicted impacts on architectural, archaeology and cultural heritage.

### 11.2 Impacts on Monuments and Places

A review of all recorded monuments show that there are no RMP (Record of Monuments and Places) sites located within or in proximity of the proposed road alignment. A review of protected structures listed within the Dún Laoghaire Rathdown Development Plan 2010 – 2016 identified one protected structure in proximity to the proposal project:

- Burton Hall.

Burton Hall adjoins Arena Road to the north and Leopardstown Road to the south. Neither the property nor its curtilage will be directly impacted as part of the proposed project.



**Figure 11.1** Burton Hall, Arena Road, Sandyford

Any development that includes topsoil and subsoil stripping, reduction of ground levels and excavation can potentially have a negative impact on archaeological and cultural remains both recorded and unrecorded. The proposals will not directly

impact on any recorded archaeological monuments. There is no predicted impact on known archaeological remains.

### **11.3 Mitigation Measures for Cultural Heritage**

Archaeological assessment is not required because this area has been subject to previous ground disturbance that would have removed any archaeological features and deposits should they have been present.

## Chapter 12

## Construction Phase

### 12.1 Introduction

This chapter of the Environmental Report outlines, the significant environmental effects that may arise during the construction phase. Furthermore the proposed ameliorative measures, which are generally considered in the previous chapters, are also outlined. This chapter deals with the issue of the timescale for construction, locations and operation of the site compounds and details temporary impacts, not previously described, on residents, road users, pedestrians and cyclists.

### 12.2 Time Scale for Construction

The period of time to complete the proposed road scheme is estimated at 12 months.

### 12.3 Site Compounds

A site compound will be required in a location to suit the construction activities. This compound will provide office and canteen facilities as well as providing a space for storage of materials and construction plant.

### 12.4 Impact of Construction Activities

**Construction Noise:** The construction of the road scheme will cause an increase in local noise levels during working hours. No particularly high noise generating activities such as blasting are anticipated. Contract conditions will limit working hours to daytime, thereby avoiding the potential for disturbance of residents at night. However some night-time operations may be required to complete the road connection and new signal controlled junction at the Leopardstown Road.

**Pollution of Watercourses:** Accidental spillages into the watercourses and drainage systems could lead to pollution. The Contract will include requirements for appropriate measures to prevent an accidental spillage of pollutant materials. Measures will be adopted to prevent discharge of suspended solids into the watercourses during construction phase. The road drainage run-off will be treated before discharging to the receiving waters.

**Dirt and Dust:** The Contractor will be obliged by the local authority and the relevant legislation to ensure that the surrounding roads are kept free from dirt. In dry weather conditions, the Contractor will be required to minimise airborne dust from the site through spraying of exposed earthworks with water.

**Construction Traffic:** There will be traffic associated with the construction phase of the proposed project. However as the earthworks are limited, construction movements will not be significant. The Contractor will be obliged to use main roads to access the site and also to avoid using residential areas for site access.

**Private Access:** Access will be maintained to all properties throughout the construction phase.

## Chapter 13

## Interrelationships

### 13.1 Introduction

Each of the various environmental and related topics has been separately discussed in the previous chapters of the Environmental Report. In this chapter the impacts that the ESB Link Road and Link to Arena Road will have on the existing environment have been identified as follows: -

In the table below the shaded boxes indicate inter-relationships between different aspects of the environmental impacts of the scheme.

**Table 13.1 Environmental Impact Matrix**

Receptor Activity	Traffic	Community	Noise & Vibration	Air Quality	Landscape / Visual	Ecology	Soils	Climate	Water	Archaeology	Architecture
Traffic		*	*	*				*			
Community											
Noise & Vibration		*									
Air Quality		*						*			
Landscape / Visual		*									
Ecology					*				*		
Soils			*								
Climate											
Water						*					
Archaeology											
Architecture											

## Chapter 14

## Summary of Mitigation Measures

### 14.1 Noise & Vibration

- Low noise road surfacing will be provided on the proposed road.
- The application of BS 5228:1997 “Noise Control on Construction and Demolition Sites” should minimise disturbance to locals,
- Machinery and compounds will be positioned, where possible, to avoid undue disruption.

### 14.2 Archaeology and Cultural Heritage

#### Construction Phase for Archaeology

- The cessation of machine work must occur as soon as archaeological material has been uncovered.

### 14.3 Construction Phase

- All measures shall be taken to ensure that surface water runoff is free from suspended solids and other pollutants,
- All storage areas should be in bunded compounds away from watercourses,
- Regular maintenance and servicing of machinery and plant will be required,
- The contractor must set up systems to prevent dirt from being released onto public roads. In the event that site traffic does dirty the roads, then the contractor will be required to clean all the roads affected,
- Control of the release of suspended solids into the public drainage systems will be done through the use of interceptors or traps,
- Contract conditions will require that the contractor prevents silt laden water from discharging into the watercourse,
- On site temporary toilet facilities shall be serviced and maintained by a specialist contractor.
- Access will be maintained to all properties throughout the construction phase.
- Any shrub or tree lines that are proposed for removal should be scrubbed out during winter months, between the end of September and late March to protect nesting birds.



## APPENDIX 1

### Appropriate Assessment Screening Report

#### Screening for Appropriate Assessment

The requirement for Appropriate Assessment is set out in the EU Habitats Directive (92/43/EEC) in Article 6 (3) which states:

*“Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site’s conservation objectives.”*

The Habitats Directive is transposed in Ireland by the European Communities (Birds and Natural Habitats) Regulations, 2011 (consolidating the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in recent CJEU Judgements) (hereafter referred to as the Habitats Regulations) and the Planning and Development (Amendment) Act, 2010.

This Screening for Appropriate Assessment (Stage 1) has been prepared in accordance with current guidance and provides an ecological impact assessment for the proposed scheme.

The Screening provides the information required in order to establish whether or not the proposed development is likely to have a significant impact on the Natura sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 sites have been designated.

By undertaking the ecological impact assessment in a step-by-step manner in relation to the habitats and species of the Natura 2000 sites, this chapter seeks to inform the screening process required as the first stage of the process pursuant to Article 6.3 of the EU Habitats Directive.

#### Report Format

This Screening Report includes the assessment and testing required under Stage 1 – the Screening Process. In complying with the obligations under Article 6(3) and to be consistent with the Guidance for Planning Authorities, this report has been structured as follows:

- Description of the Plan/Project;
- Identification of Natura 2000 sites, and the associated Conservation Objectives, which may be potentially affected;
- Identification and description of individual and cumulative impacts likely to result from the Plan/Project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of site where it can be objectively concluded that there will be no significant effects

## Description of the Plan/Project

The proposed project is described in Section 1 of this Report and identifies the construction of a scheme that runs north from the M50 Junction 14 roundabout through lands owned by ESB, AVIVA and EIRCOM to join Blackthorn Road. The proposed ESB Link Road will involve the provision of approximately 350 metres length of new single carriageway road linking Blackthorn Road and the roundabout at M50 junction 14. The proposed scheme also includes the provision of a new northbound quality bus corridor a new signalised junction at Blackthorn Road and the replacement of the signalised roundabout at M50 junction 14 with a signalised junction. A link from the proposed road to Arena Road will involve the provision of approximately 145 metres length of new single carriageway road. Improvements will also be made to the existing Blackthorn Road at the approaches to the new junction. The scheme includes footpaths, cycleway, pedestrian crossings, general landscaping, drainage and street lamps.

## Identification of Natura 2000 sites, and associated Conservation Objectives

There is one stream which will be impacted as a result of the proposed project and provides the only link to Natura 2000 Sites of conservation interest. This stream is culverted in the location of the works and flows into the Carysfort Stream at Leopardstown which in turn flows into Dublin Bay approximately 7 km downstream of the proposed works. This area is designated for Natura 2000 Sites: South Dublin Bay SAC and South Dublin Bay and Tolka Estuary SPA. See Table 1 for the conservation Objectives (Qualifying interests) of Natura 2000 sites in proximity to the proposed works.

**Table 1 Natura 2000 Sites, conservation interests and assessment of impacts**

Name	SAC /SPA Qualifying Interests	Proximity	Potential Effects	Justification
South Dublin Bay SAC	Mudflats and Sandflats	>7km	None	SAC is located over 7km downstream of the works at the mouth of the Carysfort Stream. There is no risk of pollution to the bay with standard best practice measures in place. A distance of 7km downstream of the work will provide sufficient dilution to any accident event. Mudflats and Sandflats are not sensitive to low level pollution.
South Dublin Bay and Tolka Estuary SPA	Coastal Birds	>7km	None	No birds using the SPA are found in proximity to the works. As above the risk of pollution is not significant and given the distance any accident events that could occur would not result in impact on birds within the SAC.

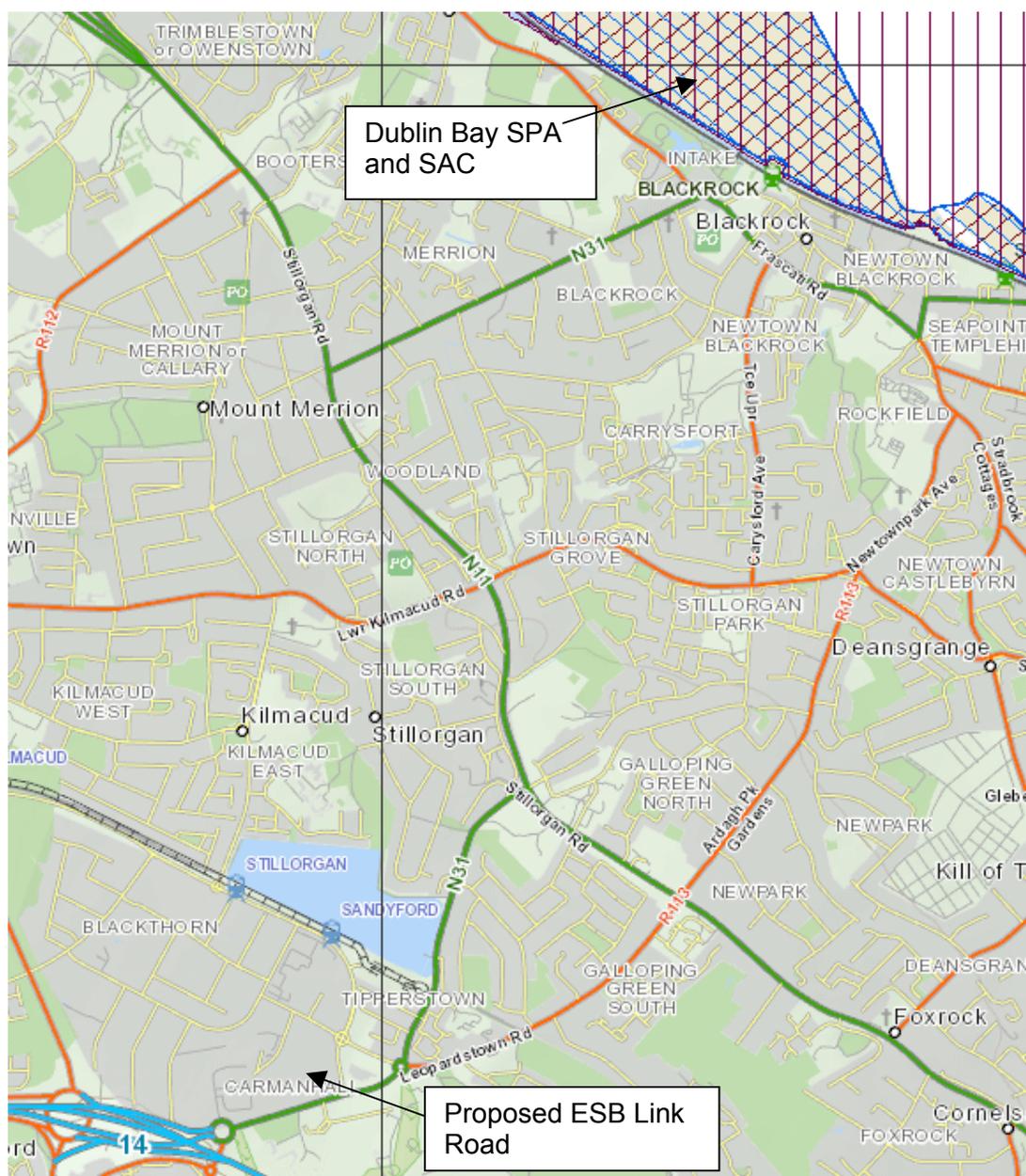


Figure 1 Natura 2000 Sites (source NPWS web viewer)

**Identification and description of individual and cumulative impacts**

Works are to be carried out on the existing culverted stream which is located in ESB lands. The stream in this location has no habitats or species of conservation interest or related to the conservation objective of any Natura 2000 sites. South Dublin Bay SAC and SPA is designated for its habitats of Mudflats and sandflats and a range of coastal birds. Therefore given distance between the works and the bay and that standard best practice measures will be employed during the construction phase, there will be no impact on protected habitats and species located within South Dublin Bay SAC and SPA.

Given the scale of works and the conclusion of no potential for impact on Natura 2000 sites it is determined that in combination with any other developments that there will be no cumulative impact.

### **Assessment of the significance of the impacts and conclusion**

Following an appraisal of the potential impacts of the proposed ESB Link Road & Link to Arena Road on the Natura 2000 network, the likelihood of significant negative impacts arising on either the qualifying interests (South Dublin Bay SAC and South Dublin Bay and Tolka Estuary SPA) or on the integrity of any Natura 2000 site, has been ruled out. Therefore it is possible to screen out the need for an Appropriate Assessment and it is not deemed necessary to undertake any further stages of the Appropriate Assessment process.

## **APPENDIX 2**

### **Scheme Drawings** (included as a separate volume)



## **APPENDIX 3**

### **Traffic Modelling Report** (included as a separate volume)