

Lissenhall East

Draft Local Area Plan

August 2022

Appendices

Appendices

Page left intentionally blank



Lissenhall East

Draft Local Area Plan

August 2022

**Appendix 1: Strategic Environmental Assessment (SEA)
Environmental Report and Environmental
Report Non-Technical Summary**

Prepared by Brady Shipman Martin



Appendices

Page left intentionally blank



LISSENHALL EAST DRAFT LOCAL AREA PLAN (LAP) 2022

Strategic Environmental Assessment (SEA)
Environmental Report
Non-technical Summary

BSM

Est.
1968

**Brady Shipman
Martin**

**Built.
Environment.**

Strategic
Assessment
**Built
Environment**

CLIENT
Fingal County Council

DATE
August 2022

Contents

Glossary	4
1.0 Introduction	7
2.0 Strategic Environmental Assessment (SEA).....	9
2.1 SEA Stages and Process	9
2.2 Pre-Draft Consultations	10
2.3 SEA Screening and Scoping.....	11
2.4 Appropriate Assessment (AA).....	12
2.5 Strategic Flood Risk Assessment (SFRA)	12
2.6 SEA Guidance	13
3.0 Description of the Lissenhall East Draft Local Area Plan 2022.....	14
3.1 Introduction	14
3.2 Land Use & Objectives of the LAP	15
3.3 Structure and Contents of the Draft LAP.....	17
3.4 Lissenhall East Proposed Development Framework.....	17
4.0 Relationship to Relevant Plans and Programmes.....	20
4.1 Introduction	20
4.2 Interaction with Other Relevant Plans and Programmes.....	22
5.0 Environmental Baseline.....	23
5.1 Introduction	23
5.2 Biodiversity (Flora & Fauna)	23
5.3 Population and Human Health	24
5.4 Soils and Geology.....	25
5.5 Water Quality.....	26
5.6 Air Quality, Noise and Climate Change.....	27
5.7 Material Assets	28
5.8 Cultural Heritage.....	29
5.9 Landscape & Visual	30
5.10 Interactions and Cumulative Impacts.....	30
6.0 Strategic Environmental Objectives.....	31
6.1 Strategic Environmental Objectives (SEOs).....	31
7.0 Alternatives.....	32
7.1 Introduction	32
7.2 Assessment of Alternative Scenarios.....	32
7.3 Selection of the Preferred Alternative for the Local Area Plan.....	33

8.0	Environmental Assessment	34
8.1	Methodology.....	34
8.2	Appropriate Assessment.....	34
8.3	Potential Adverse Effects and their Determination	34
9.0	Mitigation.....	38
9.1	Introduction	38
9.2	Overview of Mitigation Measures	38
10.0	Monitoring	39
10.1	Introduction	39
10.2	Indicators and Targets	39
10.3	Sources.....	39
10.4	Reporting	39

Glossary

Appropriate Assessment

An assessment prepared in accordance with EU Habitats Directive 92/43/EEC (Article 6) to determine the effects of a plan or project on a European Site.

Biodiversity and Flora and Fauna

Biodiversity is the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992).

Flora is all of the plants found in a given area.

Fauna is all of the animals found in a given area.

Environmental Assessment

Is a method or procedure for predicting the effects on the environment of a proposal, either for an individual project or a higher-level "strategy" (a policy, plan or programme), with the aim of taking account of these effects in decision making.

Environmental Authority

This refers to designated authorities (specified in Article 13A(4) of the Planning and Development Regulations 2001-2022), who must be consulted by planning authorities when they are undertaking Strategic Environmental Assessment.

Environmental Impact Assessment (EIA)

Generic term used to describe environmental assessment as applied to projects. It refers to the type of assessment required under European Directive 2014/52/EU amending European Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the assessment of the effects of certain Plans and programmes on the environment (the Strategic Environmental Assessment Directive) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse.

Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

Environmental Report

The report required by the SEA Directive as part of an environmental assessment, which identifies, describes and evaluates the likely significant effects on the environment of implementing a plan or programme.

Environmental Vectors

Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.

Flood Risk Assessment

An assessment of flood risk associated with land use plans and future projects with a view to better management. A Strategic Assessment is prepared for Local Authority Plans which a Regional Flood Risk Appraisal is prepared for Regional Spatial and Economic Strategies in accordance with DECLG/ OPW 2009 Flood Risk Management Guidelines.

Indicator

A measure of variables over time, often used to measure achievement of objectives.

Mitigation

Measures used to avoid, reduce or offset significant adverse effects on the environment.

Objectives

Specific statements that carry out a plan in the short term. Objectives are measurable benchmarks that can be used to assess incremental progress in achieving the broader purposes expressed in policies and goals.

Policies

Broad statements that set preferred courses of action. Policies are choices made to carry out the goals in the foreseeable future. Policies need to be specific enough to help determine whether a proposed project or program would advance community values expressed in goals.

Protected Structure

Protected Structure is the term used in the Planning and Development Act and Regulations (as amended) to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.

Recorded Monument

A monument included in the list and marked on the map which comprises the Record of Monuments and Places that is set out County by County under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Any works at or in relation to a recorded monument requires two months' notice to the former Department of the Environment, Heritage and Local Government (now Department of Arts, Heritage and the Gaeltacht) under Section 12 of the National Monuments (Amendment) Act, 1994.

Responsible (or Competent) Authority

The organisation which prepares and/or adopts a plan or programme subject to the Directive and is responsible for the SEA.

SEA Directive

European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.

SEA Regulations

The Regulations transposing the SEA Directive into Irish law – Refer to S.I. 435 & 436 (2004) and S.I. 200, 201 & 262 (2011).

Strategic Environmental Assessment (SEA) Environmental Report

SEA (Strategic Environmental Assessment)

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it.

SEA Scoping

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. SEA scoping is carried out in consultation with appropriate environmental authorities.

Seveso

S.I.No.402 of 2003, European Communities (Control of Major Accident Hazards Involving Dangerous Substances)(Amendment) Regulations 2003, give effect to European Directive 96/82/EC on the control of major accident hazards involving dangerous substances, also known as the Seveso II Directive. The regulations apply to companies where dangerous substances are present in quantities equal to or above specified thresholds.

Significant Environmental Effect

Significance is a function of impact magnitude and the importance/sensitivity of the resources of the receptor. Effects on the environment which are significant in the context of a plan or programme. Criteria for assessing significance are set out in Annex II of the SEA Directive.

Strategic Actions

Strategic actions include: Policies / Strategies, which may be considered as inspiration and guidance for action and which set the framework for Plans and programmes; Plans, sets of coordinated and timed objectives for the implementation of the policy; and Programmes, sets of projects in a particular area.

Strategic Environmental Objective (SEO)

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level and are used as standards against which the provisions of the Masterplan and the alternatives can be evaluated in order to help identify which provisions would be likely to result in significant environmental effects, and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

Transboundary Consultations

Consultations between one or more Member State of the EU, regarding significant effects of implementation of a plan or programme.

1.0 Introduction

The 2017-2023 Fingal County Development Plan identified lands at Lissenhall East in Swords for which a Local Area Plan (LAP) was to be prepared during the lifetime of the Development Plan. Therefore, Fingal County Council (FCC) has prepared a Draft LAP to examine the area in detail, identifying and analysing the various issues affecting the area and setting principles and objectives for its future development. The Draft LAP and associated documentation will be placed on public display for consultation with environmental authorities, stakeholders and general public. The LAP will be valid for six years from the date of adoption by the Council.

The Lissenhall East lands cover an area of c.27.7 hectares within the existing northern development boundary of Swords. The lands are located west of the M1 Motorway, east of the R132 (Old Swords Road), south of the M1 / R132 Junction, and north of the Broadmeadow River Valley and adjoining lands (refer to Figure 1.1).

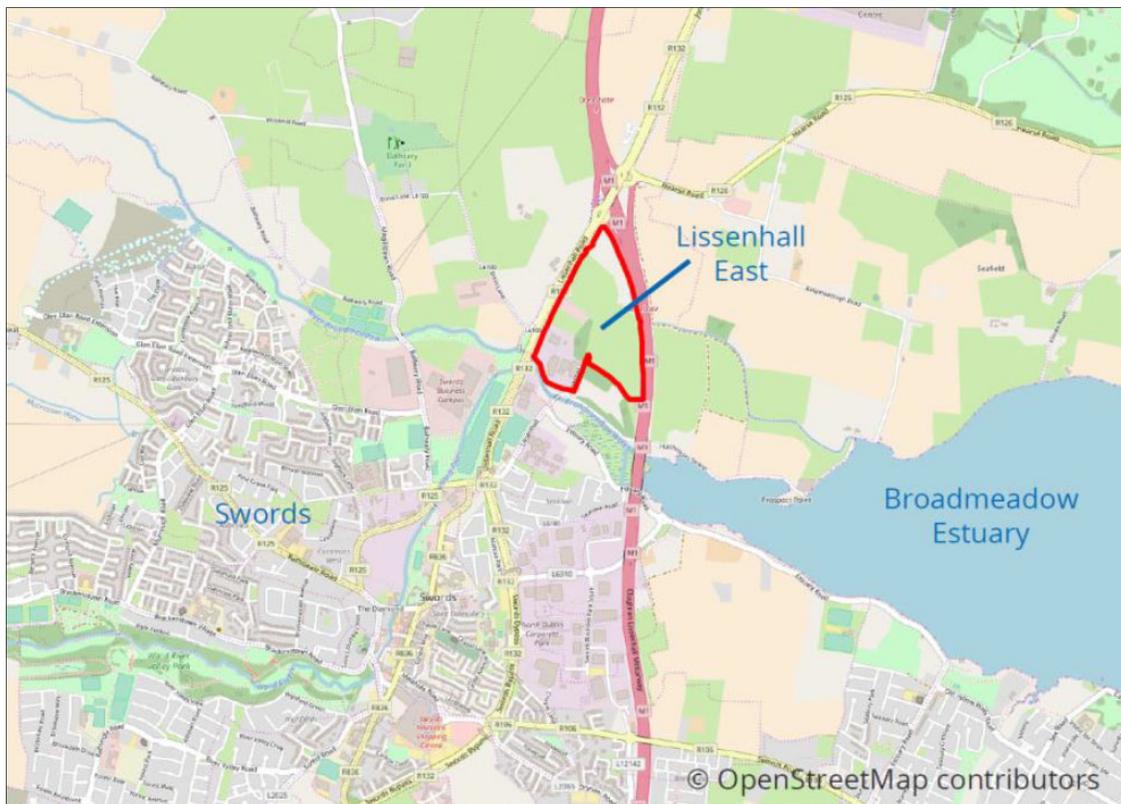


Figure 1.1: Location of LAP Lands at Lissenhall East (source: Lissenhall East Draft Local Area Plan 2022)

The Fingal Development Plan 2017-2023 designated an area of c. 27.7 hectares (ha) for LAP purposes. The requirement for the preparation of the LAP is identified in the Fingal Development Plan, under:

‘Objective SWORDS 27

Prepare and / or implement the following Local Area Plans and Masterplans during the lifetime of this Plan:

- *Lissenhall East Local Area Plan (see Map Sheet 8, LAP 8.B);*
- *.....’*

A LAP is a statutory document prepared by the Planning Authority in accordance with the requirements of Sections 18, 19 and 20 of the Planning and Development Act, 2000, as amended (PDA 2000). It consists of a

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

written statement and plans that must be consistent with the objectives of the County Development Plan, its core strategy and any Regional Planning Guidelines or Regional Spatial Economic Strategy (RSES) that applies to the area of the Plan.

The preparation of the Lissenhall East LAP is required to undergo a Strategic Environmental Assessment (SEA) in accordance with Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment¹ (known as the SEA Directive).

This report comprises the SEA Environmental Report for the Lissenhall East Draft Local Area Plan 2022. The Report has regard to SEA Guidelines, and to: -

- The current knowledge and methods of assessment;
- The contents and level of detail in the Plan;
- The stage of the Plan in the decision-making process;
- The extent to which certain matters are more appropriately assessed at different levels in the decision-making process in order to avoid duplication of the environmental assessment; and
- Consultation with the SEA Environmental Authorities.

This report should be read in conjunction with the Lissenhall East Draft Local Area Plan 2022, the Appropriate Assessment Screening Statement and Natura Impact Report (NIR), and the Specific Flood Risk Assessment (SFRA).

The SEA Environmental Report has been prepared on behalf of Fingal County Council by Brady Shipman Martin, Environmental, Landscape and Planning Consultants.

¹ DIRECTIVE 2001/42/EC: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0042&from=EN>

2.0 Strategic Environmental Assessment (SEA)

SEA is a process for evaluating, at the earliest appropriate stage, the environmental quality and consequences of Plans or Programmes (P / P). The purpose is to ensure that the environmental consequences of P / P are assessed both during their preparation and prior to their adoption. The SEA process also gives specified environmental authorities, interested parties and the general public, an opportunity to comment on the environmental impacts of the proposed P / P and to be kept informed during the decision-making process.

SEA derives from European Communities Directive 2001/42/EC - *Assessment of Effects of Certain Plans and Programmes on the Environment*² (commonly referred to as the SEA Directive). Article 1 of the Directive states that:

“The objective of this directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.”

The SEA Directive was transposed into national legislation by the:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument (S.I.) No. 435 of 2004), as amended by European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011, (S.I. No. 200 of 2011); and
- Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004), as amended by the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, (S.I. No. 201 of 2011).

The latter regulations relate to SEA as it applies to P / P where the context requires, *“a development plan, a variation of a development plan, a local area plan (or an amendment thereto), regional planning guidelines or a planning scheme.”*³

Therefore, as the P / P the subject of this report is the Lissenhall East Draft Local Area Plan (Lissenhall East Draft LAP), the latter Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004), as amended by Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations (S.I. No. 201 of 2011), apply.

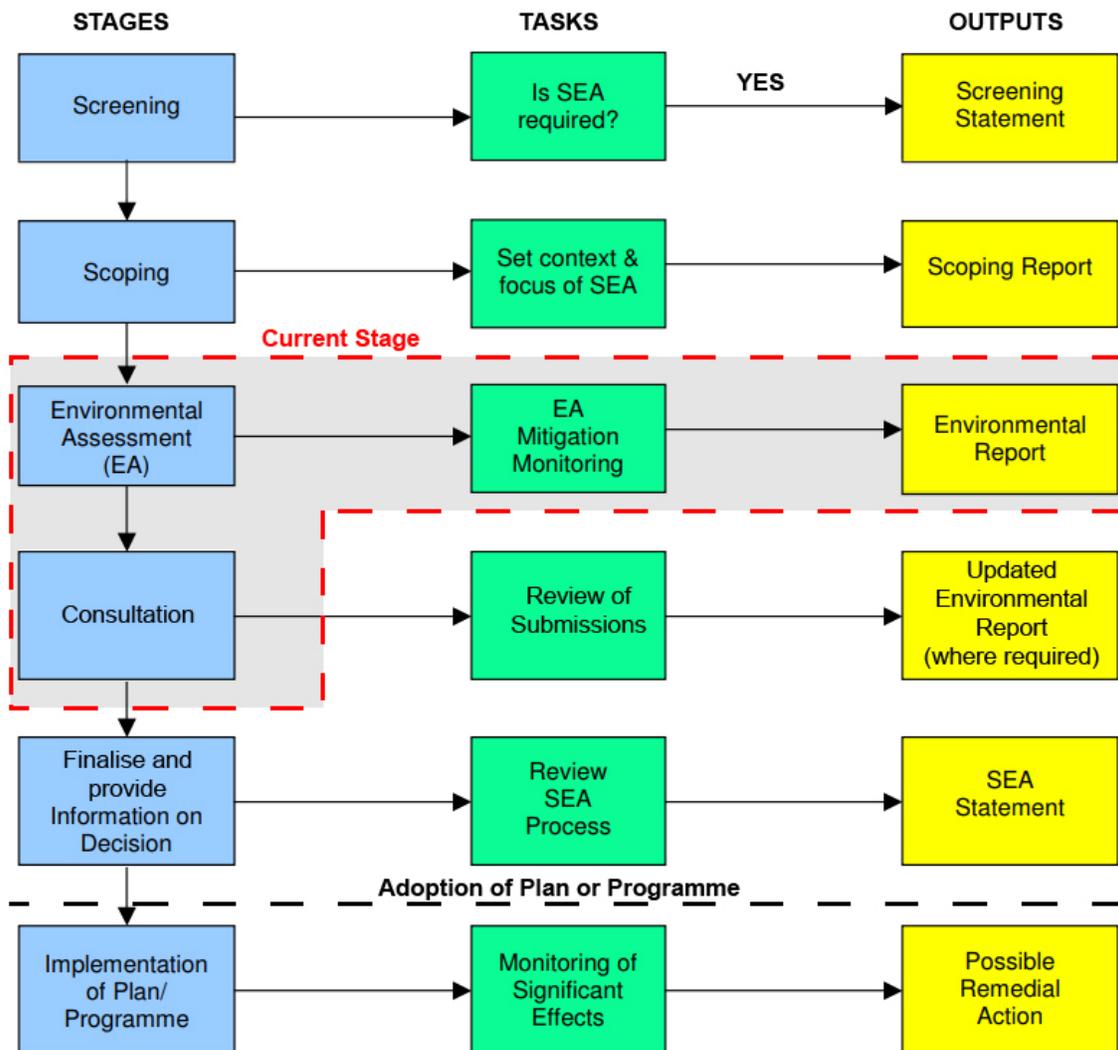
2.1 SEA Stages and Process

The key focus of SEA is to take environmental issues, and in particular *‘likely significant environmental effects’* of a P / P, into consideration during the plan or programme making process. The key stages in the SEA process as they relate to the Lissenhall East LAP are outlined in Figure 2.1 and Table 2.1 below.

² <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0042&from=EN>

³ Section 5(c) of S.I. No. 436 of 2004, as amended by S.I. No. 201 of 2011

Figure 2.1: Overview of SEA Process (adapted from the EPA SEA Process Checklist, 2013⁴)



2.2 Pre-Draft Consultations

FCC undertook a 6 week consultation process on the Strategic Issues Paper for the pre-draft LAP in November 2017. The submissions, which have informed the preparation of the Draft LAP and the SEA Environmental Report, related generally to issues around:

- the integration of the development of the LAP lands with the future alignment of MetroLink and location of the proposed Estuary stop;
- the careful consideration and co-ordination of vehicular access to the Lissenhall East LAP lands with planned improvements to the adjacent road network;
- the management of travel demand through the appropriate integration of land use and public transport;
- the need to safeguard the operation of existing enterprises;
- the need for high quality buildings to attract and accommodate new employment generating activities;

⁴ EPA: <http://www.epa.ie/pubs/advice/ea/SEA%20Process%20Checklist.pdf>

- the provision of adequate sewage treatment facilities prior to any significant development; and
- the need to carefully consider local biodiversity given proximity of the lands to the estuary.

2.3 SEA Screening and Scoping

The requirement for SEA for a LAP is mandatory where the plan applies to an area the population or the target population of which is equal to or more than 5,000 persons or where the area covered by the local area plan is equal to or more than 50 square kilometres. The Lissenhall LAP relates to an area of less than 5000 persons and less than 50 square kilometres and therefore, SEA is not a mandatory requirement.

Where SEA is not a mandatory requirement, the P / P is subject to a ‘*Screening process*’, to consider if it is likely to have significant effects on the environment, and hence if SEA is required. The Screening process concluded that SEA is required for the Lissenhall East LAP based on:

- the requirement for Appropriate Assessment under Article 6(3) of the Habitats Directive; and
- potential significant effects on the European sites;
- potential significant effects on surface water (from flooding);
- potential significant effects via emissions to air; and
- potential significant effects, including cumulative, on traffic and transportation.

Therefore, the LAP is subject to SEA and a SEA Environmental Report has been prepared to accompany the Lissenhall East Draft LAP, the Appropriate Assessment NIR and the SFRA on public display.

Submissions / observations were received from the environmental authorities as summarised in Table 2.2 (refer also to Table 2.2 of SEA Environmental Report for full details).

Table 2.2: SEA Submissions / Observations from Environmental Authorities

Environmental Authority	Outline of Nature of Submission	Response to Consideration of Nature of Submission
EPA	Provides link to EPA guidance and documents. Appropriate critical service infrastructure should be in place, or required to be put in place, to service any development proposed. Take into account the need to align with national commitments on climate change mitigation and adaptation.	The Environmental Report has had regard to current guidance and information. The Lissenhall East Draft LAP has considered the requirement for critical service infrastructure climate change mitigation and adaptation and higher level plans.
Department of the Environment, Climate and Communications (DoECC) / Geological Survey Ireland (GSI)	GSI provided specific information is provided with regard to Geoheritage; Groundwater, and Climate Change; Geological Mapping, and Geotechnical Database Resources; Natural resources, and Geochemistry of soils, surface waters and sediments. Links are provided to their website and publicly accessible datasets relevant to Planning, EIA and SEA.	The preparation of the LAP and Environmental Report has had regard to and utilised the datasets / information provided in the submission.
Department of Housing, Local Government and Heritage (DoHLGH)	Archaeology Submission notes the presence of monuments of archaeological interest, Sites and Monuments Record Nos DU012-102----, enclosure; DU012-015----, enclosure) which are / will be subject to statutory protection in the	The Lissenhall East Draft LAP has taken account of the presence of the existing SMR features. The Draft LPA also incorporates “ <i>Objective</i>

Environmental Authority	Outline of Nature of Submission	Response to Consideration of Nature of Submission
	<p>Record of Monuments and Places.</p> <p>Recommended that Archaeological Impact Assessments should be prepared to assess the impacts and potential impacts, if any, on archaeological remains in the area where development is proposed to take place.</p>	<p>AAH2 – Geophysical Survey: <i>The rectilinear enclosure identified by the geophysical survey will be investigated and recorded to inform future development appropriate development in the immediate area.”</i></p>
	<p>Nature Conservation</p> <p>Principal concerns relates to how such development might affect the nearby Malahide Estuary Special Area of Conservation (SAC) and Malahide Estuary Special Protection Area (SPA).</p>	<p>The Lissenhall East Draft LAP is subject to SEA and AA, and a Natura Impact Report (NIR) has been prepared.</p> <p>The assessment has considered the potential of the provisions of the Draft LAP to impact on the Malahide Estuary SAC and Malahide Estuary SPA.</p>

2.4 Appropriate Assessment (AA)

The Lissenhall East LAP was subject to Screening as required by Article 6(3) of the Habitats Directive (92/43/EEC) for the requirement for AA. The finding of the Screening process was that taking account of local surface water features and their connection to the European sites (Natura 2000 sites) in Malahide Estuary, the potential for impact on the following European sites cannot be excluded having regard to the precautionary principle:

- Malahide Estuary Special Area of Conservation (SAC) (Site code No. 000205); and
- Malahide Estuary Special Protection Area (SPA) (Site code No. 004025).

The sites have been designated for the presence of qualifying interest coastal habitats and special conservation interest wetland bird species. Potential risks to these sites could arise from construction-related run-off affecting water quality in Malahide Estuary and in-turn affecting the designating features of the European sites.

The Lissenhall East Draft LAP is subject to ‘Stage 2 AA’ as required by the Habitats Directive (92/43/EEC) and a Natura Impact Report (NIR) has been prepared and accompanies the Draft LAP, the SEA Environmental Report and the Strategic Flood Risk Assessment (SFRA) on public display.

2.5 Strategic Flood Risk Assessment (SFRA)

A Strategic Flood Risk Assessment (SFRA) has been prepared for the Lissenhall East Draft LAP (Appendix 03), which addresses the issues of assessment and management of flood risk in the plan area. The SFRA has been prepared in accordance with the requirements of The Planning System and Flood Risk Assessment Guidelines for Planning Authorities⁵.

⁵ <https://www.gov.ie/en/publication/7db50-the-planning-system-and-flood-risk-management-guidelines-for-planning-authorities-nov-09/>

Strategic Environmental Assessment (SEA) Environmental Report

The SFRA concludes that the site contains both Flood Zone A and Flood Zone B associated with the corridor of the Lissenhall Stream and a 'Less Vulnerable' type development which calls for a Justification Test together with appropriate mitigation measures before any developments proposals are allowed in or near the identified flood zones.

The flood zone areas have been identified as open green space, however some of these areas are also identified for future development lands. Any proposals for development within a flood zone should include an appropriately detailed site specific Flood Risk Assessment (FRA). The FRAs should include (but not limited to):

- An assessment of the reduction in flood volume storage,
- An assessment of impacts downstream of the M1,
- An assessment of climate change impacts,
- Any change of the site development framework (including roads, development parcels, buildings plots, landscaping) near flood zones A and B would also need for the hydraulic modelling to be re-evaluated, and
- The drainage strategy for planning should examine the recommendations from the SuDS Strategy for the Lissenhall East Draft LAP (Appendix 04).

2.6 SEA Guidance

The Environmental Report reflects the requirements of Directive 2001/42/EC on the *Assessment of the Effects of Certain Plans and Programmes on the Environment* (the SEA Directive) and the national implementing legislation: Regulations S.I. No. 436 of 2004, as amended by Regulations S.I. No. 201 of 2011, and the PDR 2001, as amended and best practice and guidance.

3.0 Description of the Lissenhall East Draft Local Area Plan 2022

3.1 Introduction

The Lissenhall East LAP lands are strategically located approximately 5km north of Dublin Airport and adjacent to the M1 within the Dublin-Belfast economic corridor. Therefore the area is conveniently located in terms of connections to Swords Town Centre, Dublin Airport as well as Dublin City centre and the wider area. Planned significant public transport upgrades which will enhance connectivity of the LAP lands include Bus Connects and the MetroLink projects.

The majority of the LAP lands are in agricultural use with a circa 1.4 hectare (ha) area of woodland at the centre. However, existing commercial uses / developed areas are also located along the southern and western portion of the LAP lands, all of which are accessed from the R132 (see Figure 3.1). These include:

- Food logistics facilities (Swords Food Park / Lissenhall Industrial Estate) including a temperature-controlled storage facility to the southwest.
- HSE buildings incorporating the Swords National Ambulance Service Base and day care facilities to the west / southwest;
- A veterinary / kennelling facility (Lissenhall Veterinary Hospital) to the west; and
- Sheds and yard areas (hardstanding) to the north.

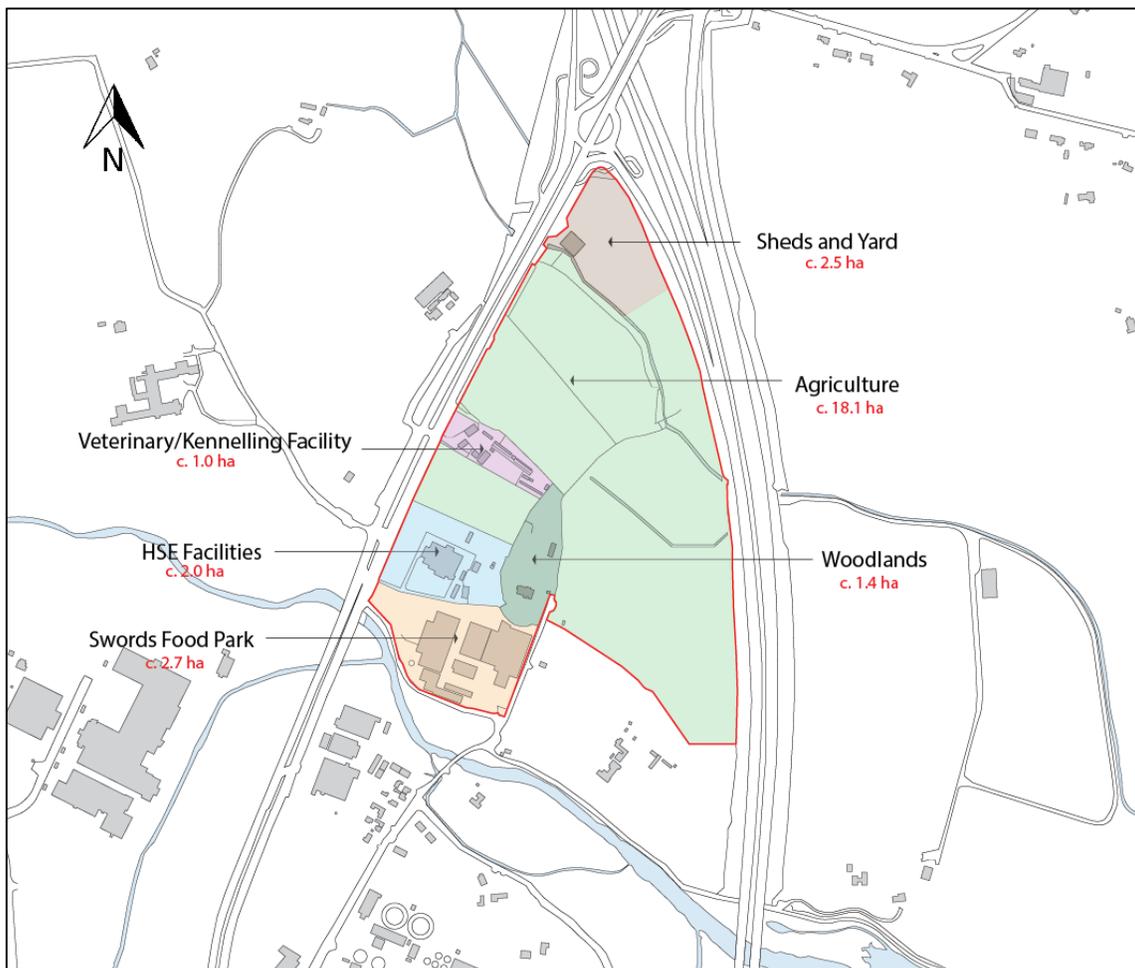


Figure 3.1: Existing Land Uses of the LAP Lands (Outlined in red)

3.2 Land Use & Objectives of the LAP

The lands are identified (as LAP 8.B) as requiring the preparation of a local area plan, see Figure 3.2 below (extract from Sheet No. 8 of the FDP 2017). The LAP lands are located immediately south of the R132 / M1 Motorway Junction No. 4. The M1 defines the eastern boundary of the lands while the western boundary is defined by the R132 dual carriageway.

The Lissenhall East LAP lands are zoned in the FDP 2017 for:

'HT - High Technology: Provide for office, research and development and high technology / high technology manufacturing type employment in a high quality built and landscaped environment' in the Fingal Development Plan 2017-2023 (and in the Draft FDP 2023-2029).

The Broadmeadow River and its wider corridor lies to the south of the LAP lands. Lissen Hall and its surrounding grounds lie on the north bank of the Broadmeadow and the entire area between the LAP lands and the river is zoned *'HA - High Amenity: Protect and enhance high amenity areas.'* The 18th century Lissen Hall house, outbuildings and entrance gates are listed as Protected Structures (No. 342) in the Record of Protected Structures (Appendix 2 FDP 2017). The FDP 2017 indicates an objective to protect and preserve trees, woodlands and hedgerows at the c. 1.4ha site centred on the site of Meudon (House), and former Mail & Stage Coach Stables, which were located along an old roadway. Today only ruins of Meudon and the former stables remain in the woodland. An objective to protect and preserve trees, woodlands and hedgerows also applies at the Lissen Hall property to the south of the LAP lands. As noted in the submission from the Department of Housing, Local Government and Heritage (DoHLGH), two features within the LAP lands are identified on the Sites and Monuments Record (SMR):

- DU012-015---- Enclosure (on boundary between LAP lands and Lissen Hall), and
- DU012-102---- Enclosure (within LAP lands north of Lissen Hall).

Currently agricultural lands, including the Emmaus Centre lie to the west of the R132. These are primarily zoned *'ME - Metro Economic Corridor: Facilitate opportunities for high density mixed use employment generating activity and commercial development, and support the provision of an appropriate quantum of residential development within the Metro Economic Corridor with corridors of OS - Open Space: Preserve and provide for open space and recreational amenities'* and *'HA'* along the Broadmeadow river to the south.

FDP 2017 identifies the indicative line of the Metro Route to the west of the R132. This is also broadly consistent with the northern terminus (Estuary Park and Ride) currently identified under the 'emerging preferred route for the new Metrolink Project⁶. The development plan also indicates the provision of a high-quality bus corridor along the N132 bounding the LAP lands.

Lands to the east of the M1 Motorway are zoned both *'GB - Greenbelt: Protect and provide for a greenbelt and HA - High Amenity: Protect and enhance high amenity areas.'*

⁶ <https://www.metrolink.ie/#/TheEmergingPreferredRoute>

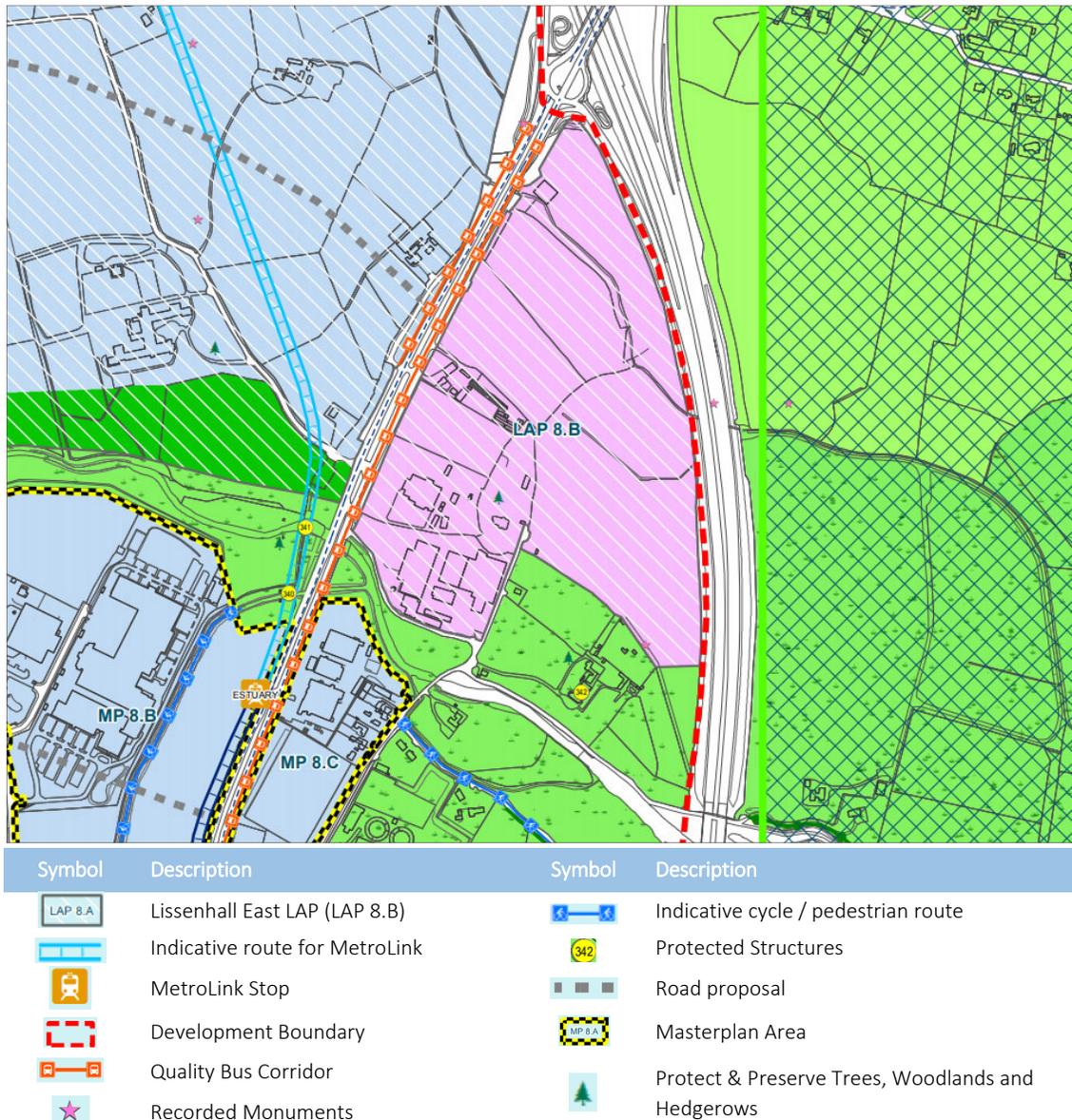


Figure 3.2: Extract from Fingal Development Plan 2017-2023 Sheet No. 8: SWORDS indicating location of Lissenhall East LAP lands (LAP 8.B – shaded pink)

In discussing the Lissenhall East LAP, the FDP 2017 highlights⁷ the following specific objectives:

‘Objective SWORDS 13: Facilitate the development of the Swords Western Ring Road (SWRR) linking the R132 (east of the M1 and north of the Lissenhall interchange) to the N2 via the proposed ‘Dublin Airport Box’ road network. (page 94)

Objective ED89: Prepare and / or implement the following Local Area Plans during the lifetime of this Plan:

-
- Lissenhall East (see Map Sheet 8, LAP 8.B);

⁷ See page 96 of the Development Plan

- (page 238)

Objective ED94: Prepare LAP's and Masterplans within the lifetime of the Development Plan for strategically important High Technology zoned lands in collaboration with key stakeholders, relevant agencies and sectoral representatives. (page 240)

Objective ED95: Encourage the development of corporate offices and knowledge based enterprise in the County on High Technology zoned lands and work with key stakeholders, relevant agencies and sectoral representatives to achieve such development.' (page 240)

3.3 Structure and Contents of the Draft LAP

This Draft LAP consists of a written statement with accompanying maps and appendices. The LAP has been prepared with regard to Local Area Plans – Guidelines for Planning Authorities (June 2013) as well as all other applicable guidelines issued under section 28 of the Planning and Development Act 2000 (as amended).

As required under the Planning and Development Act, 2000 (as amended), the LAP must be consistent with the objectives and core strategy of the County Development Plan, in addition to any regional spatial and economic strategies that apply and to transport strategies within the Greater Dublin Area.

Having regard to the above, the written statement of the LAP address the following themes and issues:

- Vision Policy Context;
- Movement and Transport;
- Green Infrastructure and Nature Based Solutions;
- Infrastructure and Services; and
- Development Framework.

The written statement also includes the following appendices:

1. Strategic Environmental Assessment (this SEA Environmental Report and Non-technical Summary);
2. Appropriate Assessment Screening and Natura Impact Report;
3. Strategic Flood Risk Assessment;
4. Sustainable Drainage Systems Report;
5. Transport Assessment;
6. Cultural Heritage and Archaeology; and
7. Ecology and Green Infrastructure.

3.4 Lissenhall East Proposed Development Framework

The Draft LAP is underpinned by a strategic vision which is intended to guide the future growth of the Lissenhall East lands as a strategic employment area within the Dublin Metropolitan Area Spatial Plan (MASP) and consistent with its High Technology (HT) zoning objective which seeks to:

“Facilitate opportunities for 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 sustainable design and aesthetic quality will be promoted to enhance corporate image and identity.”

The vision statement for Lissenhall East can be expressed as follows:

To establish a location for high-end, high quality value-added businesses, blending sustainable urban design and architecture with nature to create a distinct, enjoyable sense of place.

Guiding Principles seek to deliver the vision to develop the lands in a sustainable manner, in a way that reflects its existing landscape, heritage and environmental assets. Any development on the LAP lands shall promote an urban design approach and built form which contributes positively to the quality of life of those who work in and visit Lissenhall East.

As such three key themes have been identified to shape and inform the vision for the lands:

1. Economic Opportunity;
2. Healthy Placemaking; and
3. Climate Action.

In Achieving the Vision it is noted that the issues selected relate to the overall vision to provide for a high-quality business campus where green infrastructure and nature-based solutions are fully integrated into the development of the LAP lands.

Green Infrastructure is used to describe the network of green spaces and natural elements that intersperse and connect places and both sustain environmental quality and enrich the quality of people's lives. Nature Based Solutions include infrastructure such as green roofs, tree pits, rain gardens and green walls. Both are important in optimising climate change adaptation and mitigation.

Objective GI17 of the Fingal County Development Plan 2017 – 2023 requires all Local Area Plans to protect, enhance, provide and manage green infrastructure in an integrated and coherent manner and to address the five Green Infrastructure themes set out in the Development Plan, namely:

- biodiversity;
- parks, open space and recreation;
- sustainable water management;
- archaeological and architectural heritage; and
- landscape.

These Green Infrastructure themes also form the spine of the Draft LAP and the resulting overall development framework for the Lissenhall East Draft LAP lands is illustrated on Figure 3.3.



Figure 3.3: Lissenhall East Draft LAP Proposed Development Framework

4.0 Relationship to Relevant Plans and Programmes

4.1 Introduction

The Lissenhall East LAP is framed within a hierarchy of European, national, regional and local planning policy documents and guidance, including the Project Ireland 2040 (National Planning Framework and National Development Plan); the Regional Spatial and Economic Strategy (RSES) for the Eastern & Midlands Region and the Fingal Development Plan. The LAP must also have regard to European and National environmental legislation, including European Directives, national environmental policy, ministerial guidance, departmental circulars, and general environmental guidance as appropriate.

This section provides an overview of the legislation, policies, plans and programmes that have been considered as part of the SEA Scoping stage and which may have a relevance to the development of SEA Objectives, the Draft LAP and the Environmental Report.

4.1.1 National Planning Policy: Project Ireland 2040

The National Planning Framework (NPF) together with the National Development Plan (2018 – 2027) provide a strategic development framework for Ireland up to 2040.

In adopting a tailored approach to urban development, the NPF promotes two inter-related objectives namely; encouraging population growth in strong employment and service centres of all sizes, supported by employment growth; and in more self-contained settlements of all sizes, supporting a continuation of balanced population and employment growth (NPO7).

The NPF identifies the delivery of MetroLink as a key future growth enabler for Dublin. It also identifies a limited number of accessible locations for significant people-intensive employment to complement the Dublin city-centre and docklands areas. In this respect, the NPF recognises the potential of Swords, stating:

“Swords served by MetroLink is identified as a location for compact development, such as infill or a sustainable urban extension, served by high capacity public transport and/or significant employment and amenity provision.”

The NPF goes on to state that:

“In identifying opportunities for leveraged employment and sustainable population growth, development must be supported by enhanced connectivity, quality of life, strengthened urban cores and more compact housing in urban settlements. This is to protect and manage the strategic capacity of transport infrastructure and to ensure that the distinctiveness of settlements and rural areas is maintained.”

4.1.2 Regional Planning Policy: Regional Spatial and Economic Strategy (RSES)

The Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region (EMRA) 2019 - 2031 provides a strategic plan and investment framework to shape future development throughout the Eastern and Midland Region.

The Development Strategy for Swords is for the consolidation, active land management, employment generation and residential development centred on regeneration of the town centre, and high-quality transport in the form of MetroLink and BusConnects. Furthermore, development is to be appropriately managed through the provision of LAPs and Masterplans.

The RSES incorporates the Dublin Metropolitan Area Strategic Plan (MASP), which identifies Key Strategic Development Areas in Fingal for employment and residential development and specifically identifies the development of high-tech research and development employment within a campus setting at Lissenhall East as a strategic employment area (Table 5.1 on page 105 of the RSES).

4.1.3 Local Planning Policy: Fingal Development Plan 2017-2023 (FDP)

The FDP 2017 – 2023 seeks to develop and improve, in a sustainable manner, the social, economic, environmental and cultural assets of the County. The strategic policy objectives of the Council includes the following:

“Promote and facilitate the long-term consolidation and growth of the County town of Swords as provided for in the Swords Strategic Vision 2035.”

This vision is to develop Swords to become an emerging city – with a population of 100,000 and comparable increases in employment and services.

As per the RSES, Swords is a Key Town, and it is an objective within the Core Strategy of the Development Plan to focus population growth within existing urban centres (Objective SS01). The Core Strategy also sets out objectives for the provision of employment within Swords to serve the growing residential population (Objective SS13).

The LAP lands are zoned “HT” High Technology in the FDP, the stated objective of which 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 Vision Statement for the HT zoning 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 sustainable design and aesthetic quality will be promoted to enhance corporate image and identity.”

Objective EE30 guides the development of HT zoned lands:

“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.”

The lands immediately to the west of Lissenhall East on the other side of the R132 are zoned “ME – Metro Economic Corridor”. The lands to the immediate south (including Lissen Hall House) are zoned “HA – High Amenity”.

The FDP includes the following map based local objectives of relevance to the LAP:

- Within the LAP lands there is an objective to ‘Protect & Preserve, Trees, Woodlands and Hedgerows’.
- There is a Quality Bus Corridor objective along the R132 which makes up the western boundary of the LAP lands

A number of road upgrades near the Lissenhall East LAP lands are provided for in the FDP 2017-2023. These proposals are to be constructed over time to meet the wider transportation demands and include:

- Swords Western Distributor Road – this road shall link north and south Swords, whilst relieving the Main Street of the town from through traffic;
- Swords Industrial Estate Link;
- Swords-Brackenstown Link;
- Completion of Airside to Feltrim Road Link;
- East-West Distributor Road: Malahide Road to Stockhole Lane; and
- East West Distributor Road: Stockhole Lane to Cherryhound.

4.2 Interaction with Other Relevant Plans and Programmes

The SEA has also had regard to all principal plans and programmes influencing the formulation of the LAP policy, either directly or through European, National and / or County level policy. Refer to Chapter 4 of the SEA Environmental Report for full details.

5.0 Environmental Baseline

5.1 Introduction

Baseline data assists in assessing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the Plan. Thus, this information creates a platform whereby existing issues relevant to the LAP area can be quantified, where possible, or qualified thereby ensuring that the implementation of the LAP does not exacerbate identifiable problems.

Baseline data has been collected for the various environmental receptors described in the SEA Directive *i.e.* biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. An overview of the various receptors and the issues of concern raised at the initial public consultation phase of the Plan's preparation is provided in this Scoping report.

The SEA Directive requires that information is provided on '*any existing environmental problems which are relevant to the Plan or programme*'. Information is therefore provided on existing environmental problems, which are relevant to the LAP, thus helping to ensure that the Plan does not exacerbate any existing environmental problems in the study area.

The Fingal Development Plan was subject to SEA and as such an SEA Environmental Report and SEA Statement was prepared⁸. The Environmental Report provided a detail description of the environmental baseline, the majority of which remains valid.

Full details of the baseline environment is provided in Chapter 5 of the SEA Environmental Report.

5.2 Biodiversity (Flora & Fauna)

The majority of the northern and eastern LAP lands are predominantly greenfield arable lands with mature tree-lined hedgerow field boundaries. Lissenhall Veterinary Hospital, is centrally located along the western boundary, and a number of enterprises operate out of a large industrial site located within the southwestern portion of the lands. A specific objective to '*protect and preserve trees, woodlands and hedgerows*', applies to c. 1.4ha of woodland located at the centre of the LAP lands. As noted previously, the lands to the south of the LAP boundary is within the corridor of Broadmeadow River and are zoned as '*HA - High Amenity*'.

The lands drain in part south to the Broadmeadow River (IE_EA_08B020800) and in part to the Turvey Stream⁹ (IE_EA_08T020700), which flows in a south-easterly direction through the lands, discharging into the Broadmeadow Water Transitional Waterbody (IE_EA_060_0100).

The nearest European sites are the Malahide Estuary SAC (Site code No. 000205) and Malahide Estuary SPA (Site code No. 004025) located along the Broadmeadow River corridor, directly south of the lands. This area is also a proposed Natural Heritage Area (pNHA) (Site code No. 000205) of Malahide Estuary.

Since a large proportion of the LAP lands are greenfield, potential impacts on the European sites could arise from contaminated surface water run-off generated during the Construction and Operational Phase of the LAP development.

There are three proposed Natural Heritage Areas (pNHA) within 5km of the LAP lands:

- 000205 Malahide Estuary
- 001208 Feltrim Hill
- 000208 Rogerstown Estuary

⁸ Fingal Development Plan: http://www.fingal.ie/media/SEA%20Statement_web.pdf

⁹ EPA Name: Staffordstown 08

Other nature conservation designations in Fingal are Statutory Nature Reserves, which are protected under Ministerial order. There are four Statutory Nature Reserves (SNR) in County Fingal - the nearest of which (Rogerstown Estuary) is <5km from the LAP lands.

- Rogerstown Estuary;
- Rockabill Estuary;
- Baldoyle Estuary; and
- North Bull Island.

Ramsar sites are wetlands of international importance designated under the Ramsar Convention. There are four Ramsar sites located in County Fingal; Baldoyle Bay, North Bull Island, Broadmeadow Water and Rogerstown Estuary. The Broadmeadow Water is <1km east of the LAP lands.

The Green Infrastructure Maps from the Fingal Development Plan show that the LAP lands are identified as a *'highly sensitive landscape'*. The LAP is located just north of the ecological feature *'Ecological corridor along Rivers'* and west of an *'Ecological Buffer Zone'*, (see the Development Plan Green Infrastructure Sheets No. 14 & 15).

Sheet No. 8 of the Fingal Development Plan indicates that there is 1 No. mature tree stand / woodland located at the centre of the LAP lands which has a specific objective under the Development Plan to Protect and Preserve Trees, Woodland and Hedgerows or to Preserve Views.

No invasive species listed on the Third Schedule of the Birds and Natural Habitats Regulations S.I. No. 477/2011 have been recorded on the LAP lands.

5.2.1 Biodiversity Issues

Implementation of measures to achieve the requirements of the Habitats Directive and the objectives of the Water Framework Directive (WFD) are likely to benefit protected sites in the future.

There is a potential to impact on the integrity of the Natura 2000 sites located to the south-east of the LAP lands, namely the Malahide Estuary SPA and Malahide Estuary SAC.

There is a potential to impact on water quality as a result of the activities associated with the implementation of the LAP. Contamination may arise through poor working practices, leakages or accidental spillage of materials if efficient pollution control measures are not fully implemented and maintained during the lifetime of the LAP.

5.3 Population and Human Health

5.3.1 Population

The administrative area of Fingal covers over 450km² and includes 88km of scenic coastline. The County stretches from the River Liffey and the Dublin City boundary in the south to the Meath boundary north of Balbriggan, and eastwards from the coast to the Meath and Kildare boundaries in the west. Fingal has the youngest population in the State (total population, 296,214 in 2016 Census). The 2016 Census show that the settlement of Swords had a population of 39,248 in April 2016 compared to 36,924 in April 2011, *i.e.* a change of 2,324 persons or 6.3%. This accounts for 0.8% of the national population of 4,857,000 persons. The 2016 Census indicates that population growth in County Fingal was 6.3% since 2011, the fourth highest in the State¹⁰.

¹⁰ Census 2016 viewer: <http://airomaps.nuim.ie/id/Census2016/>

5.3.2 Human Health

Human health has the potential to be impacted upon by environmental factors such as air, water or soil through which contaminants could accumulate and have potential to cause harm through contact with human beings. Hazards or nuisances to human health can arise due to exposure to these vectors, for example arising from incompatible adjacent land uses. The impact of development on human health is also influenced by the extent to which new development is accompanied by appropriate infrastructure and the maintenance of the quality of water, air and soil.

5.3.3 Population & Human Health Issues

The development of the LAP lands will bring new opportunities to the local community and beyond for employment opportunities as a result of both direct and indirect impacts of the LAP.

There is a limited potential for short-term disturbances to the local community / residential areas during the Construction Phase as a result of construction-related noise and traffic increases.

Ensuring the health and wellbeing of all residents, workers and visitors should be a priority. This should be included in the vision of the LAP. Development of family friendly towns and villages that cater for the needs of everyone with access to community facilities, housing, education and public transport is fundamental to the overall well-being of the population.

5.4 Soils and Geology

5.4.1 Soils

County Fingal contains a range of soils that support various habitats and land uses and provide valuable mineral resource potential. Fertile soils also provide the basis for a thriving agricultural and food sector, see Figure 5.4.1.

The soils beneath the LAP lands are mainly derived from a mixture of calcareous, non- calcareous and mineral alluvium materials. These soils range from deep well drained mineral (mainly basic) (BminDW), to deep well drained mineral (mainly acidic) (AminDW) and alluvial (mineral) (alluvMIN)¹¹.

These soils can be impacted upon by development, land use changes and water quality.

5.4.2 Geology

The LAP lands are underlain by the Malahide Formation (CDMALH) which comprises argillaceous bioclastic limestone and shale. The lower part of the formation is composed of calcareous shales, siltstones and sandstones, and occasional thin limestones at its base. These are followed by cyclical, peloidal and oncolitic, peloidal, occasionally nodular micrites and thin intraclastic¹².

The Depth to Bedrock (Dublin County area) is between 5 to 10m across the LAP lands, with two localised areas of 3 to 5m.

The Geological Survey Ireland (GSI) has identified 21 County Geological Sites in Fingal which are important Irish Geological Heritage (IGH) sites. The nearest IGH site is Feltrim Quarry (IGH 13) (exposed faces of Lower Carboniferous limestone, shale (Waulsortian mudmound), locally fossiliferous), c.3.5km to the south of the LAP lands.

5.4.3 Soils & Geology Issues

Any development will need to ensure appropriate management measures are in place.

¹¹ GSI, Online Map Viewer: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>

¹² Geological Survey Ireland: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>

The mismanagement of Construction Phase activities such as concrete handling, oil refuelling and extractions / excavations has the potential to disturb, contaminate and pollute underlying soils. Mitigation measures will ensure that adverse impacts on soils and geology will be avoided and / or minimised during the life of Lissenhall East LAP.

5.5 Water Quality

5.5.1 The Water Framework Directive (WFD)

The EU Water Framework Directive (WFD) (2000/60/EC) establishes a framework for the protection of both surface water and groundwater waterbodies. Since 2000, Water Management in the EU has been directed by the WFD 2000/60/EC, which was transposed into Irish law under the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003). This legislation requires governments to take a holistic approach to managing all their water resources based on natural geographic boundaries, *i.e.* the river catchment or basin. The WFD establishes a common framework for the sustainable and integrated management of all waters covering groundwater, inland surface waters, transitional waters and coastal waters. The WFD requires Member States to manage all of their waters and ensure that they achieve at least 'good status' by 2015 and beyond. The ultimate deadline for Member States for achievement of 'good' status is 2027 at the latest.

5.5.2 Surface Waterbodies

The LAP lands lies within the Nanny-Delvin Catchment (Nanny-Delvin 08) and within two Sub-catchments (Ballough [Stream]_SC_010 and Broadmeadow_SC_010)¹³. The Turvey Stream¹⁴ (IE_EA_08T020700) runs through the northern portion of the Site, flowing in a south-easterly direction discharging into the Broadmeadow Water Transitional Waterbody (IE_EA_06O_0100). The Broadmeadow River (IE_EA_08B020800) located c. <50m from the southern boundary of the LAP lands, flows in an easterly direction before discharging into the Broadmeadow Water Transitional Waterbody.

5.5.3 Surface Water Quality

The Water Quality in Ireland report 2010-2015 published by the EPA in 2017 contains a comprehensive assessment of the ecological health of Ireland's groundwater, rivers, lakes, canals, transitional waters and coastal waters following the completion of the first six-year cycle of the WFD. The results shows that a considerable amount of work is still required to meet the environmental objectives of the WFD. Four out of every 10 river waterbodies are failing to meet their objectives having been classed at moderate or worse ecological status¹⁵. The status of waterbodies in County Fingal range from 'poor' to 'good'. The WFD surface waterbody status of the waterbodies in the LAP area is described as 'poor', with the Broadmeadow and Malahide Estuary being 'moderate'.

5.5.4 Groundwater

Groundwater Quality Status from 2010 to 2015 was generally 'good'¹⁶ and therefore, the LAP must protect groundwater from deterioration. The underlying underlying bedrock of the LAP lands is 'Argillaceous bioclastic limestone, shale'¹⁷. There is one groundwater body within the LAP lands, Swords (IE_EA_G_011). This groundwater body is classified with a 'good' status under the WFD monitoring requirements. The groundwater vulnerability of the LAP lands is a mixture of 'low' and 'moderate'.

¹³ Catchments.ie: <https://www.catchments.ie/maps/>

¹⁴ EPA Name: Staffordstown 08

¹⁵ Water Quality in 2016

¹⁶ Water Quality in Ireland 2010-2015, p49

¹⁷ GSI, Online Map Viewer: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

The GSI rates aquifers according to both their productivity and vulnerability to pollution. Aquifer vulnerability is the ease with which pollutants of various kinds can enter underground water. The LAP lands and area is underlain 'locally important aquifer - bedrock which is moderately productive only in local zones'.

5.5.5 Flooding and Flood Risk

As part of the review for the preparation of the Fingal Development Plan, a Strategic Flood Risk Assessment (SFRA) Report was undertaken to support the making of the plan and the SEA.

In line with *The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009)*, a SFRA of Lissenhall East has been carried out to inform the preparation of the Draft LAP. The SFRA has provided an assessment of all types of flood risk within the lands to assist FCC in making informed strategic land-use planning decisions.

5.5.6 Water Quality Issues

The principal threat to water is pollution which can adversely impact on all parts of the water cycle from groundwater to rivers, lakes estuaries and coastal waters. In simple terms, pollution means the presence of a harmful substance such as a poisonous metal or pesticide, a nutrient or silt. Urban and rural development including wastewater and surface water disposal can have significant impacts on water quality.

Any development as part of the LAP has the potential to impact waterbody status, water usage, flood risk and generate wastewater. The LAP must fully meet the requirements of the WFD, the Groundwater Directive and aim to drive improvement to water quality in both the short and long-term.

5.6 Air Quality, Noise and Climate Change

Air quality legislation in Ireland highlights the need 'to avoid, prevent or reduce harmful effects on human health and the environment as a whole'. In addition, it requires that Local Authorities where appropriate 'shall promote the preservation of best ambient air quality compatible with sustainable development'.

The objectives of EU and Irish noise legislation is 'to avoid, prevent or reduce harmful effects on human health and the environment as a whole', and this includes noise nuisance. The Noise Directive - Environmental Noise Directive (END) 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing community policy on noise reduction from source.

In 2021, the energy industries, transport and agriculture sectors accounted for 72% of total GHG emissions. Agriculture is the single largest contributor to the overall emissions, at 37.5%. Transport, energy industries and the residential sector are the next largest contributors, at 17.7%, 16.7% and 11.4%, respectively.

A Strategy towards Climate Change Action Plans for the Dublin Local Authorities has been published in association with CODEMA. This document has seven main focus areas that we will concentrate our efforts on to deliver actions that are under Local Authority remit and can contribute towards Local Authority vision.

In Ireland, the expected effects of Climate Change are increased frequency of extreme weather events within the next century. This will include a 20%-30% increase in precipitation, greater rainfall intensity coupled with flash floods and an average annual temperature increase of ~2°C. The potential impacts of Climate Change could have serious consequences for both people and infrastructure along Ireland's coastal areas as well as its rivers¹⁸.

The OPW published the 'Flood Risk Management 2015-2019' report as part of the Department of Communications, Climate Action and Environment's (DCCA) 'Climate Change Sectoral Adaptation Plan'. In this report the OPW adopted two indicative potential future scenarios, Mid-Range Future Scenarios (MRFS)

¹⁸ OPW Report: <https://opw.ie/en/media/FRM%20CC%20Sectoral%20Adaptation%20Plan%20-%20Dec%202015%20-%20Finalb.pdf>

and High-End Future Scenarios (HEFS), which are based on both average and more extreme Climate Change projections. Under the MRFS a 20% increase in both extreme rainfall depth and peak flood flows are expected, along with a 0.5m increase in sea level. Under the HEFS, the two former parameters are expected to increase by 30%, along with a 1m rise in sea level by 2080¹⁹.

5.6.1 Air Quality, Noise & Climate Change Issues

Agriculture, transport and industrial emissions are the greatest source of air pollution. In urban areas, concern has clearly shifted to a range of pollutants associated with road traffic which may be considered relatively new in the context of air quality control. The most important of these pollutants are NO₂, particulate matter less than 10 microns in diameter (PM₁₀), carbon monoxide (CO) and a wide variety of Volatile Organic Compounds (VOCs), including carcinogens such as benzene. Advances in engine technology and fuel development will, it is predicted, offset rises in tail pipe emissions from increased car usage due to an increased population. The context to the LAP is suburban / urban in nature where travel is an essential part of daily life. Therefore, it is important that a good quality road infrastructure is provided and alternatives to the private car are encouraged as much as possible.

The potential effects of Climate Change resulting in an increase in the frequency and severity of flooding events from rainfall must also be considered in the Draft LAP. Severe rainfall events as a result of Climate Change could adversely impact upon town's in Fingal leading to water shortages, residential flooding and disruption to infrastructure. Towns along the coast will become increasingly vulnerable to rises in the sea level and coastal erosion.

5.7 Material Assets

Material assets include water supply, wastewater treatment infrastructure, waste disposal including recycling, transport infrastructure (road, rail, airports and ports), energy and supply networks and telecom services.

5.7.1 Material Assets Issues

The development of the LAP lands will result in increasing demand for water, wastewater treatment, waste management, transport infrastructure / links and energy and telecom services.

New developments, including lands zoned for high technology (office, research and development), will generate pressure on existing water sources to meet demands and provide a suitable, safe and secure quantity and quality of drinking **water supply**.

New developments, should only be permitted where there is adequate capacity in the **wastewater** infrastructure in accordance with urban wastewater treatment disposal requirements and standards. Currently, municipal wastewater discharges are creating significant pressure on the receiving waterbody. Similarly, all new development should be drained on separate systems (*i.e.* separate foul and surface water pipes), as this will reduce the likelihood of flooding of foul water pipelines during periods of very heavy rainfall. Inadequate infrastructure, including inadequate capacity, contribute to the contamination of receiving surface water and groundwater waterbodies.

In Ireland in recent years there has been a move away from the disposal of **waste** to landfill. Population growth and development continues to put pressures on the local authorities to provide better waste management and access to waste services. According to CSO figures, some 500,000 homes in Ireland do not implement waste prevention practices²⁰.

¹⁹ Term 2080s used to describe the period covering 2071-2100. Increases are measured with respect to the period 1961-1990

²⁰ CSO: <https://www.cso.ie/en/releasesandpublications/ep/p-eii/eii2016/waste/>

New developments, will generate waste during both the Construction and Operational Phase of the development. Construction methodologies and choice of sustainable material will be encouraged for new developments, and developers will need to demonstrate that sustainable construction materials used are sourced sustainably. Waste material generated onsite during the Construction Phase must be in accordance with the relevant national waste management legislation.

The Operational Phase of new developments, shall comply with *Fingal County Council Waste Management Plan* regarding a three bin collection system and bottle bank / textile sites, etc.

The movement of people to and from Lissenhall East is key to the success and development of the LAP lands. Adequate **transport** infrastructure (*i.e.* road, cycle and pedestrian routes) to the LAP lands and accessibility through the Site (safe footpath and cycle paths) is fundamental to the development of the LAP lands and Swords.

The development of road infrastructure services, has major implications for biodiversity, landscape and air quality, as it causes habitat and landscape fragmentation and has health and Climate Change implications. In Ireland, the development of the road infrastructure network, has led to an over-reliance on private cars and the road network. There is a need to encourage a shift away from private cars usage and provide more reliable and connected modes of public transport. Promoting public transport, cycling and pedestrian activity, through the provision of quality and integrated public transport networks and infrastructure, can ensure traffic volumes and congestion on local road networks are minimised.

Currently 88% of Ireland's **energy** is derived from fossil fuels, which has a negative impact on the environment and on human health²¹. There is a need to phase out the reliance on fossil fuels, with a shift to renewable energy resources, however, renewable energy will require large scale investment (public and private) in energy efficiency and innovative systems. Identifying and enabling indigenous renewable energy will also support Ireland's energy security. New developments and large developments like the LAP lands require excellent energy and power services which create direct and indirect emissions, particularly CO₂, methane and dioxins.

The CSO predicts that the average annual population growth rate during the period 2016-2026 will be between 0.4% and 1%. Consequently, it is important to ensure that new developments are offered connection to high speed **broadband** and telecommunication services. The infrastructure requires the need to plan for all these elements to ensure that there is adequate availability to support future development, in a manner that is environmentally appropriate, cost effective and efficient while ensuring the protection of public health.

5.8 Cultural Heritage

5.8.1 Archaeological Heritage

The discovery of unrecorded monuments can often occur during excavations. Section 26 of the National Monuments Act 1930 (as amended) requires that excavations for archaeological purposes must be carried out by archaeologists acting under an excavation licence. The Database of Irish Excavation²² contains summary accounts of excavations carried out in Ireland from 1969 to the present year.

One site is located in the LAP lands (ref. No. DU012-102----) and a site (DU012-015----) is located on the southern boundary of the lands.

²¹ Ireland's Environment 2016: http://www.epa.ie/media/Chapter11_Environment_Energy.pdf

²² Irish Excavation Ireland website: <http://www.excavations.ie/>

5.8.2 Architectural Heritage

There are no protected structures or references on the National Inventory of Architectural Heritage (NIAH) on the LAP lands, however there is a tear-drop shaped site covered in trees that contains the ruins of Meudon, a 19th Century house within the lands. There is 1 No. Protected Structure located immediately south of the lands, Lissen Hall House, and Lissenhall Bridge is located to the south-east of the LAP lands. While none are on the LAP lands, a number of structures close to the LAP lands are also included in the National Inventory of Architectural Heritage (NIAH).

5.8.3 Cultural Heritage Issues

Construction activities have the potential for direct negative impacts on heritage features and their setting. There is one identified site of archaeological interest on the LAP lands (DU012-0102-, refer to Figure 5.8.1), and there is potential for development to impact further undiscovered archaeological features.

Implementation of the LAP also provides the opportunity to potentially uncover new heritage features and enhance public awareness of and access to these sites.

5.9 Landscape & Visual

The LAP lands are located in a low-lying agricultural type, which is of modest value and low sensitivity in terms of landscape character. However, the Green Infrastructure Maps from the Fingal Development Plan show that the LAP lands are identified as a '*highly sensitive landscape*', due to the close proximity to the coastline (see Green Infrastructure Sheet No. 14, Map 1 of FDP 2017).

Sheet No. 8 of the Fingal Development Plan indicates that there is 1 No. mature tree stand / wooded area located in the LAP lands which has a specific objective under the Development Plan to Protect and Preserve Trees, Woodland and Hedgerows or to Preserve Views, see Figure 3.2 in Section 3.2 above.

5.9.1 Landscape & Visual Issues

The visual impact upon the landscape is being taken into consideration in the preparation of the LAP. The landscape character of the LAP lands is located in a low-lying agricultural type, but within a highly sensitive landscape due to the close proximity to the coast. In the long-term the LAP is unlikely to have an adverse effect on the landscape, since the area to the south is Swords Town Centre and to the west is zoned as the *ME - Metro Economic Corridor*.

Development of the LAP lands where feasible should seek to conserve and enhance natural habitats and ecosystems to protect and improve biodiversity by improving existing roadside boundary treatments, trees, water features and hedgerows.

5.10 Interactions and Cumulative Impacts

The environment is both complex and dynamic and the various elements of the environment interact in an equally complex and dynamic manner. The permutations can be numerous, however, at a basic level the principal interactions can be either qualified or quantified in most instances. Interactions between various elements of the LAP are considered in this SEA Environmental Report. Equally, an assessment of cumulative impacts arising from measures in the Draft LAP are also included in the Environmental Report.

6.0 Strategic Environmental Objectives

6.1 Strategic Environmental Objectives (SEOs)

A series of Strategic Environmental Objectives (SEOs) have been selected in line with current guidance and also with specific reference to the SEA for the existing Fingal Development Plan. The SEOs (refer to Table 6.1) provide a basis for the assessment of the environmental effects of the Plan and are framed in such a manner as to enable the Plan to be fully assessed in environmental terms.

Table 6.1: Strategic Environmental Objectives (SEOs) for Lissenhall East Draft LAP Lands

Theme	Objective
Biodiversity (Flora & Fauna) (B)	Preserve, protect, maintain and where appropriate restore the terrestrial, aquatic and soil biodiversity, including internationally, EU and nationally designated sites and protected species.
Population & Human Health (PHH)	Provide for sustainable development that is protective of human health and well-being.
Soils & Geology (SG)	Safeguard sensitive soil and geological resources.
Water (W)	Protect and where necessary improve and maintain water quality and the management of watercourses, groundwater and the marine environment, in compliance with the requirements of the WFD objectives and measures.
Air & Noise (AN)	Minimise emissions of, and adverse effects from air pollution and noise generation.
Climate Change (CC)	Minimise contribution to Climate Change by adopting adaptation and mitigation measures.
Material Assets (MA)	Make best use of existing infrastructure and promote the sustainable and timely development of new infrastructure to meet the needs of the county's and Swords population.
Cultural Heritage (CH)	Protect places, features, buildings and landscapes of cultural, archaeological and / or architectural heritage from impact as a result of development.
Landscape (L)	Protect and maintain the special qualities of the landscape and visual character of the county, including its coastal character.

7.0 Alternatives

7.1 Introduction

The SEA Directive requires the Environmental Report to consider reasonable alternatives taking into account the objectives and geographical scope of the plan or programme and the significant environmental effects of the alternatives selected.

In accordance with the Guidelines the alternatives put forward should be reasonable, realistic and capable of implementation. Given the constraints, two reasonable development framework alternatives scenarios have been assessed:

Development Alternative 1: Allows for proposals to develop organically within the LAP lands on a demand-need basis. Each development would address biodiversity and green infrastructure, sustainable water management, parks, open space and recreation, cultural heritage and movement and transport requirements on a development by development basis.

Development Alternative 2: Directs proposals to develop within a structured framework within the LAP lands that addresses overall biodiversity and green infrastructure, sustainable water management, parks, open space and recreation, cultural heritage and movement and transport requirements in an integrated manner.

In addition to the development framework alternative scenarios, three alternative capacity scenarios have been assessed (also detailed in Appendix 05: Transport Assessment of the Draft LAP):

Capacity Alternative 1: LAP lands at Lissenhall East to accommodate up to 3,000 jobs.

Capacity Alternative 2: LAP lands at Lissenhall East to accommodate up to 2,000 jobs.

Capacity Alternative 3: LAP lands at Lissenhall East to accommodate up to 1,000 jobs.

Given the likely timeframe involved in delivery, the proposed Metrolink project has been excluded in the assessment of the alternative capacity scenarios.

7.2 Assessment of Alternative Scenarios

The assessment of the alternatives development and capacity scenarios is carried out with reference to potential impacts on the Strategic Environmental Objectives (SEOs) set out in Section 6 of this report. Full details are presented in Chapter 7 of the SEA Environmental Report.

7.2.1 Development Alternatives

Development Alternative 1 would lead to an informal pattern of development on the LAP lands outside of a framework for the overall lands. The approach would give rise to uncertain and/or negative environmental impacts on the SEOs for all environmental factors (SEOs).

Development Alternative 2 would lead to a planned approach to how development and environmental considerations are integrated for the overall LAP lands. The approach would give rise to positive and/or neutral environmental impacts on the SEOs for all environmental factors (SEOs).

7.2.2 Capacity Alternatives

While the majority of environmental factors are broadly similar for the different alternatives for capacity of employment on the LAP lands, there are differences in terms of potential traffic generation and hence in terms of potential impacts on air and noise and climate factors.

Capacity Alternative 1 would lead to substantial employment and economic activity potential with positive effects for population. However, it would also result in a substantial increase in traffic with negative effects on material assets (roads), air and noise and climate factors.

Capacity Alternative 2 would lead to moderate employment and economic activity potential with positive effects for population. However, it would also result in a considerable increase in traffic with negative effects on material assets (roads), air and noise and climate factors.

Capacity Alternative 3 would provide lower employment and economic activity potential still with positive effects for population. However, the associated moderate traffic generation would not lead to adverse impacts on material assets (roads), air and noise and climate factors.

7.3 Selection of the Preferred Alternative for the Local Area Plan

Development Alternative 2 with Capacity Alternative 3 has been selected as the preferred alternative strategy for the Lissenhall East Draft LAP lands because they facilitate:

- prior and appropriate consideration for protection and positive integration of significant natural cultural and built heritage;
- planned and orderly development of the LAP lands in tandem with provision of required infrastructure;
- Economic development and employment without adverse effects on the transport networks; and
- Sustainable development of the LAP lands, without significant adverse effects on the environment.

8.0 Environmental Assessment

8.1 Methodology

This section provides an environmental assessment of the provisions of the Lissenhall East Draft LAP. The relevant aspects of the current state of the environment (see Section 5) and the Strategic Environmental Objectives (see Section 6 and Table 6.1) are utilised in the assessment process.

The SEA Directive requires the Environmental Report to include information on the likely significant effects on the environment, including on biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

The specific provisions of the LAP are assessed using compatibility criteria in order to determine how they would be likely to affect the status of the SEOs.

The Fingal Development Plan (FDP) already provides for overall land use, zoning and objectives for the Lissenhall East lands. The development plan also includes the specific objective (Objective SWORDS 27) to prepare a local area plan for Lissenhall East. Therefore the land use zoning for Lissenhall East was included in the Fingal Development Plan 2017-2023 and was subject to full SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) during the preparation of the FDP.

Where required mitigation measures to prevent or reduce potential significant adverse or uncertain environmental effects posed by the LAP are identified in Section 9 – and these have been integrated into the Lissenhall East Draft LAP.

Full detail of the assessment is provided in Chapter 8 and Table 8.1 of the SEA Environmental Report.

8.2 Appropriate Assessment

The Draft LAP has been subject to a Stage 2 Appropriate Assessment (AA) which has been prepared alongside the preparation of the LAP and the SEA. The requirement for AA is provided under the EU Habitats Directive (Directive 92/43/EEC). The AA has concluded that the Draft LAP will not affect the integrity of the Natura 2000 network. Various measures have been integrated into the LAP to facilitate this (see Natura Impact Report at Appendix O2 to Draft LAP). The preparation of the Draft LAP, SEA and AA has taken place concurrently and the findings of the AA has informed the Draft LAP and the SEA and recommendations made have been integrated into the Draft LAP.

8.3 Potential Adverse Effects and their Determination

Environmental impacts are determined by the nature and extent of multiple or individual aspects and site specific environmental factors. Avoidance of conflict with SEOs and the environment is dependent upon compliance with mitigation measures, including those which have emerged through the SEA and AA processes and which have been integrated into the Draft LAP. Where potentially significant negative and uncertain environmental effects arising from implementation of an objective of the LAP have been identified these are addressed in Section 9 Mitigation in this report.

8.3.1 Population and Human Health

Land use planning impacts on the everyday lives of people and can either hinder or help promote healthy sustainable environments and communities. For example the provision of safe walking routes, cycle-ways, high quality open spaces and environments, public transport facilities, etc. result in direct and indirect health benefits and allow for healthier transportation choices to be made by communities. The Draft LAP includes specific objectives under Movement and Transport (i.e. MT8 & MT9) to provide options for pedestrian and

cycle friendly movement through the LAP lands and requires the preparation of a Mobility Management Plan to be submitted with development applications (i.e. MT11). Likewise the Draft LAP includes specific objectives for the protection and development of open space lands (e.g. PO1, PO2, PO3), and for the protection and incorporation of features natural and cultural heritage (e.g. BI1, BI2, BI3, AAH1, AAH4, L1, L2, L3).

The maintenance, protection and enhancement of water quality are important and are closely allied to human health generally. The Draft LAP provides for key objectives for the delivery of nature-based surface water management (e.g. SW1, SW2); for SuDS and attenuation measures (e.g. SW5 to SW11); for maintenance / improvement of water quality (SW12) and for delivery of critical infrastructure (e.g. IS1 to IS6, and DF2, DF3, DF6).

Overall, the Draft LAP is likely to improve the status of the SEOs on population and human health.

8.3.2 Biodiversity (Flora and Fauna)

The Draft LAP includes detailed objectives for assessment, protection and enhancement of biodiversity within the LAP lands. Particular measures identified as positive effects on Biodiversity SEOs include: an objective for the development of a green infrastructure management plan (BI3); for pollinators (BI4); planting and screening (BI5); for protection of hedgerows and watercourses (BI6); lighting design for bats (BI8); to rectify and maintain a mammal underpass (BI9) and for the use of native planting species (L4).

Infrastructure has the potential to generate adverse impacts on biodiversity, with key potential impacts relating to disturbance, disruption, fragmentation and loss of habitats. However, the approach for the Draft LAP is set development within a landscape network which retains significant natural (BI1, BI2, BI6, PO1) and cultural features (PO2, AAH1, AAH3) and provides enhanced natural and landscape areas (PO3, PO4) with the promotion of green / blue infrastructure (BI3) to assist in reducing the adverse impacts.

Indirect and cumulative impacts are identified for biodiversity in the event of damage to soil and water resources associated with development activities. Water pollution or surface water run off could give rise to negative effects on water quality and rivers within the lands with subsequent adverse effects on biodiversity. Potential for effects on the Broadmeadow SAC and SPA have been assessed and mitigated in the Natura Impact Report (NIR – Appendix 02) and the Draft LAP includes objective BI10 which provides for further environmental assessments associated with development proposals. Flood risk considerations have informed the preparation and strategy for the Draft LAP and reinforced through specific objectives on flood risk (SW2, SW3) and surface water management (SW1, SW4 to SW12).

8.3.3 Soils and Geology

Soil quality and function may be enhanced through particular measures associated with water quality and landuse and achieving the Water Framework Directive Objectives. The quality of groundwater is directly related to soil quality and landuse.

The most significant potential soil and geology effect identified relates to new built development on green field lands. Soil sealing and increased risk of surface run-off are addressed largely by the development of the Draft LAP framework, the protection of significant natural and cultural features (objectives BI1 to BI10), the avoidance of development in area of flood risk (SW2, SW3, SW11); in the provision of an extensive attenuation and SuDS strategy (Appendix 4 and objectives SW1, SW4 to SW11) and in the development of a green infrastructure strategy (Appendix 07 and objective BI3).

8.3.4 Water

Potential effects on water resources (and potentially biodiversity) in the absence of mitigation, include a reduction in water quality in ground and surface waters; surface water runoff; changes in the flow rates; and potential pollution. However, the Draft LAP includes specific objectives for the maintenance, protection and

enhancement of water quality. The Draft LAP provides for key objectives for the protection of natural features such as groundwater and watercourses (BI1, BI3, PO3, SW2, SW3); for the delivery of nature-based surface water management (e.g. SW1, SW4); for SuDS and attenuation measures (e.g. SW5 to SW11); for maintenance / improvement of water quality (SW12) and for delivery of critical infrastructure (e.g. IS1 to IS6, and DF2, DF3, DF6).

Potential for effects on the Malahide Estuary SAC and the Malahide Estuary SPA have been assessed and mitigated in the Natura Impact Report (NIR – Appendix 02) and the Draft LAP includes objective BI10 which provides for further environmental assessments associated with development proposals.

8.3.5 Air and Noise

Development in the form of construction and operation can give rise to negative impacts through reduction in air quality and generation of dust and / or noise. The Draft LAP includes specific objectives to manage such potential effects including BI10 Environmental Assessments, DF3 and DF7 Environmental Mitigation.

8.3.6 Climate

Development in the form of construction and operation can give rise to negative impacts on climate change. However, the manner in which development is planned and its delivery and operation managed can also give rise to beneficial effects in the form of an enhanced green infrastructure network (BI3) which protects significant natural and cultural features (BI1 to BI10 & AHH2, AHH3), which positively manages flooding (SW2, SW3) and surface water quality (SW12) and which encourages sustainable modes of transport (e.g. walking and cycling, i.e. MT8, MT9 and mobility management MT11).

8.3.7 Material Assets – Significant Effects

Specific transport objectives for public transport and walking and cycling (i.e. MT8, MT9) create positive impacts as they support more sustainable transport options with positive interrelationship impacts for human health, biodiversity, air quality and climate.

The strategic vision for the LAP lands promotes employment and sustainable development with positive effects for population and material assets. However, development of the LAP lands in line with the strategic vision can also give rise to uncertain / negative impacts for other environmental factors such as biodiversity water, cultural heritage and landscape. Likewise provision of critical energy, transport, utility and telecommunications infrastructure can also negatively impact environmental factors.

As such the Draft LAP includes objectives which are protective of these environmental factors (refer to Table 8.1 of SEA Environmental Report) including biodiversity objectives BI1 to BI10, open space objective PO4, water objectives SW1, SW2, SW11 and SW12, cultural heritage objectives AAH2 and AAH3, landscape objectives L1 to L4, transport objective MT11, and development framework objectives DF3, DF5 and DF7.

8.3.8 Cultural Heritage

Overall the potential impacts of the Draft LAP are long-term and positive in relation to cultural heritage due to the recognition of the value of cultural heritage and the range of cultural heritage features including built heritage, natural heritage and landscapes in the LAP lands (refer to Appendix 06 and objectives PO2, AAH1 to AAH4).

Potential cultural heritage impacts arise more in relation to potential archaeology within the LAP lands. However, the Draft LAP includes specific objectives (AAH1 to AAH4) for protection, site investigation and development management control (DF1, DF3, DF7).

8.3.9 Landscape

The Draft LAP is structured around a landscape and nature-based framework and includes a detailed Green Infrastructure strategy (Appendix 07 and objective BI3) and detailed objectives for natural heritage (BI1 to

BI10), and cultural heritage (AAH1 to AAH4) as well as specific landscape objectives (PO1 to PO4 and L1 to L4).

Additional green infrastructure measures including SuDS measures (SW1, SW4 to SW12) and enhanced walking and cycling opportunities (MT8, MT9) also contribute positively to landscape parameters.

8.3.10 The Interrelationship between Environmental Factors

The SEOs and the environmental factors are considered against each other to identify which interactions - if any - would cause effects on specific components of the environment. While potential for significant effects arise in the interaction / interrelationship of environmental factors it is considered that the implementation of the LAP will not give rise to significant effects between these components.

8.3.11 Cumulative Effects

Cumulative effects can be described as the addition of many small impacts to create one larger, more significant, impact. There are 2 types of potential cumulative effects that have been considered, namely:

- Potential Intra-Plan cumulative effects - these arise from the interactions between different types of potential environmental effects resulting from a plan, programme, etc. The interrelationships between environmental factors that help determine these potential effects.
- Potential Inter-Plan cumulative effects - these arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, projects, etc.

The draft LAP sits beneath the Fingal Development Plan, as well as higher level plans, which oversee and manage development and environmental protection across the county, including Lissenhall East.

Full detail of the assessment is provided in Chapter 8 and Table 8.1 of the SEA Environmental Report.

9.0 Mitigation

9.1 Introduction

The environmental assessment of the provisions of the Lissenhall East Draft LAP (Section 8) identified potential uncertain / negative environmental effects as set out in Section 8. However, appropriate mitigation has been considered and provided for these uncertain / negative effects.

It is also noted that proposals for development within the LAP lands must also comply where appropriate with the relevant provisions included within the Fingal Development Plan. Given that the LAP sits within and at a lower level in the planning hierarchy, the measures contained in the Development Plan, and in its Natura Impact Report (NIR), SEA Environmental Report / SEA Statement and Strategic Flood Risk Assessment (SFRA) are also applicable to the Draft LAP.

Full details of the mitigation measures and proposals are provided in Chapter 9 and Table 9.1 of the SEA Environmental Report. The following provides an overall summary of the measures.

9.2 Overview of Mitigation Measures

The Draft LAP includes a Strategic Flood Risk Assessment (SFRA) and sustainable drainage strategy (Appendices 03 and 04), a Transport Assessment (Appendix 05), and a detailed assessment of the existing natural, cultural and built heritage of the lands and surrounding area (Appendices 06 and 07). These assessments have influenced the preparation of the Draft LAP and of the Development Framework and have provided for sustainable management of the water regime, for protection of the transport network and for the incorporation of existing natural, cultural and built heritage, together with sustainable development of the lands.

The Draft LAP includes the following objectives which will mitigate potential uncertain or negative environmental effects:

- Biodiversity objectives BI1 to BI10;
- Parks, Open Space and Recreation objective PO4;
- Sustainable Water Management objectives SW2, SW3, SW11, SW12;
- Archaeological and Architectural Heritage objectives AAH2, AAH3;
- Landscape objectives L1 to L4;
- Infrastructure and Services objective IS1;
- Movement and Transport objectives MT1, MT11; and
- Development Framework objectives DF1 and DF3 to DF7.

10.0 Monitoring

10.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The SEA Monitoring Programme is set out in Table 10.1.

10.2 Indicators and Targets

Monitoring is based around indicators and targets which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives (Section 6) used in the assessment. The monitoring programme may be updated as required to address specific environmental issues - including unforeseen effects - should they arise. Such issues may be identified by the Council, or identified to the Council by other agencies.

10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency (EPA), the National Parks and Wildlife Service (NPWS), Irish Water (IW), Office of Public Works (OPW) and the Central Statistics Office (CSO).

10.4 Reporting

The Council is responsible for monitoring and the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action. The Chief Executive's Report on the implementation of the LAP, which must be carried out within two years of the making of the Plan, will include detail on the monitoring of the indicators for the local area plan.

Environmental indicator assessment during monitoring can show positive / neutral impacts or negative impacts on the environment. Where an indicator value highlights a positive / neutral impact on the environment, it is likely that the objectives of the LAP are well-defined with regard to the environment. Conversely where the objectives of the LAP have a negative impact on the environment, it may be necessary to review the objectives of the LAP or to take some other form of intervention. For example, if an objective is having a significant adverse impact, an amendment may be considered during the lifetime of the LAP.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Table 10.1 SEA Monitoring

Environmental Factor	Strategic Environmental Objective (SEO)	Indicator	Target	Source & Frequency
Biodiversity (Flora & Fauna) (B)	Preserve, protect, maintain and where appropriate restore the terrestrial, aquatic and soil biodiversity, including internationally, EU and nationally designated sites and protected species.	Change in condition of habitats and number and range of species present in LAP lands.	Improve condition of habitats and number and range of species present in LAP lands.	Fingal County Council / Inland Fisheries / NPWS. Two year basis.
Population & Human Health (PHH)	Provide for sustainable development that is protective of human health and well-being.	Number of people employed on LAP lands. Number of people cycling / walking to work in LAP lands.	Increase number of people employed on LAP lands. Increase percentage of people cycling / walking to work in LAP lands.	Fingal County Council / NTA. Two year basis.
Soils & Geology (SG)	Safeguard sensitive soil and geological resources.	Percentage of land outside of development footprint where original soil is retained on LAP lands. Extent of soil exported from the LAP lands	Maximise retention of original soil cover outside of development footprint. Minimise quantity of soil exported from LAP lands.	Fingal County Council. Two year basis.
Water (W)	Protect and where necessary improve and maintain water quality and the management of watercourses, groundwater and the marine environment, in compliance with the requirements of the WFD objectives and measures.	Status and quality of groundwater and surface water features relating to LAP lands. Water pollution incidences relating to LAP lands.	Improve status and quality of groundwater and surface water features. No water pollution incidents.	Fingal County Council / Inland Fisheries / EPA / OPW. Two year basis.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Air & Noise (AN)	Minimise emissions of and adverse effects from air pollution and noise generation.	Air quality status. Incidents of noise and / or dust complaints / exceedances related to LAP lands.	Maintain / improve air quality status No incidents of noise / dust complaints / exceedances.	Fingal County Council / EPA. Two year basis.
Climate Change (CC)	Minimise contribution to Climate Change by adopting adaptation and mitigation measures.	Submission of Climate Action Energy Statements with applications for development on LAP lands. Submission of measures for Climate Adaptation and Mitigation with applications for development on LAP lands.	Enhance positive climate change / adaptation measures. Compliance with CO ₂ emission reduction targets.	Fingal County Council / EPA. Two year basis.
Material Assets (MA)	Make best use of existing infrastructure and promote the sustainable and timely development of new infrastructure to meet the needs of the county's and Swords population.	Status of critical infrastructure for energy, telecommunication, transport, waste, water and utilities on LAP lands.	Provide necessary critical infrastructure in a timely manner to support development of LAP lands.	Fingal County Council / NTA / Irish Water / Energy & Utility providers. Two year basis.
Cultural Heritage (CH)	Protect places, features, buildings and landscapes of cultural, archaeological and / or architectural heritage from impact as a result of development.	Status of features / landscapes / sites of cultural heritage significance.	Improve conservation status and education of and presentation of features / landscapes / sites of cultural heritage significance.	Fingal County Council. Two year basis.
Landscape (L)	Protect and maintain the special qualities of the landscape and visual character of the county, including its coastal character.	Status of character and quality of the landscape and its key features including visual character. Architectural / visual quality of new buildings / developments.	Enhance character and quality of the landscape and its features. High quality buildings and developments including	Fingal County Council. Two year basis.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

			quality of finish and workmanship.	
Interrelationships	Maintain and improve the health of people, ecosystems and natural processes. Actively integrate opportunities for cultural, environmental and social enhancement.	Blue and Green Infrastructure measures implemented over lifetime of local area plan.	Increase network of blue and green infrastructure achieved over lifetime of the local area plan.	Fingal County Council. Two year basis.

Brady Shipman Martin

DUBLIN

Mountpleasant Business Centre,
Mountpleasant Avenue Upper,
Ranelagh,
Dublin D06 X7P8
+353 1 208 1900

CORK

Penrose Wharf Business Centre
Penrose Wharf
Cork
+353 21 242 5620

LIMERICK

11 The Crescent
Limerick
+353 61 315 127

mail@bradyshipmanmartin.com
www.bradyshipmanmartin.com

LISSENHALL EAST DRAFT LOCAL AREA PLAN (LAP) 2022

Strategic Environmental Assessment (SEA)
Environmental Report

BSM

Est.
1968

**Brady Shipman
Martin**

**Built.
Environment.**

Strategic
Assessment
**Built
Environment**

CLIENT
Fingal County Council

DATE
August 2022

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

DOCUMENT CONTROL SHEET

6575-ER01_Strategic Environmental Assessment (SEA) Environmental Report

Project No.: 6575
Client: Fingal County Council
Project Name: Strategic Environmental Assessment (SEA) Environmental Report
Report Name: SEA
Document No. ER01
Issue No. 02
Date: 30/08/2022

This document has been issued and amended as follows:

Issue	Status	Date	Prepared	Checked
01	Draft	29 Aug 2022	Namrata Kaile	Thomas Burns
02	Public Consultation	30 Aug 2022	Thomas Burns	Thomas Burns

Contents

Glossary	4
1.0 Introduction	7
2.0 Strategic Environmental Assessment (SEA).....	9
2.1 SEA Stages and Process	9
2.2 Pre-Draft Consultations	11
2.3 SEA Screening and Scoping.....	12
2.4 Appropriate Assessment (AA).....	15
2.5 Strategic Flood Risk Assessment (SFRA)	16
2.6 SEA Guidance	16
3.0 Description of the Lissenhall East Draft Local Area Plan 2022.....	19
3.1 Introduction	19
3.2 Land Use & Objectives of the LAP	20
3.3 Structure and Contents of the Draft LAP.....	23
3.4 Lissenhall East Proposed Development Framework.....	23
4.0 Relationship to Relevant Plans and Programmes.....	26
4.1 Introduction	26
4.2 Interaction with Other Relevant Plans and Programmes.....	28
5.0 Environmental Baseline.....	31
5.1 Introduction	31
5.2 Biodiversity (Flora & Fauna)	31
5.3 Population and Human Health	34
5.4 Soils and Geology.....	38
5.5 Water Quality.....	41
5.6 Air Quality, Noise and Climate Change.....	47
5.7 Material Assets	52
5.8 Cultural Heritage.....	59
5.9 Landscape & Visual	63
5.10 Interactions and Cumulative Impacts.....	65
6.0 Strategic Environmental Objectives.....	66
6.1 Strategic Environmental Objectives (SEOs).....	66
6.2 Strategic Environmental Indicators and Targets	66
7.0 Alternatives.....	67
7.1 Introduction	67
7.2 Assessment of Alternative Scenarios.....	68

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

7.3	Selection of the Preferred Alternative for the Local Area Plan.....	69
8.0	Environmental Assessment	70
8.1	Methodology.....	70
8.2	Appropriate Assessment.....	70
8.3	Potential Adverse Effects and their Determination	70
9.0	Mitigation.....	103
10.0	Monitoring	113
10.1	Introduction	113
10.2	Indicators and Targets	113
10.3	Sources.....	113
10.4	Reporting	113
11.0	References	117

Glossary

Appropriate Assessment

An assessment prepared in accordance with EU Habitats Directive 92/43/EEC (Article 6) to determine the effects of a plan or project on a European Site.

Biodiversity and Flora and Fauna

Biodiversity is the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992).

Flora is all of the plants found in a given area.

Fauna is all of the animals found in a given area.

Environmental Assessment

Is a method or procedure for predicting the effects on the environment of a proposal, either for an individual project or a higher-level "strategy" (a policy, plan or programme), with the aim of taking account of these effects in decision making.

Environmental Authority

This refers to designated authorities (specified in Article 13A(4) of the Planning and Development Regulations 2001-2022), who must be consulted by planning authorities when they are undertaking Strategic Environmental Assessment.

Environmental Impact Assessment (EIA)

Generic term used to describe environmental assessment as applied to projects. It refers to the type of assessment required under European Directive 2014/52/EU amending European Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the assessment of the effects of certain Plans and programmes on the environment (the Strategic Environmental Assessment Directive) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse.

Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

Environmental Report

The report required by the SEA Directive as part of an environmental assessment, which identifies, describes and evaluates the likely significant effects on the environment of implementing a plan or programme.

Environmental Vectors

Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.

Flood Risk Assessment

An assessment of flood risk associated with land use plans and future projects with a view to better management. A Strategic Assessment is prepared for Local Authority Plans which a Regional Flood Risk Appraisal is prepared for Regional Spatial and Economic Strategies in accordance with DECLG/ OPW 2009 Flood Risk Management Guidelines.

Indicator

A measure of variables over time, often used to measure achievement of objectives.

Mitigation

Measures used to avoid, reduce or offset significant adverse effects on the environment.

Objectives

Specific statements that carry out a plan in the short term. Objectives are measurable benchmarks that can be used to assess incremental progress in achieving the broader purposes expressed in policies and goals.

Policies

Broad statements that set preferred courses of action. Policies are choices made to carry out the goals in the foreseeable future. Policies need to be specific enough to help determine whether a proposed project or program would advance community values expressed in goals.

Protected Structure

Protected Structure is the term used in the Planning and Development Act and Regulations (as amended) to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.

Recorded Monument

A monument included in the list and marked on the map which comprises the Record of Monuments and Places that is set out County by County under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Any works at or in relation to a recorded monument requires two months' notice to the former Department of the Environment, Heritage and Local Government (now Department of Arts, Heritage and the Gaeltacht) under Section 12 of the National Monuments (Amendment) Act, 1994.

Responsible (or Competent) Authority

The organisation which prepares and/or adopts a plan or programme subject to the Directive and is responsible for the SEA.

SEA Directive

European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.

SEA Regulations

The Regulations transposing the SEA Directive into Irish law – Refer to S.I. 435 & 436 (2004) and S.I. 200, 201 & 262 (2011).

Strategic Environmental Assessment (SEA) Environmental Report

SEA (Strategic Environmental Assessment)

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it.

SEA Scoping

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. SEA coping is carried out in consultation with appropriate environmental authorities.

Seveso

S.I.No.402 of 2003, European Communities (Control of Major Accident Hazards Involving Dangerous Substances)(Amendment) Regulations 2003, give effect to European Directive 96/82/EC on the control of major accident hazards involving dangerous substances, also known as the Seveso II Directive. The regulations apply to companies where dangerous substances are present in quantities equal to or above specified thresholds.

Significant Environmental Effect

Significance is a function of impact magnitude and the importance/sensitivity of the resources of the receptor. Effects on the environment which are significant in the context of a plan or programme. Criteria for assessing significance are set out in Annex II of the SEA Directive.

Strategic Actions

Strategic actions include: Policies / Strategies, which may be considered as inspiration and guidance for action and which set the framework for Plans and programmes; Plans, sets of coordinated and timed objectives for the implementation of the policy; and Programmes, sets of projects in a particular area.

Strategic Environmental Objective (SEO)

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level and are used as standards against which the provisions of the Masterplan and the alternatives can be evaluated in order to help identify which provisions would be likely to result in significant environmental effects, and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

Transboundary Consultations

Consultations between one or more Member State of the EU, regarding significant effects of implementation of a plan or programme.

1.0 Introduction

The 2017-2023 Fingal County Development Plan identified lands at Lissenhall East in Swords for which a Local Area Plan (LAP) was to be prepared during the lifetime of the Development Plan. Therefore, Fingal County Council (FCC) has prepared a Draft LAP to examine the area in detail, identifying and analysing the various issues affecting the area and setting principles and objectives for its future development. The Draft LAP and associated documentation will be placed on public display for consultation with environmental authorities, stakeholders and general public. The LAP will be valid for six years from the date of adoption by the Council.

The Lissenhall East lands cover an area of c.27.7 hectares within the existing northern development boundary of Swords. The lands are located west of the M1 Motorway, east of the R132 (Old Swords Road), south of the M1 / R132 Junction, and north of the Broadmeadow River Valley and adjoining lands (refer to Figure 1.1).

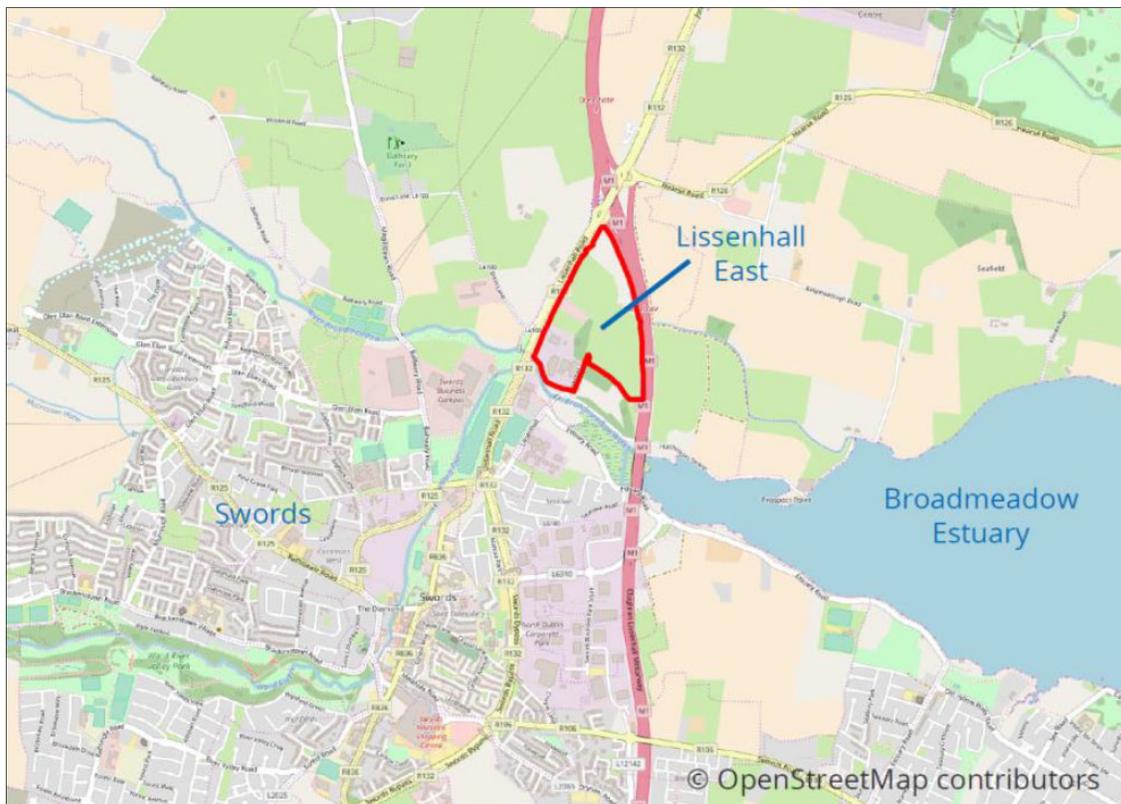


Figure 1.1: Location of LAP Lands at Lissenhall East (source: Lissenhall East Draft Local Area Plan 2022)

The Fingal Development Plan 2017-2023 designated an area of c. 27.7 hectares (ha) for LAP purposes. The requirement for the preparation of the LAP is identified in the Fingal Development Plan, under:

‘Objective SWORDS 27

Prepare and / or implement the following Local Area Plans and Masterplans during the lifetime of this Plan:

- *Lissenhall East Local Area Plan (see Map Sheet 8, LAP 8.B);*
- *.....’*

A LAP is a statutory document prepared by the Planning Authority in accordance with the requirements of Sections 18, 19 and 20 of the Planning and Development Act, 2000, as amended (PDA 2000). It consists of a

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

written statement and plans that must be consistent with the objectives of the County Development Plan, its core strategy and any Regional Planning Guidelines or Regional Spatial Economic Strategy (RSES) that applies to the area of the Plan.

The preparation of the Lissenhall East LAP is required to undergo a Strategic Environmental Assessment (SEA) in accordance with Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment¹ (known as the SEA Directive).

This report comprises the SEA Environmental Report for the Lissenhall East Draft Local Area Plan 2022. The Report has regard to SEA Guidelines, and to: -

- The current knowledge and methods of assessment;
- The contents and level of detail in the Plan;
- The stage of the Plan in the decision-making process;
- The extent to which certain matters are more appropriately assessed at different levels in the decision-making process in order to avoid duplication of the environmental assessment; and
- Consultation with the SEA Environmental Authorities.

This report should be read in conjunction with the Lissenhall East Draft Local Area Plan 2022, the Appropriate Assessment Screening Statement and Natura Impact Report (NIR), and the Strategic Flood Risk Assessment (SFRA).

The SEA Environmental Report has been prepared on behalf of Fingal County Council by Brady Shipman Martin, Environmental, Landscape and Planning Consultants.

¹ DIRECTIVE 2001/42/EC: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0042&from=EN>

2.0 Strategic Environmental Assessment (SEA)

SEA is a process for evaluating, at the earliest appropriate stage, the environmental quality and consequences of Plans or Programmes (P / P). The purpose is to ensure that the environmental consequences of P / P are assessed both during their preparation and prior to their adoption. The SEA process also gives specified environmental authorities, interested parties and the general public, an opportunity to comment on the environmental impacts of the proposed P / P and to be kept informed during the decision-making process.

SEA derives from European Communities Directive 2001/42/EC - *Assessment of Effects of Certain Plans and Programmes on the Environment*² (commonly referred to as the SEA Directive). Article 1 of the Directive states that:

“The objective of this directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.”

The SEA Directive was transposed into national legislation by the:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument (S.I.) No. 435 of 2004), as amended by European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011, (S.I. No. 200 of 2011); and
- Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004), as amended by the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, (S.I. No. 201 of 2011).

The former regulations relate to SEA as it applies to P / P prepared for *“agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, and town and country planning or land use.”*³

The latter regulations relate to SEA as it applies to P / P where the context requires, *“a development plan, a variation of a development plan, a local area plan (or an amendment thereto), regional planning guidelines or a planning scheme.”*⁴

Therefore, as the P / P the subject of this report is the Lissenhall East Draft Local Area Plan (Lissenhall East Draft LAP), the latter Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004), as amended by Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations (S.I. No. 201 of 2011), apply.

The SEA process for the Lissenhall East Draft LAP is being carried out in accordance with the requirements of the Planning and Development Regulations 2001 - 2022 (PDR 2001) and specifically with Article 14⁵ of the PDR 2001.

2.1 SEA Stages and Process

The key focus of SEA is to take environmental issues, and in particular *‘likely significant environmental effects’* of a P / P, into consideration during the plan or programme making process. The key stages in the SEA process as they relate to the Lissenhall East LAP are outlined in Figure 2.1 and Table 2.1 below.

² <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0042&from=EN>

³ Section 9(1) (a) of S.I. No. 435 of 2004, as amended by S.I. No. 200 of 2011

⁴ Section 5(c) of S.I. No. 436 of 2004, as amended by S.I. No. 201 of 2011

⁵ Referring to a Local Area Plan

Figure 2.1: Overview of SEA Process (adapted from the EPA SEA Process Checklist, 2013⁶)

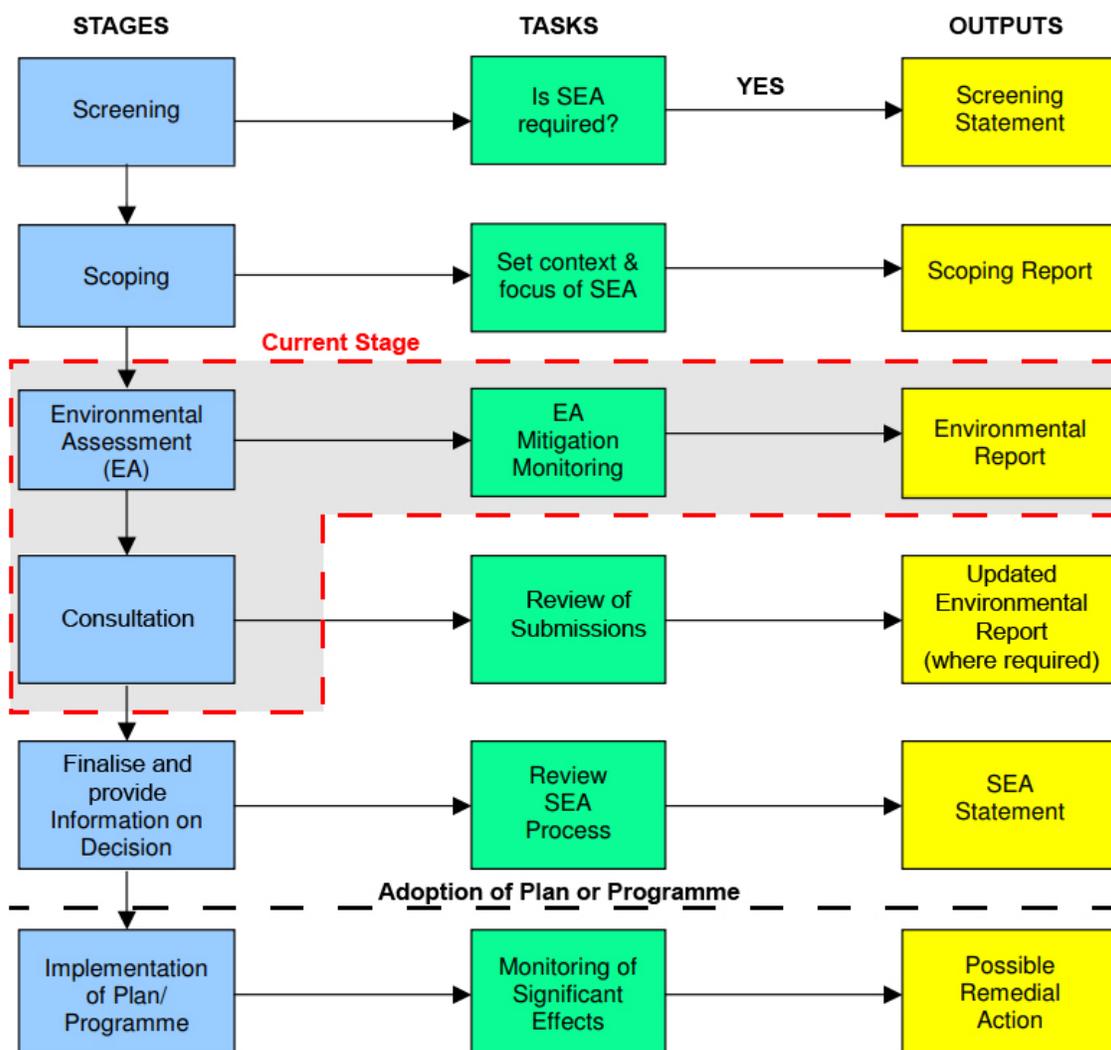


Table 2.1: Outline of the SEA Process

Stage	Description	Status
1. Screening	<p>The requirement to undertake a SEA is mandatory for certain P / P. Where SEA is not a mandatory requirement, the P / Ps is subject to a 'Screening process', to consider if it is <i>likely to have significant effects</i> on the environment, and therefore, if SEA is required.</p> <p>Screening of the P / P is carried out in accordance with Article 14A of the PDR 2001.</p> <p>It is noted that in accordance with Circular Letter SEA 1/08 & NPWS 1/08⁷, SEA for a P / P is a mandatory requirement where the P / P</p>	<p>Completed</p> <p>✓</p>

⁶ EPA: <http://www.epa.ie/pubs/advice/ea/SEA%20Process%20Checklist.pdf>

⁷ NPWS: <https://www.npws.ie/sites/default/files/general/circular-sea-01-08.pdf>

Stage	Description	Status
	requires Appropriate Assessment (AA) under Article 6(3) of the Habitats Directive (92/43/EEC ⁸).	
2. Scoping	Preparation of a SEA Scoping Report highlighting that the Environmental Report. Scoping provides for consultation with the Environmental Authorities specified in Article 14C of PDR 2001. The process allows for incorporation of the views of the environmental authorities within the P / P and the SEA Environmental Report.	Completed 
3. Environmental Report	Preparation of a systemic identification and evaluation of alternatives and assessment of the <i>likely significant environmental effects</i> of implementing the P / P. The findings of the assessment, which is carried out at various stages in the P / P making (<i>e.g.</i> Draft, Amended Draft <i>etc.</i>), are provided in the SEA Environmental Report in accordance with Article 14D and Schedule 2B of the PDR 2001, (This Report) The output from this stage is an Environmental Report which accompanies the draft P / P required on public display.	Current Stage
4. SEA Statement	Completion / adoption of final P / P, taking account of <i>likely significant environmental effects</i> , any submissions or observations received from consultations and integration of mitigation and monitoring measures within the P / P. The Environmental Report is concluded and an SEA Statement is prepared in accordance with Article 14I of PDR 2001, summarising: <ul style="list-style-type: none"> ▪ how environmental considerations have been integrated into the P / P; ▪ how the environmental report, and any submissions or consultations have been taken into account in the preparation of the P / P; ▪ reasons for choosing the P / P; and ▪ measures decided for monitoring the significant environmental effects of implementation of the P / P. 	Final Stage

2.2 Pre-Draft Consultations

In addition to the SEA consultations outlined in Section 2.3 of this report, FCC undertook a 6 week consultation process on the Strategic Issues Paper for the pre-draft LAP in November 2017. Twelve submissions were received, including from elected representatives, members of the public, local landowners and stakeholders including An Taisce, the NTA, TII, the Development Applications Unit (of Department of Culture, Heritage and Local Government), Dublin City Council and IAA. The submissions, which have informed the preparation of the Draft LAP and the SEA Environmental Report, related generally to issues around:

- the integration of the development of the LAP lands with the future alignment of MetroLink and location of the proposed Estuary stop;

⁸ DIRECTIVE 92/43/EEC: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN>

Strategic Environmental Assessment (SEA) Environmental Report

- the careful consideration and co-ordination of vehicular access to the Lissenhall East LAP lands with planned improvements to the adjacent road network;
- the management of travel demand through the appropriate integration of land use and public transport;
- the need to safeguard the operation of existing enterprises;
- the need for high quality buildings to attract and accommodate new employment generating activities;
- the provision of adequate sewage treatment facilities prior to any significant development; and
- the need to carefully consider local biodiversity given proximity of the lands to the estuary.

2.3 SEA Screening and Scoping

The requirement to undertake a SEA is mandatory for certain P / Ps, that are above specified thresholds (*e.g.* preparation of a new County Development Plan with a population or target population greater than 10,000 persons or a LAP with a population or target population greater than 5,000 persons).

The requirement for SEA for a LAP is mandatory where the plan applies to an area the population or the target population of which is equal to or more than 5,000 persons or where the area covered by the local area plan is equal to or more than 50 square kilometres. The Lissenhall LAP relates to an area of less than 5000 persons and less than 50 square kilometres and therefore, SEA is not a mandatory requirement.

Where SEA is not a mandatory requirement, the P / P is subject to a ‘*Screening process*’, to consider if it is likely to have significant effects on the environment, and hence if SEA is required. It is also noted that in accordance with Circular Letter SEA 1/08 & NPWS 1/08⁹, SEA for a P / P is also a mandatory requirement where the P / P requires Appropriate Assessment (AA) under Article 6(3) of the Habitats Directive (92/43/EEC).

Screening for the purposes of SEA is defined as “[*t*]he determination of whether implementation of a P / P [Plan or Programme] would be likely to have significant environmental effects on the environment. The process of deciding whether a P / P [Plan or Programme] requires SEA.”¹⁰

The Draft Lissenhall East LAP was subject to Screening for the requirement for AA (see Section 2.4 of this Report) and to Screening for the requirement for SEA in accordance with Article 14A of the PDR 2001, as amended and the criteria set out in Schedule 2A of the Regulations.

The Screening process concluded that SEA is required for the Lissenhall East LAP based on:

- the requirement for Appropriate Assessment under Article 6(3) of the Habitats Directive; and
- potential significant effects on the European sites;
- potential significant effects on surface water (from flooding);
- potential significant effects via emissions to air; and
- potential significant effects, including cumulative, on traffic and transportation.

Therefore, the LAP is subject to SEA and this SEA Environmental Report has been prepared to accompany the Lissenhall East Draft LAP, the Appropriate Assessment Natura Impact Report and the Strategic Flood Risk Assessment on public display.

Consultation was undertaken with the Environmental Authorities specified in Article 13A(4) of PDR 2001, and submissions / observations were received from the environmental authorities as set out in Table 2.2.

⁹ <https://www.npws.ie/sites/default/files/general/circular-sea-01-08.pdf>

¹⁰ EPA SEA, 2018: <https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/SEA-Pack-2022.pdf>

Table 2.2: SEA Submissions / Observations from Environmental Authorities

Environmental Authority	Outline of Nature of Submission	Response to Consideration of Nature of Submission
EPA	Provides link to EPA guidance and documents including: <i>SEA of Local Authority Land Use Plans – EPA Recommendations and Resources</i> 'SEA Process / SEA Pack: https://www.epa.ie/our-services/monitoring--assessment/assessment/strategic-environmental-assessment/sea-resources-and-guidance/ <i>EPA Environmental Sensitivity Mapping (ESM) WebTool; EPA SEA WebGIS Tool; EPA WFD Application; and EPA AA GeoTool</i> <i>State of the Environment Report Ireland's Environment – An Integrated Assessment 2020 (EPA, 2020).</i>	The preparation of the LAP and Environmental Report has had regard to current guidance, sources of information and good practice, and includes reference to the key issues and challenges set out in the EPA <i>State of the Environment Report Ireland's Environment – An Integrated Assessment 2020</i>
	Fingal County Council should ensure that the Plan is consistent with the need for proper planning and sustainable development. Adequate and appropriate critical service infrastructure should be in place, or required to be put in place, to service any development proposed and authorised during the lifetime of the Plan.	The Lissenhall East Draft LAP has considered the requirement for critical service infrastructure.
	Fingal County Council should take into account the need to align with national commitments on climate change mitigation and adaptation, as well as incorporating any relevant recommendations in sectoral, regional and local climate adaptation plans.	The Lissenhall East Draft LAP has considered the commitments on climate change mitigation and adaptation.
	Fingal County Council should also ensure that the Plan aligns with key relevant higher-level plans and programmes and is consistent with the relevant objectives and policy commitments of the National Planning Framework (NPF) and the Eastern and Midlands Regional Spatial and Economic Strategy (RSES).	The Lissenhall East Draft LAP has been set within the context of relevant higher level plans, including the objectives and policy of the NPF and RSES for the Eastern and Midlands Region.
Department of the Environment, Climate and Communications (DoECC) / Geological Survey Ireland (GSI)	GSI provided specific information is provided with regard to Geoheritage; Groundwater, and Climate Change; Geological Mapping, and Geotechnical Database Resources; Natural resources, and Geochemistry of soils, surface waters and sediments. Links are provided to their website and publicly accessible datasets relevant to Planning, EIA and SEA.	The preparation of the LAP and Environmental Report has had regard to and utilised the datasets / information provided in the submission.
Department of Housing, Local Government and Heritage (DoHLGH)	Archaeology Submission notes the presence of monuments of archaeological interest, Sites and Monuments Record Nos DU012-102----, enclosure; DU012-015----, enclosure) which are / will be subject to statutory protection in the	The Lissenhall East Draft LAP has taken account of the presence of the two existing SMR features and provided for protective

Environmental Authority	Outline of Nature of Submission	Response to Consideration of Nature of Submission
	<p>Record of Monuments and Places.</p> <p>There are no archaeological objections to the development of the Lissenhall East lands.</p> <p>Recommended that Archaeological Impact Assessments should be prepared to assess the impacts and potential impacts, if any, on archaeological remains in the area where development is proposed to take place.</p>	<p>buffers around the sites.</p> <p>The Draft LPA also incorporates “Objective AAH2 – Geophysical Survey: The rectilinear enclosure identified by the geophysical survey will be investigated and recorded to inform future development appropriate development in the immediate area.”</p>
	<p>Nature Conservation</p> <p>Principal concerns relates to how such development might affect the nearby Malahide Estuary Special Area of Conservation (SAC) and Malahide Estuary Special Protection Area (SPA).</p> <p>Direct and relatively short hydrological pathways therefore exist between the Lissenhall East LAP lands and the Malahide Estuary SAC and Malahide Estuary SPA and pollutants which may be mobilised from any future developments within the LAP lands, could easily reach these sites and potentially detrimentally affect the Qualifying Interests (QIs) for which they are designated.</p> <p>The possibility of <i>ex-situ</i> effects of the development of the LAP lands on the Malahide Estuary SPA could also arise if QI/Special Conservation Interest (SCI) bird species for this site were affected by developments within the LAP in areas whilst frequenting areas outside the SPA.</p> <p>Approximately last 250m of the course of the Lissenhall Stream before it enters the Malahide Estuary adjacent to Newport House is through an area of wet grassland and marsh which would appear to be subject to a regime of flooding by this stream. The use of this area by Blacktailed Godwit and Redshank, which are SCI species for the Malahide Estuary SPA, has been noted by a staff member of the National Parks and Wildlife Service of this Department, and any impacts on it through alteration of its hydrological regime or its pollution arising from the development of the LAP lands could therefore consequently possibly result in <i>ex-situ</i> effects on these and possibly other SCI species for the SPA using this area, which would require evaluation in any assessment of the potential impacts of the adoption of a LAP for the Lissenhall East lands by the County Council on European sites.</p>	<p>The Lissenhall East Draft LAP is subject to SEA and AA, and a Natura Impact Report (NIR) has been prepared.</p> <p>The assessment has considered the potential of the provisions of the Draft LAP to impact on the Malahide Estuary SAC and Malahide Estuary SPA.</p> <p>Detailed surveys have been carried out and are included in Appendix 07 to the Draft LAP and specific mitigation measures are also included in the Draft LAP.</p> <p>The information included in the submission has also informed the preparation of the LAP, SEA and AA processes.</p>

Environmental Authority	Outline of Nature of Submission	Response to Consideration of Nature of Submission
	<p>Likely to constitute significant environmental effects on the environment sufficient to justify the SEA of the Draft Lissenhall East LAP.</p> <p>To prevent any adverse effects on the Malahide Estuary SAC and Malahide Estuary SPA consequent on the adoption of the Lissenhall East LAP the principal impacts to be avoided are hydrological impacts and impacts resulting from pollutants, such as silts or hydrocarbons, mobilised from developments within the LAP lands. Measures to avoid such impacts arising as a result of development should be set out in the Draft LAP. Most useful would be the designation in the latter document of a corridor along the Lissenhall Stream system within the LAP lands where no development shall occur, and a requirement that only nature based sustainable drainage systems (SuDS) could be installed in any developments to be permitted within the area subject to the LAP.</p> <p>The proximity and sensitivity of the European sites would seem to justify the restriction of any developments on the Lissenhall East LAP lands to only using nature based SuDs in line with this Department’s document published in March of this year ‘Nature-based Solutions to the Management of Rainwater and Surface water Runoff in Urban Area-Best Practice Interim Guidance Document’, and not permitting SuDs based on the use of underground storage tanks to attenuate water runoff within the LAP lands.</p> <p>The Draft LAP should also provide for the mitigation in the lands covered by it of detrimental effects on any other significant elements of flora and fauna which may be present, such as otter and bat species, subject to a system of strict protection under the Habitats Directive, and the kingfisher included in Annex I of the Birds Directive.</p>	

2.4 Appropriate Assessment (AA)

The Lissenhall East LAP was subject to Screening as required by Article 6(3) of the Habitats Directive (92/43/EEC) for the requirement for AA. The finding of the Screening process was that taking account of local surface water features and their connection to the European sites (Natura 2000 sites) in Malahide Estuary, the potential for impact on a European site cannot be excluded having regard to the precautionary principle. The Broadmeadow River (IE_EA_08B020800)¹¹ flows to the south of the Site into the Broadmeadow Water Transitional Waterbody (IE_EA_060_0100), a designated European site.

¹¹ Catchments.ie: <https://www.catchments.ie/maps/>

The Broadmeadow Water Transitional Waterbody / Malahide Estuary contains two European sites:

- Malahide Estuary Special Area of Conservation (SAC) (Site code No. 000205); and
- Malahide Estuary Special Protection Area (SPA) (Site code No. 004025).

The sites have been designated for the presence of qualifying interest coastal habitats and special conservation interest wetland bird species. Potential risks to these sites could arise from construction-related run-off affecting water quality in Malahide Estuary and in-turn affecting the designating features of the European sites.

The Lissenhall East Draft LAP is subject to 'Stage 2 AA' as required by the Habitats Directive (92/43/EEC) and a Natura Impact Report (NIR) has been prepared and accompanies the Draft LAP, the SEA Environmental Report and the Strategic Flood Risk Assessment (SFRA) on public display.

2.5 Strategic Flood Risk Assessment (SFRA)

A Strategic Flood Risk Assessment (SFRA) has been prepared for the Lissenhall East Draft LAP (Appendix 03), which addresses the issues of assessment and management of flood risk in the plan area. The SFRA has been prepared in accordance with the requirements of The Planning System and Flood Risk Assessment Guidelines for Planning Authorities¹².

The SFRA concludes that the Site contains both Flood Zone A and Flood Zone B associated with the corridor of the Lissenhall Stream and a 'Less Vulnerable' type development which calls for a Justification Test together with appropriate mitigation measures before any developments proposals are allowed in or near the identified flood zones.

The flood zone areas have been identified as open green space, however some of these areas are also identified for future development lands. Any proposals for development within a flood zone should include an appropriately detailed site specific Flood Risk Assessment (FRA). The FRAs should include (but not limited to):

- An assessment of the reduction in flood volume storage,
- An assessment of impacts downstream of the M1,
- An assessment of climate change impacts,
- Any change of the site development framework (including roads, development parcels, buildings plots, landscaping) near flood zones A and B would also need for the hydraulic modelling to be re-evaluated, and
- The drainage strategy for planning should examine the recommendations from the SuDS Strategy for the Lissenhall East Draft LAP (Appendix 04).

2.6 SEA Guidance

The Environmental Report reflects the requirements of Directive 2001/42/EC on the *Assessment of the Effects of Certain Plans and Programmes on the Environment* (the SEA Directive) and the national implementing legislation: Regulations S.I. No. 436 of 2004, as amended by Regulations S.I. No. 201 of 2011, and the PDR 2001, as amended.

Review of guidance and environmental information has had regard to the datasets, guidance and sources provided in the submissions from the environmental authorities as noted in Table 2.2. The principal sources of guidance used in the SEA process are *inter alia*:

- Directive 2001/42/EC on the assessment of Certain Plans and Programmes on the Environment.

¹² <https://www.gov.ie/en/publication/7db50-the-planning-system-and-flood-risk-management-guidelines-for-planning-authorities-nov-09/>

Strategic Environmental Assessment (SEA) Environmental Report

- S.I. No. 436 of 2004 - Planning and Development (Strategic Environmental Assessment) Regulations 2004.
- S.I. No. 201 of 2011 - Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011.
- Planning and Development Regulations 2001, as amended.
- Guidance on Implementation of Directive 2001/42/EC, European Commission, 2004: http://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf
- SEA of Local Authority Land Use Plans - EPA Recommendations and Resources. EPA, Updated 2022 at: <https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-of-local-authority-land-use-plans---epa-recommendations-and-resources.php>
- SEA Pack and Checklist. EPA, Updated 2021 at: <https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-pack.php>
- SEA Spatial Information Sources Inventory. EPA, Updated 2022 at: <https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-spatial-information-sources-inventory-.php>
- SEA Resource Manual for Local and Regional Planning Authorities. EPA, 2015 at: <https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/sea-resource-manual-for-local-and-regional-planning-authorities.php>
- EPA Mapping. Environmental Mapping / Geographical Information System (GIS) tools are available at: <http://gis.epa.ie/SeeMaps>
- EPA SEA Topic and Sector Specific Guidance at: <https://www.epa.ie/our-services/monitoring--assessment/assessment/strategic-environmental-assessment/sea-topic-and-sector-specific-guidance-/>
- EPA Ireland's Environment – An Integrated Assessment 2020 at: <https://www.epa.ie/our-services/monitoring--assessment/assessment/irelands-environment/state-of-environment-report-/>
- Developing and Assessing Alternatives in Strategic Environmental Assessment - Good Practice Guidance. EPA, 2015 at: <https://www.epa.ie/publications/research/biodiversity/research-157-sea-alternatives.php>
- Circular Letter PL 9/2013: Article 8 (Decision Making) of EU Directives 2001/42/EC on Strategic Environmental Assessment (SEA) as amended. Department of Environment, Community and Local Government, 2013 at: <https://www.opr.ie/wp-content/uploads/2019/09/Cir.-Letter-re-Enf.-Directive-May-2013.pdf>
- Circular Letter PSSP 6/2011: Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA). Department of Environment, Community and Local Government, 2011, at : <https://duncansenvironment.files.wordpress.com/2013/03/sea-pssp-6-of-2011-26-july-11.pdf>
- Circular Letter SEA 1/08 & NPWS 1/08: Appropriate Assessment of Land Use Plans. Department of Environment, Heritage and Local Government, 2008, at: <https://www.npws.ie/sites/default/files/general/circular-sea-01-08.pdf>
- Managing Natura 2000 sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Commission, 2019 at: https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/EN_art_6_guide_jun_2019.pdf
- Assessment of plans and projects significantly affecting Natura 2000 sites - Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. European Commission, 2001 at:

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf

- Appropriate Assessment of Plans and Projects in Ireland. Department of Environment, Heritage and Local Government (National Parks and Wildlife Service), 2010 at:
http://www.npws.ie/publications/archive/NPWS_2009_AA_Guidance.pdf

3.0 Description of the Lissenhall East Draft Local Area Plan 2022

3.1 Introduction

The Lissenhall East LAP lands are strategically located approximately 5km north of Dublin Airport and adjacent to the M1 within the Dublin-Belfast economic corridor. Therefore the area is conveniently located in terms of connections to Swords Town Centre, Dublin Airport as well as Dublin City centre and the wider area. Planned significant public transport upgrades which will enhance connectivity of the LAP lands include Bus Connects and the MetroLink projects.

The majority of the LAP lands are in agricultural use with a circa 1.4 hectare (ha) area of woodland at the centre. However, existing commercial uses / developed areas are also located along the southern and western portion of the LAP lands, all of which are accessed from the R132 (see Figure 3.1). These include:

- Food logistics facilities (Swords Food Park / Lissenhall Industrial Estate) including a temperature-controlled storage facility to the southwest.
- HSE buildings incorporating the Swords National Ambulance Service Base and day care facilities to the west / southwest;
- A veterinary / kennelling facility (Lissenhall Veterinary Hospital) to the west; and
- Sheds and yard areas (hardstanding) to the north.

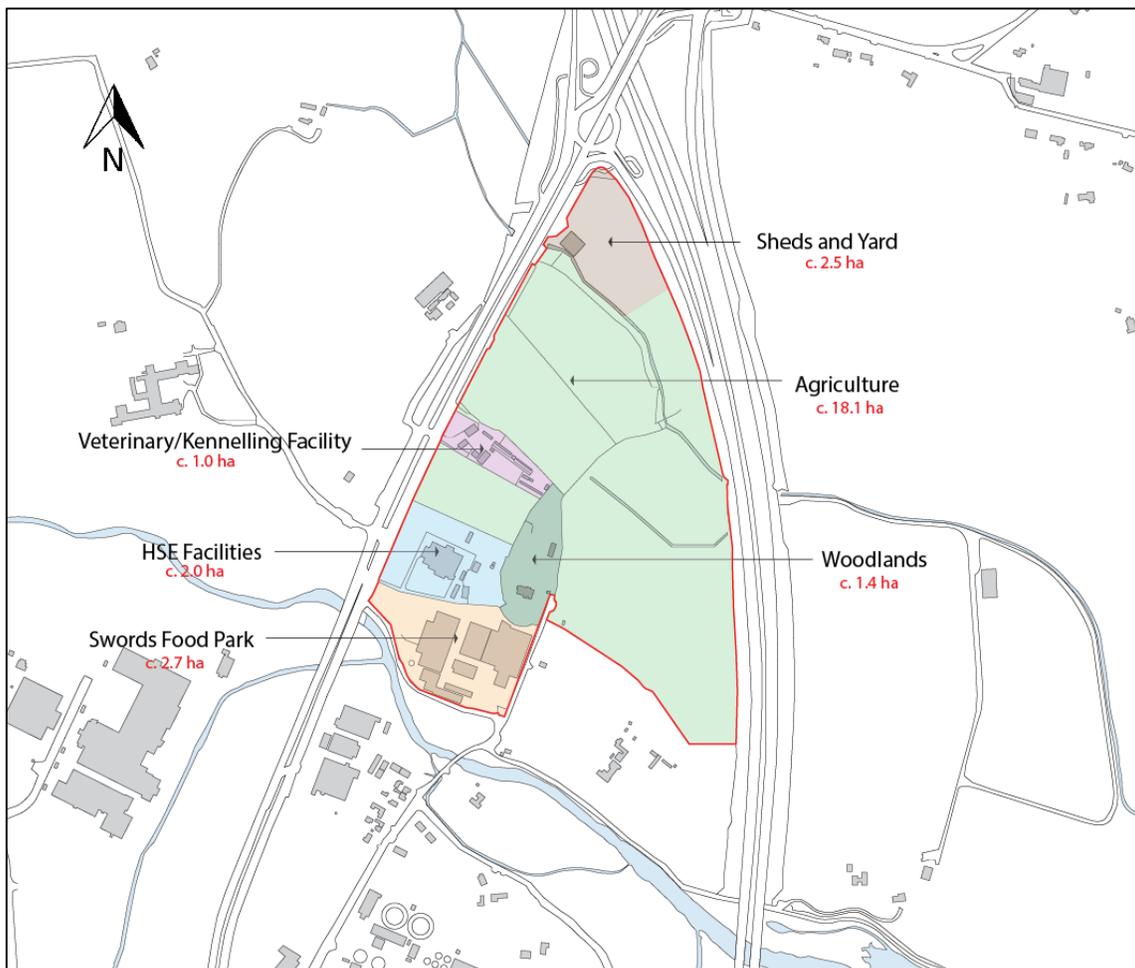


Figure 3.1: Existing Land Uses of the LAP Lands (Outlined in red)

The preparation of the LAP seeks to provide for the optimum future development framework for the lands. The requirement for the preparation of the Lissenhall East LAP is identified in the Fingal Development Plan 2017-2023 (FDP 2017), under:

'Objective SWORDS 27: Prepare and / or implement the following Local Area Plans and Masterplans during the lifetime of this Plan:

- *Lissenhall East Local Area Plan (see Map Sheet 8, LAP 8.B)*
- *Oldtown / Mooretown Local Area Plan (see Map Sheet 8, LAP 8.C)*
- *Estuary West Masterplan (see Map Sheet 8, MP 8.A)*
- *Estuary Central Masterplan (see Map Sheet 8, MP 8.B)*
- *Estuary East Masterplan (see Map Sheet 8, MP 8.C)*
- *Watery Lane Masterplan (see Map Sheet 8, MP 8.D)*
- *Seatown North Masterplan (see Map Sheet 8, MP 8.E)*
- *Seatown South Masterplan (see Map Sheet 8, MP 8.F)*
- *Brackenstown Masterplan (see Map Sheet 8, MP 8.G)*
- *Barrysparks Masterplan (see Map Sheet 8, MP 8.H)*
- *Fosterstown Masterplan (see Map Sheet 8, MP 8.I)*
- *Crowscastle Masterplan (see Map Sheet 8, MP 8.J).'*

3.2 Land Use & Objectives of the LAP

The lands are identified (as LAP 8.B) as requiring the preparation of a local area plan, see Figure 3.2 below (extract from Sheet No. 8 of the FDP 2017). The LAP lands are located immediately south of the R132 / M1 Motorway Junction No. 4. The M1 defines the eastern boundary of the lands while the western boundary is defined by the R132 dual carriageway.

The Lissenhall East LAP lands are zoned in the FDP 2017 for:

'HT - High Technology: Provide for office, research and development and high technology / high technology manufacturing type employment in a high quality built and landscaped environment' in the Fingal Development Plan 2017-2023 (and in the Draft FDP 2023-2029).

The Broadmeadow River and its wider corridor lies to the south of the LAP lands. Lissen Hall and its surrounding grounds lie on the north bank of the Broadmeadow and the entire area between the LAP lands and the river is zoned *'HA - High Amenity: Protect and enhance high amenity areas.'* The 18th century Lissen Hall house, outbuildings and entrance gates are listed as Protected Structures (No. 342) in the Record of Protected Structures (Appendix 2 FDP 2017). The FDP 2017 indicates an objective to protect and preserve trees, woodlands and hedgerows at the c. 1.4ha site centred on the site of Meudon (House), and former Mail & Stage Coach Stables, which were located along an old roadway. Today only ruins of Meudon and the former stables remain in the woodland, see Figure 3.3 below for historic mapping of the area. An objective to protect and preserve trees, woodlands and hedgerows also applies at the Lissen Hall property to the south of the LAP lands. As noted in the submission from the Department of Housing, Local Government and Heritage (DoHLGH), two features within the LAP lands are identified on the Sites and Monuments Record (SMR):

- DU012-015---- Enclosure (on boundary between LAP lands and Lissen Hall), and
- DU012-102---- Enclosure (within LAP lands north of Lissen Hall).

Currently agricultural lands, including the Emmaus Centre lie to the west of the R132. These are primarily zoned *'ME - Metro Economic Corridor: Facilitate opportunities for high density mixed use employment generating activity and commercial development, and support the provision of an appropriate quantum of residential development within the Metro Economic Corridor with corridors of OS - Open Space: Preserve and provide for open space and recreational amenities'* and *'HA'* along the Broadmeadow river to the south.

Strategic Environmental Assessment (SEA) Environmental Report

FDP 2017 identifies the indicative line of the Metro Route to the west of the R132. This is also broadly consistent with the northern terminus (Estuary Park and Ride) currently identified under the ‘emerging preferred route for the new Metrolink Project¹³. The development plan also indicates the provision of a high-quality bus corridor along the N132 bounding the LAP lands.

Lands to the east of the M1 Motorway are zoned both ‘GB - Greenbelt: Protect and provide for a greenbelt and HA - High Amenity: Protect and enhance high amenity areas.’

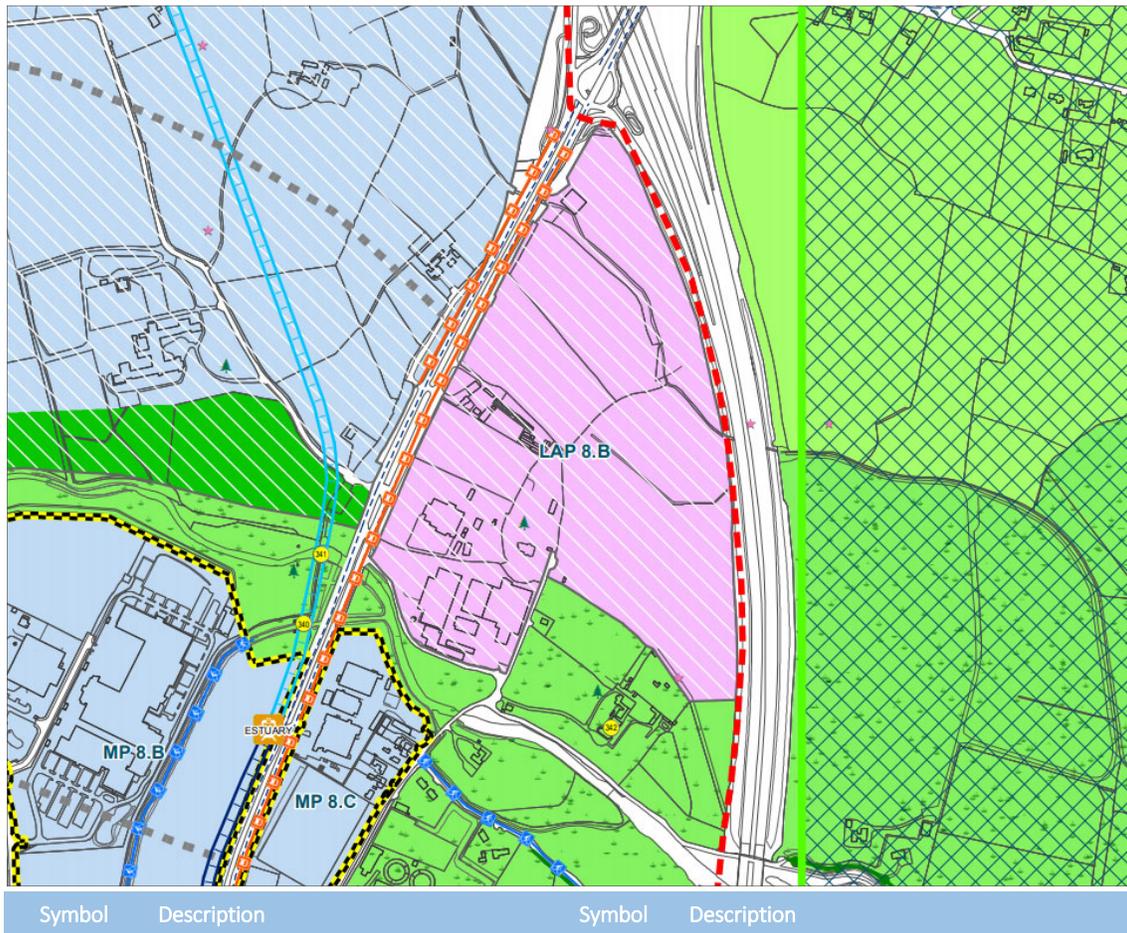


Figure 3.2: Extract from Fingal Development Plan 2017-2023 Sheet No. 8: SWORDS indicating location of Lissenhall East LAP lands (LAP 8.B – shaded pink)

¹³ <https://www.metrolink.ie/#/TheEmergingPreferredRoute>

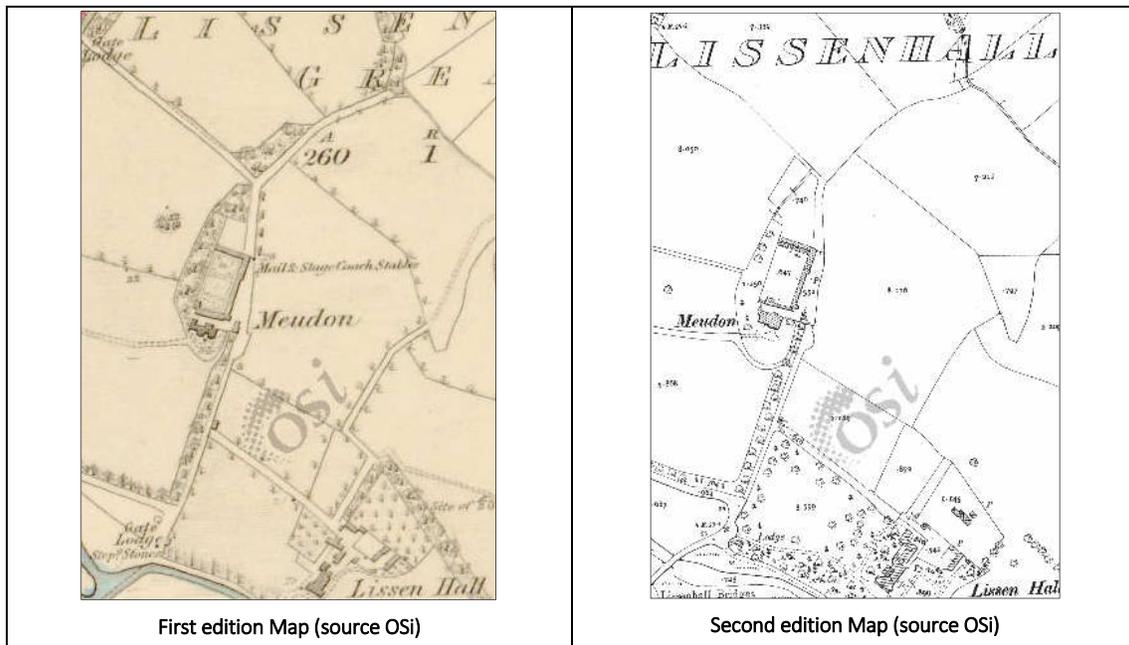


Figure 3.3: Site of Meudon (House) & associated Mail & Stage Coach Stables (centre) - with Lissen Hall to the south (Extract of first & second edition mapping from Ordnance Survey Ireland (OSi))

As previously noted, the majority of the northern and eastern LAP lands are greenfield arable lands with mature tree-lined hedgerow field boundaries. A number of enterprises operate out of Lissenhall Industrial Estate located within the southwestern portion of the lands. HSE Dublin North East, with its associated EVE (Eastern Vocational Enterprise) Estuary Centre and Swords National Ambulance Service Centre is located north of the existing industrial enterprises. Lissenhall Veterinary Hospital, with its animal quarantine centre, is centrally located along the western boundary of the LAP lands.

The lands drain, in part south to the Broadmeadow River (IE_EA_08B020800), and in part to the Turvey Stream¹⁴ (IE_EA_08T020700), which runs through the northern portion of the lands and under the M1 Motorway. Both watercourses discharge into the Broadmeadow Water Transitional Waterbody east of the M1 Motorway / Broadmeadow Bridge.

There is only one residential property on the LAP lands – located at the Veterinary Centre. Likewise, given the bounding road infrastructure there are few residential properties on immediately surrounding lands - with the most notable being Lissen Hall, and associated entrance gate lodge, located to the south. A number of residential properties are located south of the Broadmeadow River. Two residential properties and an area of traveller caravan parking are located west of the R132.

In discussing the Lissenhall East LAP, the FDP 2017 highlights¹⁵ the following specific objectives:

‘Objective SWORDS 13: Facilitate the development of the Swords Western Ring Road (SWRR) linking the R132 (east of the M1 and north of the Lissenhall interchange) to the N2 via the proposed ‘Dublin Airport Box’ road network. (page 94)

Objective ED89: Prepare and / or implement the following Local Area Plans during the lifetime of this Plan:

-

¹⁴ EPA Name: Staffordstown 08

¹⁵ See page 96 of the Development Plan

Strategic Environmental Assessment (SEA) Environmental Report

- Lissenhall East (see Map Sheet 8, LAP 8.B);
 -
- (page 238)

Objective ED94: Prepare LAP's and Masterplans within the lifetime of the Development Plan for strategically important High Technology zoned lands in collaboration with key stakeholders, relevant agencies and sectoral representatives. (page 240)

Objective ED95: Encourage the development of corporate offices and knowledge based enterprise in the County on High Technology zoned lands and work with key stakeholders, relevant agencies and sectoral representatives to achieve such development.' (page 240)

3.3 Structure and Contents of the Draft LAP

This Draft LAP consists of a written statement with accompanying maps and appendices. The LAP has been prepared with regard to Local Area Plans – Guidelines for Planning Authorities (June 2013) as well as all other applicable guidelines issued under section 28 of the Planning and Development Act 2000 (as amended).

As required under the Planning and Development Act, 2000 (as amended), the LAP must be consistent with the objectives and core strategy of the County Development Plan, in addition to any regional spatial and economic strategies that apply and to transport strategies within the Greater Dublin Area.

Having regard to the above, the written statement of the LAP address the following themes and issues:

- Vision Policy Context;
- Movement and Transport;
- Green Infrastructure and Nature Based Solutions;
- Infrastructure and Services; and
- Development Framework.

The written statement also includes the following appendices:

1. Strategic Environmental Assessment (this SEA Environmental Report and Non-technical Summary);
2. Appropriate Assessment Screening and Natura Impact Report;
3. Strategic Flood Risk Assessment;
4. Sustainable Drainage Systems Report;
5. Transport Assessment;
6. Cultural Heritage and Archaeology; and
7. Ecology and Green Infrastructure.

3.4 Lissenhall East Proposed Development Framework

The Draft LAP is underpinned by a strategic vision which is intended to guide the future growth of the Lissenhall East lands as a strategic employment area within the Dublin Metropolitan Area Spatial Plan (MASP) and consistent with its High Technology (HT) zoning objective which seeks to:

“Facilitate opportunities for 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 sustainable design and aesthetic quality will be promoted to enhance corporate image and identity.”

The vision statement for Lissenhall East can be expressed as follows:

To establish a location for high-end, high quality value-added businesses, blending sustainable urban design and architecture with nature to create a distinct, enjoyable sense of place.

Guiding Principles seek to deliver the vision to develop the lands in a sustainable manner, in a way that reflects its existing landscape, heritage and environmental assets. Any development on the LAP lands shall promote an urban design approach and built form which contributes positively to the quality of life of those who work in and visit Lissenhall East.

As such three key themes have been identified to shape and inform the vision for the lands:

1. Economic Opportunity;
2. Healthy Placemaking; and
3. Climate Action.

In Achieving the Vision it is noted that the issues selected relate to the overall vision to provide for a high-quality business campus where green infrastructure and nature-based solutions are fully integrated into the development of the LAP lands.

Green Infrastructure is used to describe the network of green spaces and natural elements that intersperse and connect places and both sustain environmental quality and enrich the quality of people's lives. Nature Based Solutions include infrastructure such as green roofs, tree pits, rain gardens and green walls. Both are important in optimising climate change adaptation and mitigation.

Objective GI17 of the Fingal County Development Plan 2017 – 2023 requires all Local Area Plans to protect, enhance, provide and manage green infrastructure in an integrated and coherent manner and to address the five Green Infrastructure themes set out in the Development Plan, namely:

- biodiversity;
- parks, open space and recreation;
- sustainable water management;
- archaeological and architectural heritage; and
- landscape.

These Green Infrastructure themes also form the spine of the Draft LAP and the resulting overall development framework for the Lissenhall East Draft LAP lands is illustrated on Figure 3.4.



Figure 3.4: Lissenhall East Draft LAP Proposed Development Framework

4.0 Relationship to Relevant Plans and Programmes

4.1 Introduction

The Lissenhall East LAP is framed within a hierarchy of European, national, regional and local planning policy documents and guidance, including the Project Ireland 2040 (National Planning Framework and National Development Plan); the Regional Spatial and Economic Strategy (RSES) for the Eastern & Midlands Region and the Fingal Development Plan. The LAP must also have regard to European and National environmental legislation, including European Directives, national environmental policy, ministerial guidance, departmental circulars, and general environmental guidance as appropriate.

This chapter provides an overview of the legislation, policies, plans and programmes that have been considered as part of the SEA Scoping stage and which may have a relevance to the development of SEA Objectives, the Draft LAP and the Environmental Report.

4.1.1 National Planning Policy: Project Ireland 2040

The National Planning Framework (NPF) together with the National Development Plan (2018 – 2027) provide a strategic development framework for Ireland up to 2040.

In adopting a tailored approach to urban development, the NPF promotes two inter-related objectives namely; encouraging population growth in strong employment and service centres of all sizes, supported by employment growth; and in more self-contained settlements of all sizes, supporting a continuation of balanced population and employment growth (NPO7).

The NPF identifies the delivery of MetroLink as a key future growth enabler for Dublin. It also identifies a limited number of accessible locations for significant people-intensive employment to complement the Dublin city-centre and docklands areas. In this respect, the NPF recognises the potential of Swords, stating:

“Swords served by MetroLink is identified as a location for compact development, such as infill or a sustainable urban extension, served by high capacity public transport and/or significant employment and amenity provision.”

The NPF goes on to state that:

“In identifying opportunities for leveraged employment and sustainable population growth, development must be supported by enhanced connectivity, quality of life, strengthened urban cores and more compact housing in urban settlements. This is to protect and manage the strategic capacity of transport infrastructure and to ensure that the distinctiveness of settlements and rural areas is maintained.”

4.1.2 Regional Planning Policy: Regional Spatial and Economic Strategy (RSES)

The Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region (EMRA) 2019 - 2031 provides a strategic plan and investment framework to shape future development throughout the Eastern and Midland Region.

The Development Strategy for Swords is for the consolidation, active land management, employment generation and residential development centred on regeneration of the town centre, and high-quality transport in the form of MetroLink and BusConnects. Furthermore, development is to be appropriately managed through the provision of LAPs and Masterplans.

The RSES incorporates the Dublin Metropolitan Area Strategic Plan (MASP), which identifies Key Strategic Development Areas in Fingal for employment and residential development and specifically identifies the development of high-tech research and development employment within a campus setting at Lissenhall East as a strategic employment area (Table 5.1 on page 105 of the RSES).

4.1.3 Local Planning Policy: Fingal Development Plan 2017-2023 (FDP)

The FDP 2017 – 2023 seeks to develop and improve, in a sustainable manner, the social, economic, environmental and cultural assets of the County. The strategic policy objectives of the Council includes the following:

“Promote and facilitate the long-term consolidation and growth of the County town of Swords as provided for in the Swords Strategic Vision 2035.”

This vision is to develop Swords to become an emerging city – with a population of 100,000 and comparable increases in employment and services.

As per the RSES, Swords is a Key Town, and it is an objective within the Core Strategy of the Development Plan to focus population growth within existing urban centres (Objective SS01). The Core Strategy also sets out objectives for the provision of employment within Swords to serve the growing residential population (Objective SS13).

The LAP lands are zoned “HT” High Technology in the FDP, the stated objective of which 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 Vision Statement for the HT zoning 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 sustainable design and aesthetic quality will be promoted to enhance corporate image and identity.”

Objective EE30 guides the development of HT zoned lands:

“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.”

The lands immediately to the west of Lissenhall East on the other side of the R132 are zoned “ME – Metro Economic Corridor”. The lands to the immediate south (including Lissen Hall House) are zoned “HA – High Amenity”.

The FDP includes the following map based local objectives of relevance to the LAP:

- Within the LAP lands there is an objective to ‘Protect & Preserve, Trees, Woodlands and Hedgerows’.
- There is a Quality Bus Corridor objective along the R132 which makes up the western boundary of the LAP lands

A number of road upgrades near the Lissenhall East LAP lands are provided for in the FDP 2017-2023. These proposals are to be constructed over time to meet the wider transportation demands and include:

- Swords Western Distributor Road – this road shall link north and south Swords, whilst relieving the Main Street of the town from through traffic;
- Swords Industrial Estate Link;
- Swords-Brackenstown Link;
- Completion of Airside to Feltrim Road Link;
- East-West Distributor Road: Malahide Road to Stockhole Lane; and
- East West Distributor Road: Stockhole Lane to Cherryhound.

4.1.4 Local Planning Policy: Draft Fingal Development Plan 2023-2029 (DFDP)

The Core Strategy for the DFDP supports the economic development of Fingal in line with the policies and objectives stipulated in the NPF and the RSES and use of active land measures such as LAPs as part of the development approach for Strategic Development Areas and Corridors (see Policy CSP3 – Strategic Development Areas and Corridors).

The DFDP notes that locations subject to LAPs and Masterplans relate to Fingal’s priorities for growth, and that these plans are intended to provide a development framework and phasing arrangements which will ensure the delivery of the required social and physical infrastructure in an appropriate manner.

The lands remain zoned “HT High Technology” in the DFDP and the Vision Statement for the HT zoning remains the same as in the current FDP and Lissenhall East is identified in the DFDP as one of the LAPs to be commenced over the plan period (see Table 2.16).

4.2 Interaction with Other Relevant Plans and Programmes

Table 4.1 and Table 4.2 below provide a working list of the principal plans and programmes influencing the formulation of the LAP policy, either directly or through European, National and / or County level policy.

Table 4.1: Relevant National Plans and Programmes

National & Regional Plans and Programmes	
National Planning Framework (NPF) Project 2040	Spatial Planning and National Roads (2012)
National Development Plan (NDP) 2018-2027	The Traffic and Transport Assessment Guidelines (2007) and any updated / superseding documents and any forthcoming guidelines in relation to street design and cycling facilities
Regional Planning Guidelines for the Greater Dublin Area 2010-2022	National Greenway Strategy
Eastern & Midlands Regional Assembly: Regional Spatial and Economic Strategy (RSES) 2019-2031	Architectural Heritage Protection Guidelines for Planning Authorities (2011)
Guidelines for Planning Authorities on ‘Sustainable Urban Housing: Design Standards for New Apartments’ (March 2018)	National Mitigation Plan 2017
Urban Development and Building Heights - Guidelines for Planning Authorities’ (December 2018)	Sectoral Climate Change Adaption Strategies and Low Carbon Roadmaps
Our Sustainable Future - A Framework for Sustainable Development for Ireland (2012)	National Policy Position on Climate Action and Low Carbon Development
Delivering Homes, Sustaining Communities. Statement on Housing Policy (2008)	Climate Action Plan 2019. To Tackle Climate Breakdown
‘Rebuilding Ireland - Action Plan for Housing and Homelessness’ (2016)	The National Renewable Energy Action Plan
Ireland’s Environment - An Assessment 2016	The National Broadband Plan
National Biodiversity Action Plan 2017-2021	National Energy Efficiency Action Plan
Heritage Ireland 2030	National Landscape Strategy
Transport 21, as superseded by the Department of Public Expenditure and Reform document titled Infrastructure and Capital Investment 2012-2016	Eastern Midlands Region Waste Management Plan 2015-2021

National & Regional Plans and Programmes	
Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020	Water Services Strategic Plan / Capital Investment Programme (Irish Water)
Transport Strategy for the Greater Dublin Area 2016-2035	The Planning System and Flood Risk Management (2009)
Ireland's First National Cycle Policy Framework 2009	National CFRAMS Programme
Design Manual for Urban Roads and Streets (2013)	River Basin Management Plan for Ireland
Spatial Planning and National Roads Guidelines (2012)	Eastern Catchment Flood Risk Assessment and Management (CFRAM) Study

Table 4.2: Relevant Local Plans and Programmes

Local Plans and Programmes	
Fingal Development Plan 2017-2023	Your Swords - Strategic Vision 2035
Draft Fingal Development Plan 2023-2029	The Fingal Tourism Strategy 2018-2022
Fingal County Council Corporate Plan 2019-2024	Fingal Heritage Plan 2018-2023
Fingal Local Economic Community Plan 2016-2021	South Fingal Transport Study 2019
Fingal Biodiversity Action Plan 2018-2023	Healthy Fingal Strategic Plan 2021 – 2025
Draft Fingal Biodiversity Action Plan 2022-2030	Swords Masterplan 2019

Furthermore, there is a legislative framework for the protection of the environment and our natural resources. Where relevant these aspect will be referenced and discussed in terms of their inclusion in the process of preparing the LAP. Table 4.3 below provides a list of the principle legislative framework.

Table 4.3: Legislative Framework

Legislative Framework	
Planning and Development Act 2000, as amended	Water Framework Directive (WFD) (2000/60/EC)
Planning and Development Regulations 2001, as amended	Renewable Energy Directive (2009/28/EC) & EU Directive 2001/77/EC
Strategic Environmental Assessment Directive 2001/42/EEC	Flood Directive (2007/60/EC)
Habitats Directive 92/43/EEC	Bathing Water Directive (2006/7/EC)
Directive 2009/147/EC on the Conservation of Wild Birds, 1979	Groundwater Directive (2006/118/EC)
European Communities (Birds and Natural Habitats Regulations) 2011 (S.I. No. 477 of 2011)	EU Renewable Energy Road Map
Environmental Impact Assessment Directive 2011/92/EU as amended by 2014/52/EU	EU Landfill Directive 1999/31/EC
Waste Framework Directive (2008/98/EC)	Renewable Energies in the 21 st Century: Building a More Sustainable Future
Urban Wastewater Directive (91/271/EEC)	The Water Services Act (2007 & 2013)
Drinking Water Directive (98/83/EC)	European Landscape Convention 2000

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Legislative Framework	
Environmental Noise Directive (2002/49/EC)	The National Monuments Act 1930-2004
Environmental Liability Directive (2004/35/EC)	Wildlife Acts 1976-2000
EU 2020 Climate and Energy Package	Roads Act 1993, as amended
Fourth Daughter Directive (2004/107/EC)	
Climate Action Plan 2021	

5.0 Environmental Baseline

5.1 Introduction

Baseline data assists in assessing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the Plan. Thus, this information creates a platform whereby existing issues relevant to the LAP area can be quantified, where possible, or qualified thereby ensuring that the implementation of the LAP does not exacerbate identifiable problems.

Baseline data has been provided for the various environmental receptors described in the SEA Directive *i.e.* biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. An overview of the various receptors and the issues of concern raised at the initial public consultation phase of the Plan's preparation is provided in this Scoping report.

The SEA Directive requires that information is provided on '*any existing environmental problems which are relevant to the Plan or programme*'. Information is therefore provided on existing environmental problems, which are relevant to the LAP, thus helping to ensure that the Plan does not exacerbate any existing environmental problems in the study area.

The Fingal Development Plan was subject to SEA and as such an SEA Environmental Report and SEA Statement was prepared¹⁶. The Environmental Report provided a detail description of the environmental baseline, the majority of which remains valid.

5.2 Biodiversity (Flora & Fauna)

Biodiversity plays a significant role in the provision of clean air, water, healthy soils and food as well as visually contributing to a plan area with its natural beauty and heritage. The natural heritage of County Fingal is an important asset and a unique resource that include marine, coastal, terrestrial, wetland, freshwater and upland habitats.

The majority of the northern and eastern LAP lands are predominantly greenfield arable lands with mature tree-lined hedgerow field boundaries. Lissenhall Veterinary Hospital, is centrally located along the western boundary, and a number of enterprises operate out of a large industrial site located within the southwestern portion of the lands. A specific objective to '*protect and preserve trees, woodlands and hedgerows*', applies to c. 1.4ha of woodland located at the centre of the LAP lands. As noted previously, the lands to the south of the LAP boundary is within the corridor of Broadmeadow River and are zoned as '*HA - High Amenity*'.

The lands drain in part south to the Broadmeadow River (IE_EA_08B020800) and in part to the Turvey Stream¹⁷ (IE_EA_08T020700), which flows in a south-easterly direction through the lands, discharging into the Broadmeadow Water Transitional Waterbody (IE_EA_060_0100).

The nearest European sites are the Malahide Estuary SAC (Site code No. 000205) and Malahide Estuary SPA (Site code No. 004025) located along the Broadmeadow River corridor, directly south of the lands. This area is also a proposed Natural Heritage Area (pNHA) (Site code No. 000205) of Malahide Estuary.

Since a large proportion of the LAP lands are greenfield, potential impacts on the European sites could arise from contaminated surface water run-off generated during the Construction and Operational Phase of the LAP development. All designated European sites located within 15km of the LAP lands are listed in Table 5.2.1 below.

¹⁶ Fingal Development Plan: http://www.fingal.ie/media/SEA%20Statement_web.pdf

¹⁷ EPA Name: Staffordstown 08

Table 5.2.1: European Sites in County Dublin within a 15km buffer of the LAP lands

European Sites within a 15km buffer of the subject lands			
Site Code	Special Protection Area (SPA)	Site Code	Special Area of Conservation (SAC)
004025	Malahide Estuary	000205	Malahide Estuary
004015	Rogerstown Estuary	000208	Rogerstown Estuary
004016	Baldoyle Bay	000199	Baldoyle Bay
004069	Lambay Island	000204	Lambay Island
004117	Ireland's Eye	002193	Ireland's Eye
004006	North Bull Island	000206	North Dublin Bay
004113	Howth Head Coast	000202	Howth Head
004024	South Dublin Bay and River Tolka Estuary	000210	South Dublin Bay
004014	Rockabill	003000	Rockabill to Dalkey Island
004122	Skerries Islands		

Conservation objectives for SACs and SPAs have been set for the habitats and species for which the sites have been selected. Site specific detailed conservation objectives are available on the NPWS website¹⁸. Any potential for impact on European sites is fully addressed in the Natura Impact Report (NIR – Appendix 02) which accompanies the Draft LAP and SEA Environment Report and SFRA on public display.

5.2.1 Nationally Designated Sites

Nationally Designated Sites include Natural Heritage Areas (NHAs) which are legally protected areas that are considered important for their habitats or which holds species of plants and animals whose habitat needs protection. pNHAs are also of significance for wildlife and habitats but have not yet been statutorily designated. However, under the Wildlife Amendment Act (2000) NHAs are legally protected from damage from the date they are formally proposed for designation¹⁹. Further protection can be afforded to these areas by including appropriate protective measures in the Fingal Development Plan.

There are no national designated biodiversity sites on the LAP lands. The LAP is located just north of the Broadmeadow River and Malahide Estuary, which is designated as a pNHA (Site code No. 000205).

There are three pNHAs within 5km of the LAP lands, see Table 5.2.2 below.

Table 5.2.2: Proposed Natural Heritage Areas (pNHAs) within a 5km buffer of the LAP Lands

Site Code	Special Protection Area (SPA)
000205	Malahide Estuary
001208	Feltrim Hill
000208	Rogerstown Estuary

5.2.2 Natural Reserves

Other nature conservation designations in Fingal are Statutory Nature Reserves, which are protected under Ministerial order. There are four Statutory Nature Reserves (SNR) in County Fingal - the nearest of which (Rogerstown Estuary) is <5km from the LAP lands.

- Rogerstown Estuary;

¹⁸ NPWS website: <https://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives>

¹⁹ NPWS website: <https://www.npws.ie/protected-sites/nha>

- Rockabill Estuary;
- Baldoyle Estuary; and
- North Bull Island.

5.2.3 National Biodiversity Action Plan (NBAP)

The *National Biodiversity Action Plan (NBAP)* for Ireland provides a framework for government, civil society and private sectors to track and assess progress towards Ireland's Vision for Biodiversity over a five-year timeframe from 2017 to 2021. When developing the LAP, it is important to consider measures to enhance ecological biodiversity as outlined in the NBAP 2017-2021. NBAP targets relevant to the Plan are listed below:

- enhance appreciation of the value of biodiversity and ecosystem services;
- optimise opportunities under agriculture and rural development, forestry and other relevant policies to benefit biodiversity;
- aim to reduce principal pollutant pressures on terrestrial and freshwater biodiversity;
- optimise benefits for biodiversity in Flood Risk Management Planning and drainage schemes;
- promote the control of non-native invasive species; and
- promote sustainability in the aquaculture industry.

The *Fingal Biodiversity Action Plan (FBAP) 2010-2015* has been prepared to address the way in which wildlife resources of the County, including native plants, animals and the ecosystems, will be managed and protected over the five year period of the Plan. This plan shares the goals of the Convention on Biological Diversity and the NBAP, and translates them into actions at a local level. The FBAP sets out the following objectives:

- To maintain, and where practicable enhance, the wildlife and habitats that give Fingal its character and natural diversity.
- To ensure that (inter)national targets for sites, species and habitats are translated into effective action at local level.
- To develop effective partnerships to ensure that programmes for biodiversity conservation are maintained in the long-term.
- To raise public awareness and encourage involvement in biodiversity action by the wider community.
- To increase our knowledge and understanding of biodiversity through ecological research.
- To ensure the full integration of biodiversity into FCC's policies and programmes as part of sustainable development in Fingal.

A new *Draft Fingal Biodiversity Plan 2022-2030* is currently under preparation.

5.2.4 Ramsar Sites

Ramsar sites are wetlands of international importance designated under the Ramsar Convention. There are four Ramsar sites located in County Fingal; Baldoyle Bay, North Bull Island, Broadmeadow Water and Rogerstown Estuary. Relevant authorities are expected to manage their Ramsar Sites so as to maintain their ecological character and retain their essential functions and values for future generations. The Broadmeadow Water is <1km east of the LAP lands.

5.2.5 Ecological Networks and Connectivity

The Green Infrastructure Maps from the Fingal Development Plan show that the LAP lands are identified as a '*highly sensitive landscape*'. The LAP is located just north of the ecological feature '*Ecological corridor along Rivers*' and west of an '*Ecological Buffer Zone*', (see the Development Plan Green Infrastructure Sheets No. 14 & 15).

Sheet No. 8 of the Fingal Development Plan indicates that there is 1 No. mature tree stand / woodland located at the centre of the LAP lands which has a specific objective under the Development Plan to Protect and Preserve Trees, Woodland and Hedgerows or to Preserve Views.

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. The LAP has had regard to such features in the making of the plan.

5.2.6 Invasive Species

Invasive species constitute a threat to biodiversity and eco-systems and can have economic costs. In Ireland, there are currently 377 recorded non-native species and 342 non-native 'potential Invaders', 66% are considered to have a low impact risk, 21% to have a medium impact risk and 13% have a high impact risk. The majority of invasive species in Ireland are plants, however, there is potential for rising trends of invasive vertebrate and invertebrate species²⁰.

In Fingal, the problem with invasive species is mainly limited to alien plants species that grow in and along some of our woodlands, heathland and watercourses. Japanese Knotweed (*Fallopia japonica*), Himalayan Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*) are occasionally found along watercourses, completely taking over areas of the riverbank. Landowners are responsible for preventing the spread of Japanese Knotweed on their own land.

No invasive species listed on the Third Schedule of the Birds and Natural Habitats Regulations S.I. No. 477/2011 have been recorded on the LAP lands.

5.2.7 Biodiversity Issues

Ireland is currently experiencing a decline in floral and faunal populations. Implementation of measures to achieve the requirements of the Habitats Directive and the objectives of the Water Framework Directive (WFD) are likely to benefit protected sites in the future.

There is a potential to impact on the integrity of the Natura 2000 sites located to the south-east of the LAP lands, namely the Malahide Estuary SPA and Malahide Estuary SAC.

Construction works have the potential for indirect impacts on the Natura 2000 sites and their qualifying features of interest. Potential impacts include habitat loss or degradation as well as disturbance to habitats, species and ecosystem dynamics.

There is a potential to impact on water quality as a result of the activities associated with the implementation of the LAP. Contamination may arise through poor working practices, leakages or accidental spillage of materials if efficient pollution control measures are not fully implemented and maintained during the lifetime of the LAP.

5.3 Population and Human Health

5.3.1 Population

The administrative area of Fingal covers over 450km² and includes 88km of scenic coastline. The County stretches from the River Liffey and the Dublin City boundary in the south to the Meath boundary north of Balbriggan, and eastwards from the coast to the Meath and Kildare boundaries in the west. Fingal has the youngest population in the State (total population, 296,214 in 2016 Census). The 2016 Census shows that the settlement of Swords had a population of 39,248 in April 2016 compared to 36,924 in April 2011, *i.e.* a change of 2,324 persons or 6.3%. This accounts for 0.8% of the national population of 4,857,000 persons.

²⁰ O'Flynn, C., Kelly, J. and Lysaght, L. (2014). Ireland's invasive and non-native species—trends in introductions. National Biodiversity Data Centre Series No. 2.

The 2016 Census indicates that population growth in County Fingal was 6.3% since 2011, the fourth highest in the State²¹. Figure 5.3.1 indicates the population density in the Swords area.

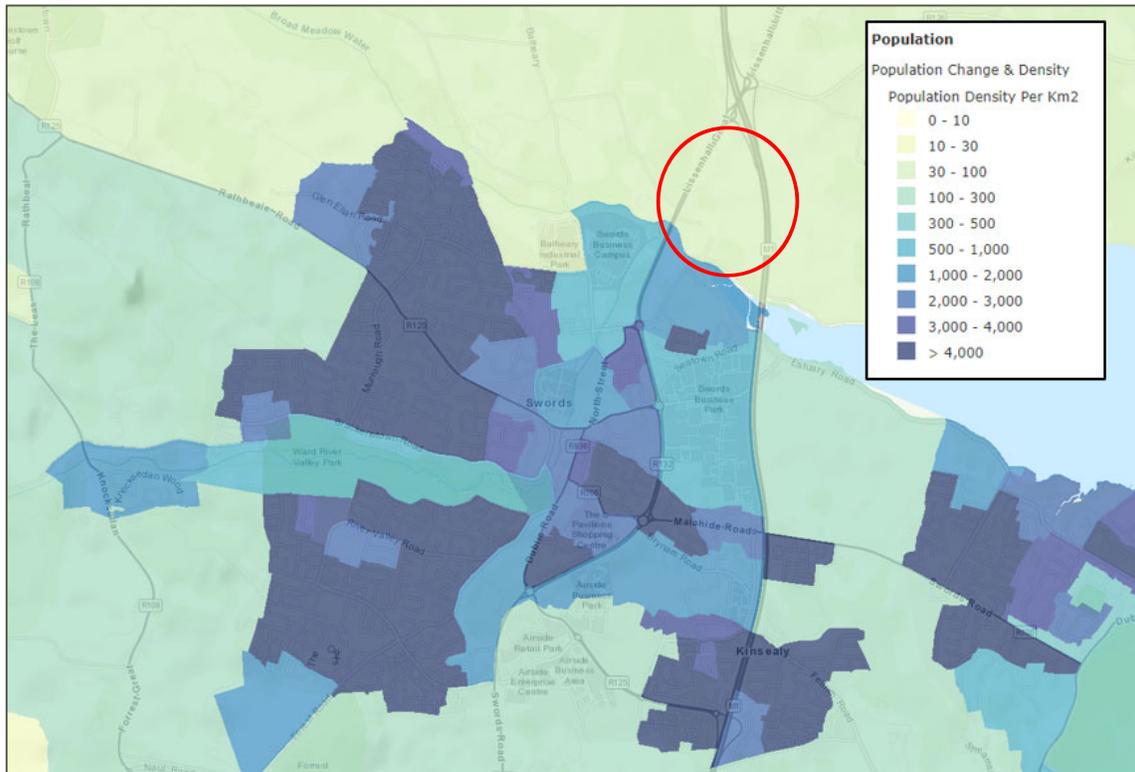


Figure 5.3.1: Population density in the Swords area (Location of LAP lands indicated in red)

Figure 5.3.2 below shows the population change per electoral division (ED) in Swords, between 2011 and 2016. Together these figures provide a clear indication of the distribution of population within the area. Only 1 No. ED (037 Swords-Glasmore) in County Fingal has experienced population decline (-0.48%). An overall pattern of growth can be seen more widely in Fingal and in the Swords area.

²¹ Census 2016 viewer: <http://airomaps.nuim.ie/id/Census2016/>

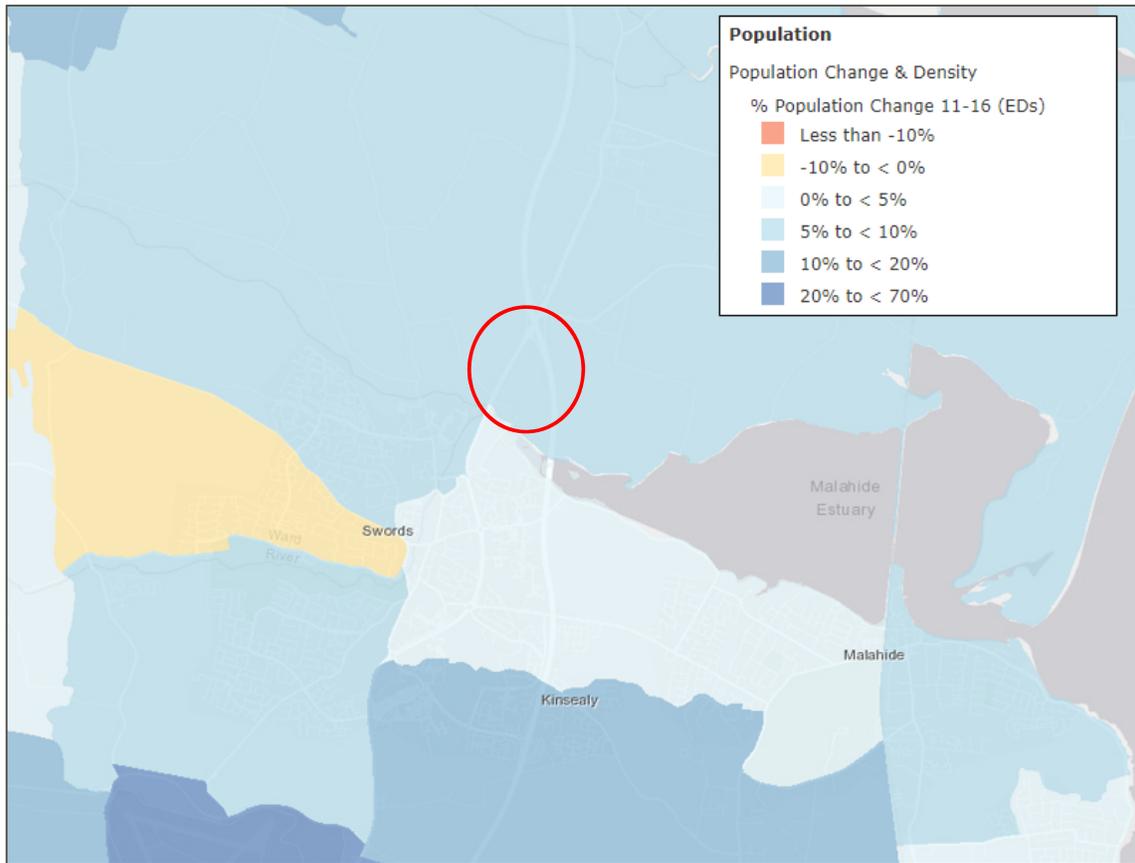


Figure 5.3.2: Population change per Electoral Division (ED) in Swords (Location of LAP lands indicated in red)

The age structure of the population of Fingal reflects the future housing requirements, school requirements and community services. Figure 5.3.3 below shows the number of people within each age cohort for 2011 and 2016. An overall population increase is evident in many age cohorts with the exception of 0-4 and 20-34. The drop in the age cohort from 20 to 34 years may be a side effect of the economic downturn and consequent potential outward migration from the county. It is likely that the drop in the 0-4 group is attributed to the reduced population within the 20-35 cohort.

The increased numbers in the age cohort of 5 to 19 year olds reflects a more immediate requirement for additional primary and secondary school places. The increase in the older population will also have long-term implications relating to health and social service needs.

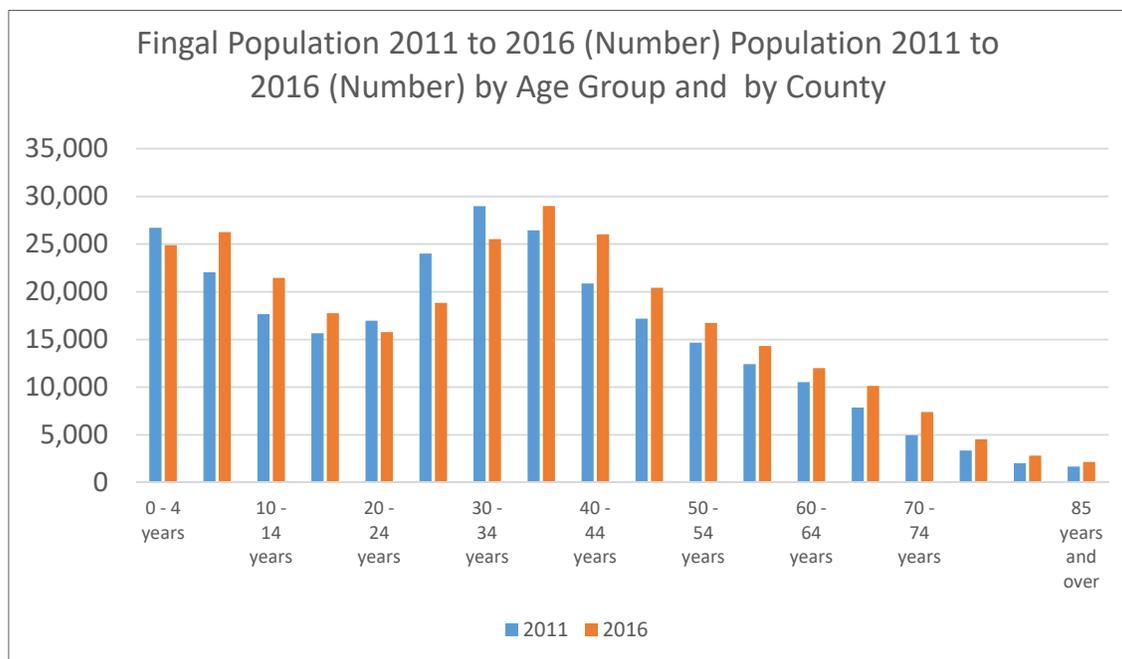


Figure 5.3.3: Population Change in Fingal between 2011 and 2016²²

5.3.2 Tourism

Tourism has been identified as one of the country's most important economic sectors and is credited with playing a significant role in the economic recovery in recent years. Tourism is particularly important in that it can assist in providing business and employment opportunities across regions and leads to jobs across the spectrum of skills requirements. In 2015 the national policy framework for the tourism sector, *People, Place and Policy: Growing Tourism to 2025*, was published with a strong focus on developing the sector to attract ten million overseas visitors, create a range of direct and indirect enterprise opportunities and to grow employment in the sector to 250,000 persons by 2025.

The quality and diversity of Fingal's tourism offer is particularly strong in relation to the Council owned Heritage Properties such as Malahide Castle and Gardens, Fingal's top visitor attraction; Council operated events such as the Flavours of Fingal County Show in Newbridge Demesne; and Council-supported events such as the international Test Cricket Match in Malahide Castle.

5.3.3 Human Health

Human health has the potential to be impacted upon by environmental factors such as air, water or soil through which contaminants could accumulate and have potential to cause harm through contact with human beings. Hazards or nuisances to human health can arise due to exposure to these vectors, for example arising from incompatible adjacent land uses. The impact of development on human health is also influenced by the extent to which new development is accompanied by appropriate infrastructure and the maintenance of the quality of water, air and soil.

5.3.4 Radon & Human Health

Radon is a radioactive gas, which is naturally produced in the ground from the uranium present in small quantities in all rocks and soils. Tiny radioactive particles are produced by the gas which when inhaled can cause lung cancer. The risk of contracting lung cancer as a result of Radon depends on how much Radon a person has been exposed to over a period of time. Radon levels in the county have been collated from the

²² CSO, 2018: www.cso.ie

Radiological Protection Institute of Ireland and are shown in Figure 5.3.4. The Swords area has a relatively low radon level at less than 1%. However, a high radon level can be found in any home in any part of the country²³.

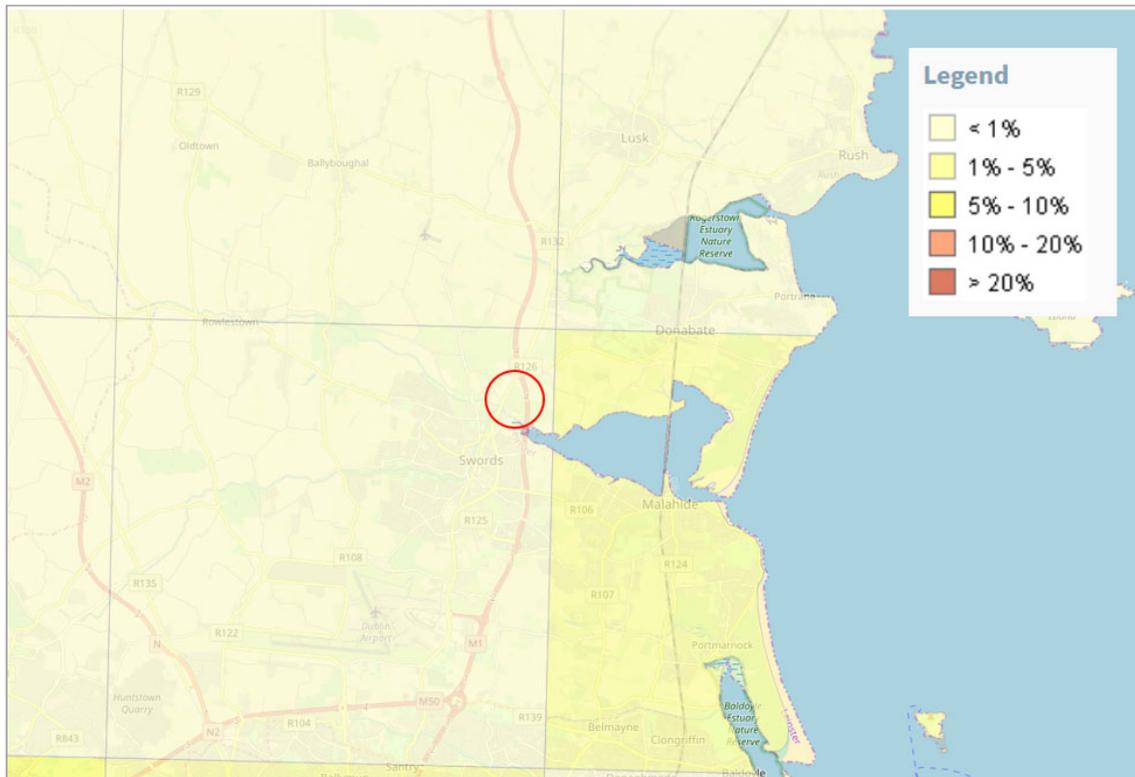


Figure 5.3.4: Radon Levels in Swords / North Dublin area²⁴ (Location of LAP lands indicated in red)

5.3.5 Population & Human Health Issues

The development of the LAP lands will bring new opportunities to the local community and beyond for employment opportunities as a result of both direct and indirect impacts of the LAP.

There is a limited potential for short-term disturbances to the local community / residential areas during the Construction Phase as a result of construction-related noise and traffic increases.

Ensuring the health and wellbeing of all residents, workers and visitors should be a priority. This should be included in the vision of the LAP. Development of family friendly towns and villages that cater for the needs of everyone with access to community facilities, housing, education and public transport is fundamental to the overall well-being of the population.

5.4 Soils and Geology

The upper most layer of the earth's surface is generally termed 'Soil'. It comprises for the most part organic matter, minerals and fine to coarse grained weathered rocks. The variability in the constituent parts and the percentage content of each in the soil matrix results in differing characteristics. This has implications for suitable land use and the appropriateness for differing land use practices.

²³ EPA Maps, 2019: <http://www.epa.ie/radiation/radonmap/> (OpenStreet Maps)

²⁴ EPA, 2019: <https://gis.epa.ie/EPAMaps/> (OpenStreet Maps)

Geology encompasses the understanding and study of the solid and liquid matter that constitutes the earth and the processes by which they are formed, moved and changed. Its understanding is necessary to fully appreciate the geological factors that shape and influence the world and its particular structure.

5.4.1 Soils

Soil is a non-renewable resource that performs many vital functions: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance.

County Fingal contains a range of soils that support various habitats and land uses and provide valuable mineral resource potential. Fertile soils also provide the basis for a thriving agricultural and food sector, see Figure 5.4.1.

The soils beneath the LAP lands are mainly derived from a mixture of calcareous, non- calcareous and mineral alluvium materials. These soils range from deep well drained mineral (mainly basic) (BminDW), to deep well drained mineral (mainly acidic) (AminDW) and alluvial (mineral) (alluvMIN)²⁵.

These soils can be impacted upon by development, land use changes and water quality.

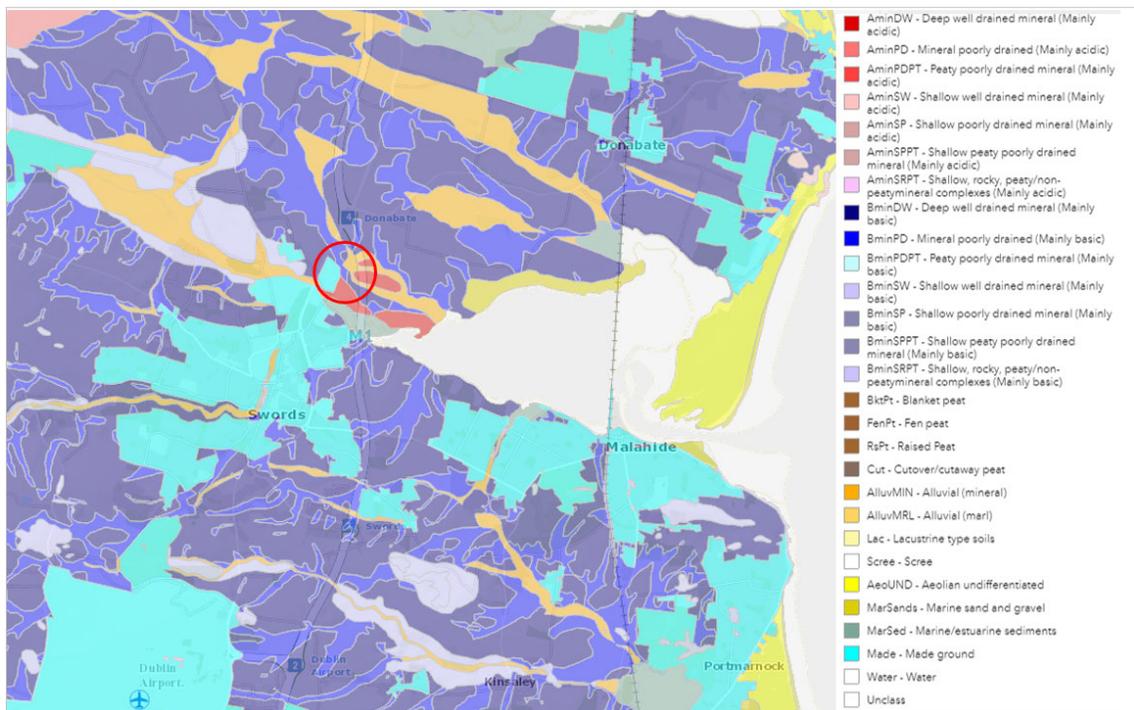


Figure 5.4.1: Soil Mapping for Swords²⁶ (Location of LAP lands indicated in red)

5.4.2 Geology

Geological Survey Ireland (GSI) provides information available on bedrock, subsoil, aquifer classifications and vulnerability. Fingal is a place with a subtle but distinctive landscape compared to other parts of Ireland. The bedrock foundation, with hundreds of millions of years in the formation and shaping, and the more recent history of geomorphological processes involving river channels and glaciers are what have created the

²⁵ GSI, Online Map Viewer: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

²⁶ GSI, Online Map Viewer: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

underlying geological diversity, or geodiversity. Geological understanding and interpretation is best achieved on the ground at sites where rocks and landforms are displayed. Fingal has a range of such natural and man-made sites²⁷.

The LAP lands are underlain by the Malahide Formation (CDMALH) which comprises argillaceous bioclastic limestone and shale. The lower part of the formation is composed of calcareous shales, siltstones and sandstones, and occasional thin limestones at its base. These are followed by cyclical, peloidal and oncolitic, peloidal, occasionally nodular micrites and thin intraclastic²⁸.

The Depth to Bedrock (Dublin County area) is shown as between 5 to 10m across the LAP lands, with two localised areas of 3 to 5m as indicated on Figure 5.4.2. Details of Quaternary Sediments are provided on Figure 5.4.3.

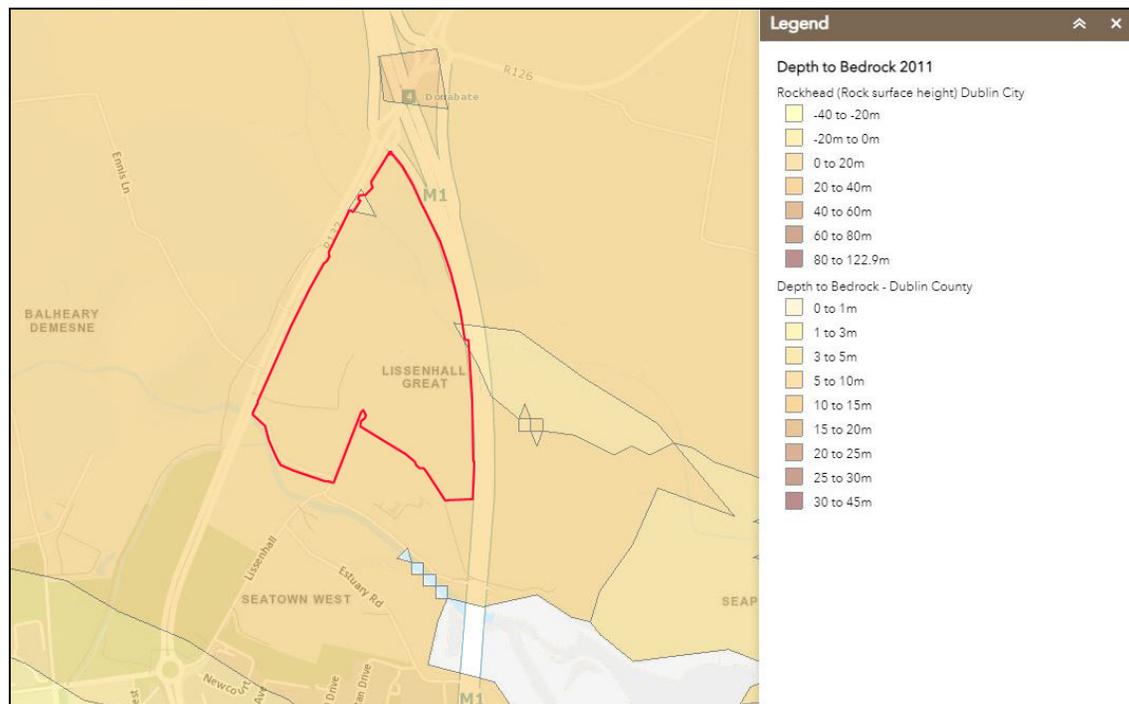


Figure 5.4.2: Depth to Bedrock²⁹ (Location of LAP lands indicated in red)

²⁷ Geological Heritage of Co. Fingal: https://jetstream.gsi.ie/iwdds/delivery/GSI_Transfer/Geoheritage/Fingal_Audit.pdf

²⁸ Geological Survey Ireland: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

²⁹ Geological Survey Ireland: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

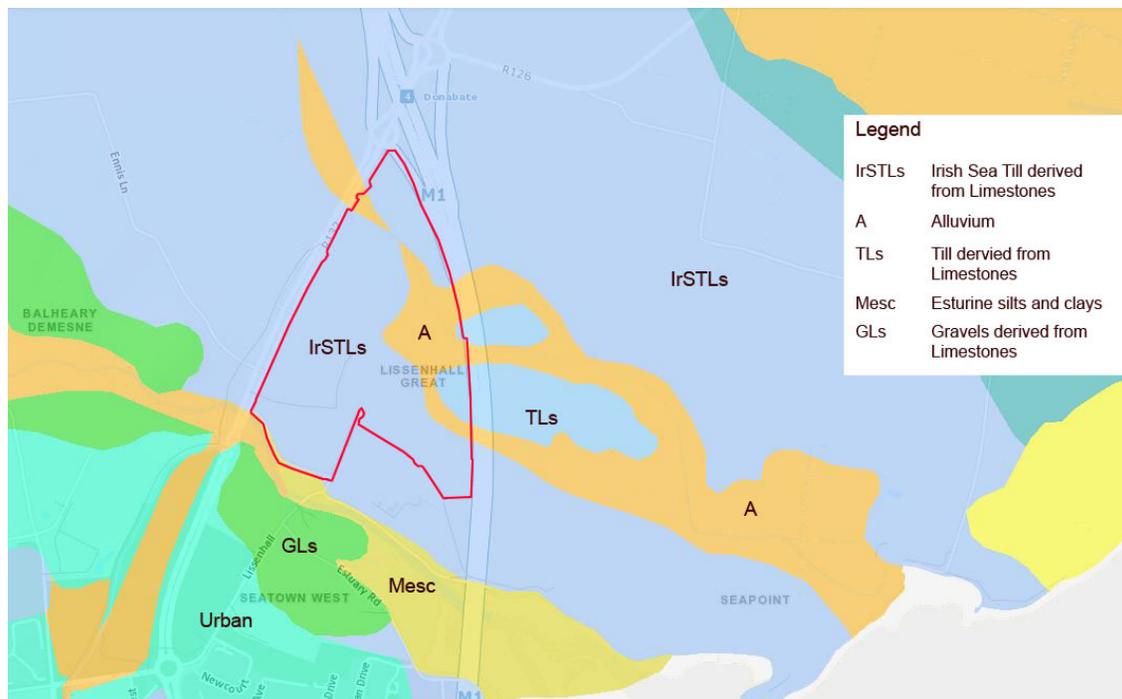


Figure 5.4.3: Quaternary Sediments³⁰ (Location of LAP lands indicated in red)

The GSI has identified 21 County Geological Sites in Fingal which are important Irish Geological Heritage (IGH) sites. Some of these sites may be designated, in due course, as National Heritage Areas (NHAs) because of their geological interest from a national perspective. None of these sites are located on or adjoining the LAP lands.

The nearest IGH site is Feltrim Quarry (IGH 13) (exposed faces of Lower Carboniferous limestone, shale (Waulsortian mudmound), locally fossiliferous), c.3.5km to the south of the LAP lands.

5.4.3 Soils & Geology Issues

Any development will need to ensure appropriate management measures are in place.

The mismanagement of Construction Phase activities such as concrete handling, oil refuelling and extractions / excavations has the potential to disturb, contaminate and pollute underlying soils. Mitigation measures will ensure that adverse impacts on soils and geology will be avoided and / or minimised during the life of Lissenhall East LAP.

5.5 Water Quality

Water is fundamental to all life; for humans, plants and animals alike. It is also critical in economic terms in generating and sustaining wealth in a number of key areas such as agriculture, fishing, power generation, industry, transport and tourism. However, it is also a fragile resource requiring continued protection. In general terms Ireland's waters are of good quality, however preserving the high standard of water is essential for human health and the natural environment.

For the purposes of this section, the water environment is taken to include natural features such as lakes, rivers, streams and groundwater waterbodies. In addition flooding is also dealt with in this section. Wastewater treatment and drinking water are discussed under Material Assets in Section 5.7.

³⁰ Geological Survey Ireland: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

5.5.1 The Water Framework Directive (WFD)

The EU Water Framework Directive (WFD) (2000/60/EC) establishes a framework for the protection of both surface water and groundwater waterbodies. Since 2000, Water Management in the EU has been directed by the WFD 2000/60/EC, which was transposed into Irish law under the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003). This legislation requires governments to take a holistic approach to managing all their water resources based on natural geographic boundaries, *i.e.* the river catchment or basin. The WFD establishes a common framework for the sustainable and integrated management of all waters covering groundwater, inland surface waters, transitional waters and coastal waters. The WFD requires Member States to manage all of their waters and ensure that they achieve at least 'good status' by 2015 and beyond. The ultimate deadline for Member States for achievement of 'good' status is 2027 at the latest.

5.5.2 Surface Waterbodies

For the purpose of implementing the WFD, Ireland was divided into eight River Basin Districts (RBDs) or areas of land that are drained by a large river or number of rivers and the adjacent estuarine / coastal areas. The first cycle of the River Basin Management Plan (RBMP) ran from 2009-2015, where the eight RBDs devised separate plans with the objective of achieving at least 'good' status for all waters by 2015.

The second cycle of the RBMP 2018-2021, is currently underway and all eight RBDs have merged to form one national RBD. The RBMP sets out the actions that Ireland will take to improve water quality and achieve 'good' ecological status in waterbodies (rivers, lakes, estuaries and coastal waters) by 2027. Ireland is required to produce a RBMP under the WFD.

Water quality data is also collected by the EPA to provide an overall status of water quality. The monitoring programme, as part of the WFD, assesses water quality but also water trends of rivers in relation to ecological and physico-chemical quality. The WFD status of rivers ranges from 'high' to 'bad'. The EPA also undertakes water quality surveys for transitional and coastal waterbodies.

Water quality in Ireland has deteriorated over the past two decades. The RBMP provides a more coordinated framework for improving the quality of our waters - to protect public health, the environment, water amenities and to sustain water-intensive industries.

The LAP lands lies within the Nanny-Delvin Catchment (Nanny-Delvin 08) and within two Sub-catchments (Ballough [Stream]_SC_010 and Broadmeadow_SC_010)³¹. The Turvey Stream³² (IE_EA_08T020700) runs through the northern portion of the Site, flowing in a south-easterly direction discharging into the Broadmeadow Water Transitional Waterbody (IE_EA_060_0100). The Broadmeadow River (IE_EA_08B020800) located c. <50m from the southern boundary of the LAP lands, flows in an easterly direction before discharging into the Broadmeadow Water Transitional Waterbody. Table 5.5.1 below outlines the Catchment, Sub-catchment, WFD waterbody name, WFD Code, WFD Status within the LAP lands.

5.5.3 Surface Water Quality

The Water Quality in Ireland report 2010-2015 published by the EPA in 2017 contains a comprehensive assessment of the ecological health of Ireland's groundwater, rivers, lakes, canals, transitional waters and coastal waters following the completion of the first six-year cycle of the WFD. The results shows that a considerable amount of work is still required to meet the environmental objectives of the WFD. Four out of every 10 river waterbodies are failing to meet their objectives having been classed at moderate or worse

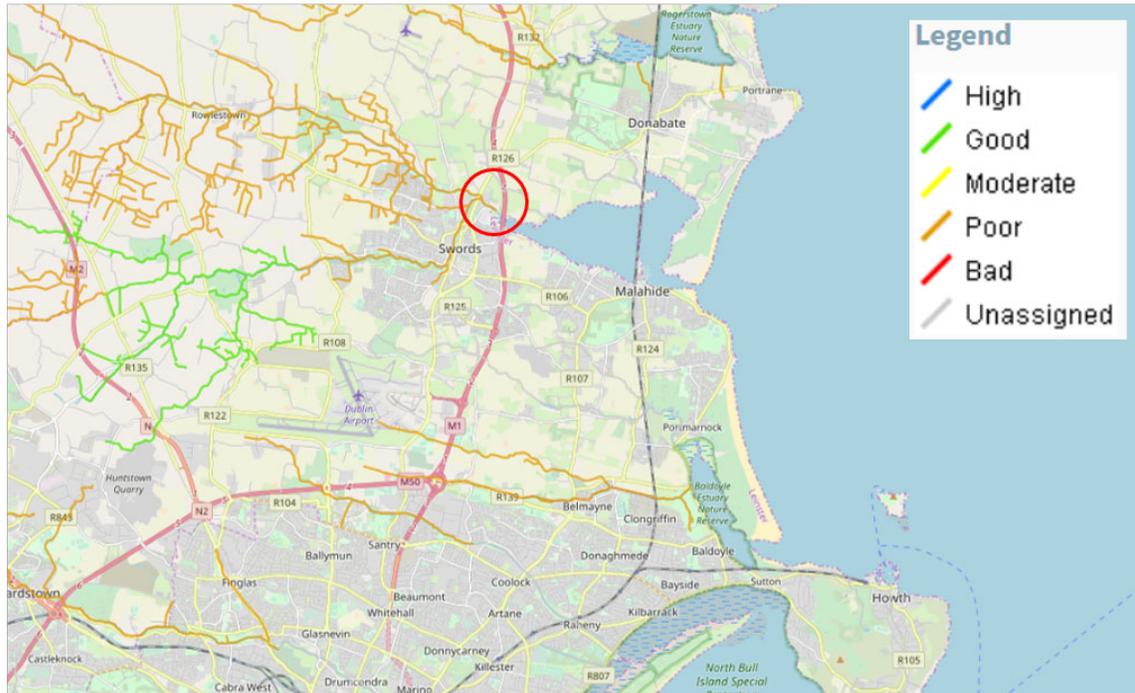
³¹ Catchments.ie: <https://www.catchments.ie/maps/>

³² EPA Name: Staffordstown 08

ecological status³³. The status of waterbodies in County Fingal range from ‘poor’ to ‘good’. The WFD surface waterbody status of the waterbodies in the Swords area is shown in Figure 5.5.1 below.

Table 5.5.1 below outlines the WFD Status and the waterbodies at risk status within the LAP area. The ‘risk’ status of a waterbody looks at the current water quality and trends and highlights waterbodies that are at risk of deteriorating or being at less than ‘good’ status in the future.

Figure 5.5.1: WFD Surface Waterbody Status³⁴ (Location of LAP lands indicated in red)



³³ Water Quality in 2016

³⁴ EPA, 2019: <https://gis.epa.ie/EPAMaps/default> (OpenStreet Maps)

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Table 5.5.1: WFD Catchments, Waterbodies and Current Status³⁵

Catchment (WFD Catchment Code)	Sub-catchment Name (WFD Sub-catchment Code)	WFD Waterbody Name (EPA Name)	Waterbody Type	EU WFD Code	WFD Status 2010 - 2015	Risk Status
Nanny-Delvin (08)	Ballough [Stream]_SC_010 (08_6)	Turvey_010 (Staffordstown 08)	Stream	IE_EA_08T020700	Unassigned	At Risk
	Broadmeadow_SC_010 (08_3)	Broadmeadow_040 (Broadmeadow 08)	River	IE_EA_08B020800	Poor	At Risk
N/A	N/A	Broadmeadow Water	Transitional	IE_EA_060_0100	Moderate	At Risk
N/A	N/A	Malahide Bay	Coastal	IE_EA_060_0000	Moderate	At Risk

³⁵ EPA, 2019: <https://gis.epa.ie/EPAMaps/default> (OpenStreet Maps)

5.5.4 Sustainable Urban Drainage Systems (SuDS)

Surface water on all new development sites should be managed through Sustainable urban Drainage Systems (SuDS). SuDS aims to reduce the rate and quantity of surface water runoff, and improve water quality from the site. On large developments, SuDS may provide an opportunity to enhance biodiversity and amenity.

The objective of SuDS in new developments is to replicate, as closely as possible, the surface water drainage regime to the predevelopment '*greenfield*' situation. This is achieved through the use of surface water source control and site control measures. Source control measures include rainwater harvesting, natural infiltration, infiltration trenches, filter drains, filter strips, swales and permeable paving. Site control measures include attenuation by means of tanks or retention ponds. The surface water runoff rate from the site must be limited to the '*greenfield*' runoff rate to reduce the risk of flooding.

5.5.5 Groundwater

The EU Groundwater Directive (2006/118/EC) uses a holistic approach to groundwater by addressing the relationships between groundwater, surface water and ecological receptors.

Groundwater aquifers form important sources of drinking water both locally and regionally. Much of the summer seasonal flow in many rivers is also derived from groundwater sources. To maintain high quality water resources within the plan area, it is important that development is controlled and managed appropriately, in particular in areas of high groundwater vulnerability to avoid transmission of pollutants into important aquifers.

Groundwater Quality Status from 2010 to 2015 was generally '*good*'³⁶ and therefore, the LAP must protect groundwater from deterioration. The underlying underlying bedrock of the LAP lands is '*Argillaceous bioclastic limestone, shale*'³⁷. There is one groundwater body within the LAP lands, Swords (IE_EA_G_011). This groundwater body is classified with a '*good*' status under the WFD monitoring requirements. The groundwater vulnerability of the LAP lands is a mixture of '*low*' and '*moderate*'.

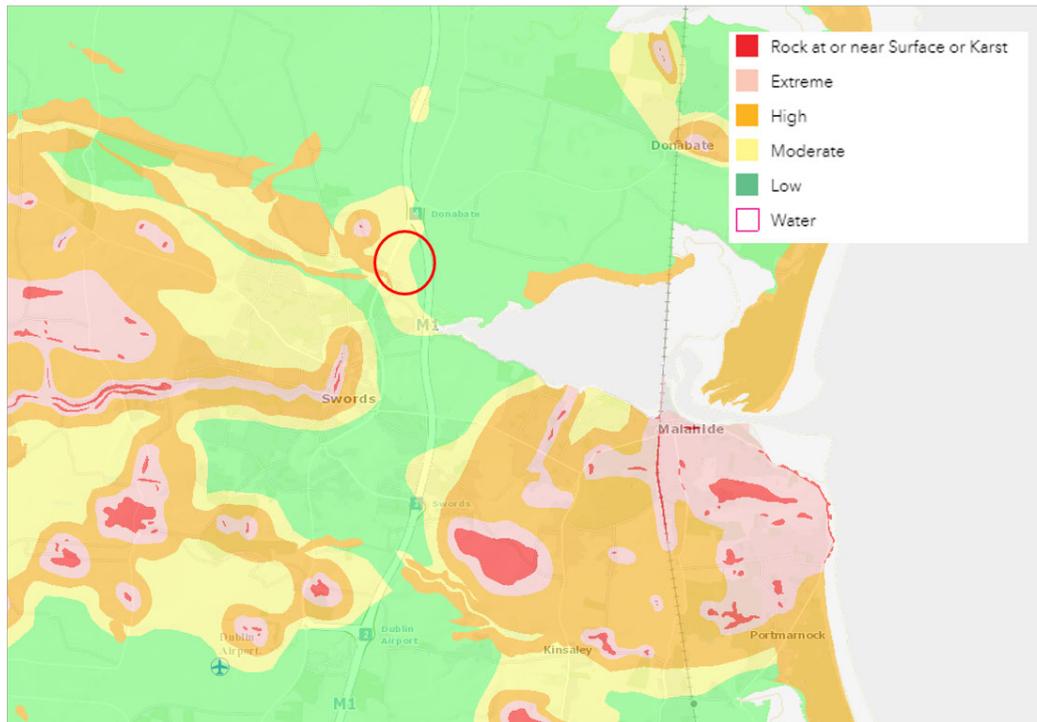
The GSI rates aquifers according to both their productivity and vulnerability to pollution. Aquifer vulnerability is the ease with which pollutants of various kinds can enter underground water. The LAP lands and area is underlain '*locally important aquifer - bedrock which is moderately productive only in local zones*'. The groundwater vulnerability of the wider Swords area is shown in Figure 5.5.2.

Issues to consider relating to protection of groundwater include:

- the enforcement of planning conditions related to installation, operation and maintenance of wastewater treatment / networks; and
- the development of a wastewater leak detection programme and the implementation and enforcement of the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2009.

³⁶ Water Quality in Ireland 2010-2015, p49

³⁷ GSI, Online Map Viewer: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

Figure 5.5.2: Groundwater Vulnerability in Swords³⁸ (Location of LAP lands indicated in red)

5.5.6 Flooding and Flood Risk

The underlying causes of flooding, heavy rain and high sea levels are, essentially uncontrollable. Floods are usually caused by a combination of events including overflowing river banks, heavy rains, coastal storms or blocked or overloaded drainage systems and an increase in development and impermeable surfacing. Numerous severe floods have occurred throughout the county in the last decade causing significant damage to and loss of property.

The Office of Public Works (OPW) is the lead State body for flood risk management. In 2018, the OPW launched 'Flood Maps' to provide information on the likelihood of flood risk and the extent of flooding across Ireland. The OPW Flood Maps for the Swords area are currently under review.

As part of the review for the preparation of the Fingal Development Plan, a Strategic Flood Risk Assessment (SFRA) Report was undertaken to support the making of the plan and the SEA.

Some lands in the Swords Town Centre overlap with Flood Zones A and B (indicated on Development Plan Green Infrastructure Sheet No. 16, Map 3). The flood extents are largely confined to car parking areas and public spaces adjacent to the Ward River.

In line with *The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009)*, a SFRA of Lissenhall East has been carried out to inform the preparation of the Draft LAP. The SFRA has provided an assessment of all types of flood risk within the lands to assist FCC in making informed strategic land-use planning decisions.

5.5.7 Seveso Sites

The Seveso III Directive (European Directive 2012/18/EU) and the European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, 2000 (S.I. No. 476 of 2000) apply to companies where dangerous substances are present in quantities equal to or above specified thresholds.

³⁸ GSI, Online Map Viewer: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>

There are two thresholds, a lower one of 50 tonnes (*'lower tier sites'*) and a higher one of 200 tonnes (*'top tier sites'*). Lower tier sites are required to have a Major Accidents Prevention Policy and a Safe Work Systems Plan. Top tier sites are required to carry out, in conjunction with the local competent authority (which includes the Health Service Executive (HSE), the Local Authority, An Garda Síochána and in the case of New Ross, New Ross Port Company) a Major Accidents External Emergency Plan.

Emergency plans must take full account of objectives established for nearby waters in river basin plans. The legislation deals with the prevention of major accidents. There is one Seveso site in Swords (lower tier) which is >1km from the Site, see Table 5.5.2.

Table 5.5.2: Seveso Site in Swords

Distance from Site	Name and Address	Licence Number
1.5km	Sk Biotek Ireland Limited, Watery Lane, Swords	P0014-04

5.5.8 Water Quality Issues

The principal threat to water is pollution which can adversely impact on all parts of the water cycle from groundwater to rivers, lakes estuaries and coastal waters. In simple terms, pollution means the presence of a harmful substance such as a poisonous metal or pesticide, a nutrient or silt. Urban and rural development including wastewater and surface water disposal can have significant impacts on water quality.

Any development as part of the LAP has the potential to impact waterbody status, water usage, flood risk and generate wastewater. The LAP must fully meet the requirements of the WFD, the Groundwater Directive and aim to drive improvement to water quality in both the short and long-term.

5.6 Air Quality, Noise and Climate Change

5.6.1 Air Quality

Air quality legislation in Ireland highlights the need *'to avoid, prevent or reduce harmful effects on human health and the environment as a whole'*. In addition, it requires that Local Authorities where appropriate *'shall promote the preservation of best ambient air quality compatible with sustainable development'*.

EU legislation on air quality requires that Member States divide their territory into zones for the assessment and management of air quality. The EPA manages the national ambient air quality monitoring network and measures the levels of a number of atmospheric pollutants. The current trends in air quality in Ireland are reported in the EPA publication *'2017 Annual Report on Air Quality in Ireland'*³⁹ which is currently the most up to date analysis of air quality data for Ireland. Four national air quality zones have been designated in Ireland, these are:

- Zone A is the Dublin conurbation;
- Zone B is the Cork conurbation;
- Zone C comprises of 23 large towns in Ireland with a population of >15,000; and
- Zone D is the remaining area of Ireland.

The LAP lands is located within Zone D, within the *'Rural Ireland'* zone⁴⁰. The designated zones have been defined to meet the criteria for air quality monitoring, assessment and management as defined in the aforementioned regulations.

³⁹ EPA, 2018: Air Quality in Ireland, 2017

⁴⁰ EPA, 2019: <https://gis.epa.ie/EPAMaps/default> (OpenStreet Maps)

The air quality index for the Swords area is calculated on an hourly basis under the Dublin City Air Quality Index for Health (AQIH) Regions. The AQIH is based on measurements of five air pollutants all of which can harm health. The five pollutants are:

- Ozone gas;
- Nitrogen dioxide gas;
- Sulphur dioxide gas;
- PM_{2.5} particles; and
- PM₁₀ particles.

Air Quality Map show whether air quality is 'good', 'fair', 'poor' or 'very poor' in each region. The closest air monitoring station to the LAP lands is Swords at Watery Lane. The current air quality in the Donate (small towns) AQIH Region 'good'⁴¹.

Monitoring is done using continuous monitors for ozone and nitrogen oxides. The pollutants of most concern are those whose main source is traffic such as Particulate Matter (PM) and Nitrogen dioxide (NO₂). The need to protect and improve, (as appropriate), air quality within the LAP area, particularly in areas zoned for increased urban and transport related development should be highlighted in the LAP.

5.6.1.1 Local Sources of Emissions to Air

The main sources of air emissions in the vicinity of the Site are the adjacent R132 and M1 roads and EPA licenced facilities. Traffic-related pollutants tend to settle out quickly near the roadside while the emissions from licenced facilities are subject to strict Emission Limit Values (ELVs) that are regulated by the EPA. Compliance with these ELVs eliminates potential risk to human health and / or the environment. The EPA *Air Quality in Ireland Annual Report 2016* has been used to describe the receiving environment in terms of air quality. Following a review of the EPA database⁴² there are two Industrial Emissions Directive (IED) sites (Sk Biotek Ireland Limited (P0014-04) and Arch Chemicals BV (P0060-01), <1.5km from the LAP lands.

5.6.2 Noise

The objectives of EU and Irish noise legislation is 'to avoid, prevent or reduce harmful effects on human health and the environment as a whole', and this includes noise nuisance. The Noise Directive - Environmental Noise Directive (END) 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing community policy on noise reduction from source. The Directive requires competent authorities in Member States to:

- draw up strategic noise maps for major roads, railways, airports and agglomerations, using harmonised noise indicators and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels; and
- draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and inform and consult the public about noise exposure, its effects, and the measures considered to address noise.

The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.

In accordance with Environmental Noise Regulations (S.I. No. 140 of 2006), a Noise Action Plan for Fingal County 2019-2023⁴³ was prepared by FCC. This Noise Action Plan is aimed at managing environmental noise from road, rail and industrial sources within FCC, but excludes noise from aircraft. Noise from aircraft is dealt

⁴¹ EPA, 2019: <https://gis.epa.ie/EPAMaps/default> (OpenStreet Maps)

⁴² EPA, 2019: <https://gis.epa.ie/EPAMaps/default> (OpenStreet Maps)

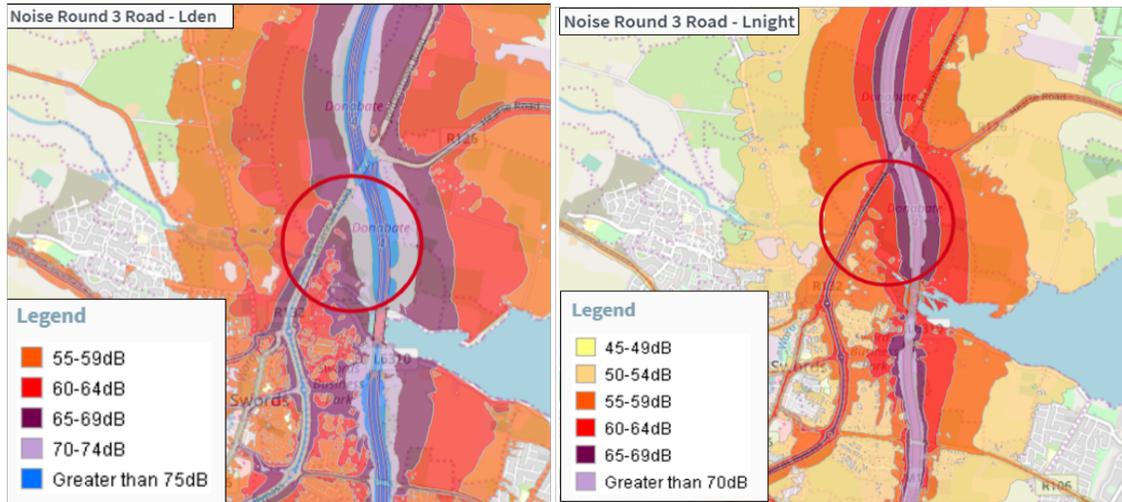
⁴³ Fingal Noise Action Plan:

<https://consult.fingal.ie/en/system/files/materials/9770/Noise%20Action%20Plan%20for%20Fingal%20County.pdf>

with in a separate Noise Action Plan dedicated to the management of Aircraft Noise alone, entitled 'Dublin Airport Noise Action Plan 2018-2023'.

As part of this preparatory process, noise maps were prepared for all major roads in the county (*i.e.* roads in excess of 3 million vehicles per annum), see Figure 5.6.1.

Figure 5.6.1: Extract from EPA Noise Mapping⁴⁴ (Location of LAP lands indicated in red)



Daytime and night-time noise mapping of these roads were prepared using EPA recommended noise limits which identified local 'hot spots' (noise sensitive areas) in terms of population exposure. The identification of noise sensitive areas allows for the application of protective measure or mitigation measures in advance of further development.

According to the Noise Action Plan, the major sources of noise present within FCC are from road and rail. The main findings from the noise assessment arising from the noise mapping are as follows:

- Of the 292,700 people living in the FCC area (2016 Census), 25.6%, or 74,800 people are exposed to road traffic noise sources above the desirable L_{den} level of 55dB(A);
- 0.82% of people living in the FCC area are exposed to rail traffic noise sources above the desirable L_{den} level of 55dB(A); and
- Whilst the % of people exposed to noise sources above the desirable L_{den} level of 55dB(A) has decreased since 2011, the overall population in FCC has increased, therefore the number of dwellings and people exposed to levels above 55dB(A) L_{den} has increased.

Since the main priority of the Directive is to reduce environmental noise exposure in residential areas, the LAP should ensure this requirement is complied with and as appropriate, the LAP should promote the implementation of the Directive and associated national regulations.

Consideration should also be given to protect, where relevant, any designated quiet areas in open country. In 2003, the EPA commissioned a research project to establish baseline data for the identification of quiet areas in rural locations. Quiet Areas are defined as 'an area in open country, substantially unaffected by anthropogenic noise.' A range of minimum distance criteria from man-made noise sources such as urban areas, industry and major road sources were defined, and the report includes a number of key recommendations for the identification and control of Quiet Areas.

⁴⁴ EPA, 2019: <https://gis.epa.ie/EPAMaps/default> (OpenStreet Maps)

5.6.3 Climate Change

Climate Change is a phenomenon that has widespread economic, health and safety, food production, security, and other dimensions. It is also widely recognised that Climate Change is occurring as a result of the build-up of atmospheric Greenhouse Gases (GHGs) such as carbon dioxide (CO₂). Most GHG emissions are related to the energy generation, transport, agriculture, and industry sectors, see Figure 5.6.2.

The greenhouse gas emission inventory for 2021 is the first of ten years over which compliance with targets set in the European Union's Effort Sharing Regulation (EU 2018/842) will be assessed. This Regulation sets 2030 targets for emissions outside of the Emissions Trading Scheme (known as ESR emissions) and annual binding national limits for the period 2021-2030. Ireland's target is to reduce ESR emissions by 30% by 2030 compared with 2005 levels, with a number of flexibilities available to assist in achieving this.⁴⁵

The latest projections (March 2022) indicate that Ireland can achieve overall Effort Sharing Regulation (ESR) compliance over the period 2021 to 2030 assuming full implementation of the 2021 Climate Action Plan and the use of the flexibilities available.

In 2021, Ireland's provisional GHG emissions are estimated to be 61.53 million tonnes carbon dioxide equivalent (Mt CO₂eq), which is 4.7% higher (or 2.76 Mt CO₂ eq) than emissions in 2020 (58.77 Mt CO₂ eq). There was a decrease of 3.4% in emissions reported for 2020 compared to 2019. Emissions are over 1% higher than pre-pandemic 2019 figures.

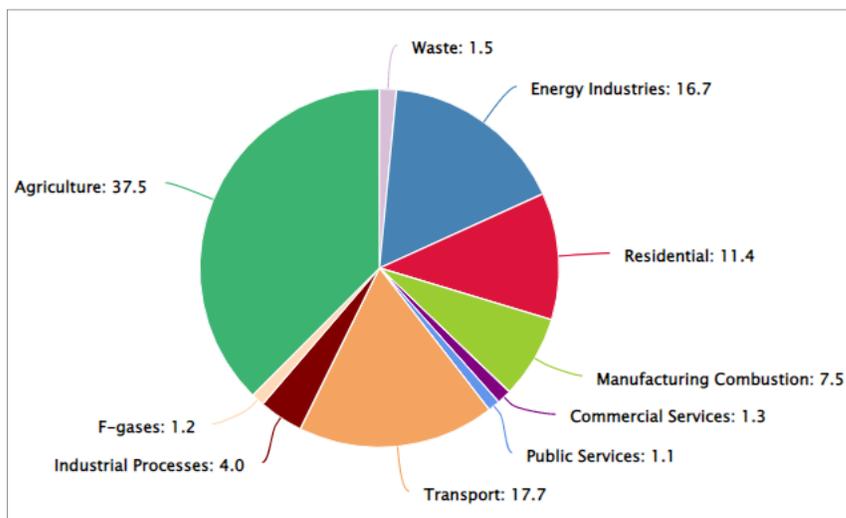
Ireland's greenhouse gas (GHG) emissions increased in the period from 1990 to 2001 where it peaked at 71.42 Mt CO₂ equivalent, before displaying a downward trend to 2014. Emissions increased by 4.3% and 3.7%, respectively in the years, 2015 and 2016 and remained relatively stable in 2017 and 2018, followed by a 4.0% decrease in 2019. In 2020 final estimates of total national GHG emissions amounted to 58.77 Mt CO₂ equivalent, which is 3.6% lower than 2019 emissions largely driven by Covid restrictions. The gradual lifting of Covid restrictions in 2021 along with an increase in the use of coal and less renewables within electricity generation resulted in a 4.7% increase in emissions in 2021 compared to 2020. Ireland's GHG emissions have increased by 11.4% from 1990-2021.

In relation to the greenhouse gases; carbon dioxide (CO₂) accounted for 61.0% of the total, with methane (CH₄) and nitrous oxide (N₂O) contributing 27.9% and 9.9% as CO₂ equivalent, respectively and F-gases contributing 1.2% of the total as CO₂ equivalent.

In 2021, the energy industries, transport and agriculture sectors accounted for 72% of total GHG emissions. Agriculture is the single largest contributor to the overall emissions, at 37.5%. Transport, energy industries and the residential sector are the next largest contributors, at 17.7%, 16.7% and 11.4%, respectively.

⁴⁵ EPA, 2021: <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/latest-emissions-data/>

Figure 5.6.2: Ireland’s GHG Emissions by Sector for 2021⁴⁶ (source EPA)



A Strategy towards Climate Change Action Plans for the Dublin Local Authorities has been published in association with CODEMA. This document has seven main focus areas that we will concentrate our efforts on to deliver actions that are under Local Authority remit and can contribute towards Local Authority vision. These are:

- Citizen & Stakeholder Engagement
- Planning
- Energy
- Transport
- Water
- Waste
- Ecosystems & Biodiversity.

The closest Met Éireann temperature monitoring station to the LAP lands is at Dublin Airport, c.5.5km south of the lands. Average annual temperatures from 1981-2010 were 9.8°C, with an average of 3.9 hours of sunshine per day. Mean annual rainfall during the same period was 758mm, recorded at Dublin Airport.

The United Nations Intergovernmental Panel on Climate Change (IPCC)⁴⁷ reports that there is “unequivocal” evidence that the climate system is warming and furthermore that:

‘Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.’⁴⁸

In Ireland, the expected effects of Climate Change are increased frequency of extreme weather events within the next century. This will include a 20%-30% increase in precipitation, greater rainfall intensity coupled with flash floods and an average annual temperature increase of ~2°C. The potential impacts of Climate Change could have serious consequences for both people and infrastructure along Ireland’s coastal areas as well as its rivers⁴⁹.

⁴⁶ EPA, 2021: <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/latest-emissions-data/>

⁴⁷ IPCC, 2014: https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf

⁴⁸ IPCC, 2014: https://www.ipcc.ch/site/assets/uploads/2018/02/AR5_SYR_FINAL_SPM.pdf

⁴⁹ OPW Report: <https://opw.ie/en/media/FRM%20CC%20Sectoral%20Adaptation%20Plan%20-%20Dec%202015%20-%20Finalb.pdf>

The OPW published the 'Flood Risk Management 2015-2019' report as part of the Department of Communications, Climate Action and Environment's (DCCA) 'Climate Change Sectoral Adaptation Plan'. In this report the OPW adopted two indicative potential future scenarios, Mid-Range Future Scenarios (MRFS) and High-End Future Scenarios (HEFS), which are based on both average and more extreme Climate Change projections. Under the MRFS a 20% increase in both extreme rainfall depth and peak flood flows are expected, along with a 0.5m increase in sea level. Under the HEFS, the two former parameters are expected to increase by 30%, along with a 1m rise in sea level by 2080⁵⁰.

5.6.4 Air Quality, Noise & Climate Change Issues

Agriculture, transport and industrial emissions are the greatest source of air pollution. In urban areas, concern has clearly shifted to a range of pollutants associated with road traffic which may be considered relatively new in the context of air quality control. The most important of these pollutants are NO₂, particulate matter less than 10 microns in diameter (PM₁₀), carbon monoxide (CO) and a wide variety of Volatile Organic Compounds (VOCs), including carcinogens such as benzene. Advances in engine technology and fuel development will, it is predicted, offset rises in tail pipe emissions from increased car usage due to an increased population. The context to the LAP is suburban / urban in nature where travel is an essential part of daily life. Therefore, it is important that a good quality road infrastructure is provided and alternatives to the private car are encouraged as much as possible.

The potential effects of Climate Change resulting in an increase in the frequency and severity of flooding events from rainfall must also be considered in the Draft LAP. Severe rainfall events as a result of Climate Change could adversely impact upon town's in Fingal leading to water shortages, residential flooding and disruption to infrastructure. Towns along the coast will become increasingly vulnerable to rises in the sea level and coastal erosion.

5.7 Material Assets

Material assets are resources that are valued and intrinsic to a development and the surrounding area. Material assets may be of either natural or human origin and the value may arise for economic or cultural reasons. Material assets include water supply, wastewater treatment infrastructure, waste disposal including recycling, transport infrastructure (road, rail, airports and ports), energy and supply networks and telecom services. Material assets also includes economic assets such as coastal and water resources which support fisheries and aquaculture.

5.7.1 Water Supply and Wastewater services

The sustainable growth of the County is dependent on the provision of services and infrastructure. A Plan led approach, in accordance with the County's Core Strategy and Settlement Strategy is required for the delivery of such services in order to ensure there is adequate capacity to support the future development of the County.

There have been significant changes in responsibilities for water supply and wastewater treatment services. As of January 2014 Irish Water replaced local authorities as a single provider of water supply and wastewater services. The future development of County Fingal's water and wastewater treatment infrastructure is largely dependent on the Irish Water Services Investment Programme, and the availability of funding therein.

5.7.1.1 Water Services and Water Supply

Irish Water have prepared the Water Services Strategic Plan (WSSP), 'A Plan for the Future of Water Services' and it provides for the first time at national level an opportunity to consider the way water services are

⁵⁰ Term 2080s used to describe the period covering 2071-2100. Increases are measured with respect to the period 1961-1990

delivered in Ireland. The WSSP sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. The Plan details current and future challenges affecting the provision of water services and identifies priorities to be dealt with over the short to medium term. The Plan is to be reviewed on a five year basis.

Swords Water Main Replacement Project is currently underway and the aim of the Project is to:

- provide a long term upgrade of the aging water networks in Swords;
- provide a reliable water supply to householders and businesses within Swords, Malahide & Portmarnock;
- provide a permanent solution to burst history on the water main resulting in fewer disruptions to the supply;
- improve the overall improvement in the level of service; and
- reduce leakage by 44 million litres of water per month.

The LAP lands fall within the Ballycoolin reservoir supply area and will be serviced by water from this reservoir. The potential public water supply demand for the LAP lands is in the range of 327m³-410m³/day. Water supply will not be a limiting factor to initial developments, but future developments will be based on confirmation of connection agreements with Irish Water.

5.7.1.2 Wastewater Services

The Urban Wastewater Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) aims to protect the environment from the adverse effects of wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. Such treatment is essential in order to meet the requirements of the WFD.

The Swords Urban Wastewater Treatment (UWWT) agglomeration boundary covers an area c.9km² in the environs of Swords Town. The Swords agglomeration boundary drains mainly by gravity to the Swords Wastewater Treatment Plant (WWTP) (Reg. Number D0024-01) on Spittal Hill Road to the east of Swords. Treated effluent from the WWTP discharges to the Broadmeadow Water at the confluence of the Broadmeadow River (IE_EA_08B020800) and the Broadmeadow Water Transitional waterbody (IE_EA_060_0100). Wastewater from the South of the County discharges to the Regional Wastewater Treatment Plant at Ringsend operated by Dublin City Council.

The Swords Sewerage Scheme & Wastewater Treatment Works has recently undergone substantial investment and has capacity to treat wastewater for up to 90,000 Population Equivalent (PE), which is well above existing and projected capacity needs. The current usage is approximately 65,000 P.E.

This presence of an upgraded treatment plant capable of handling the area's fast growing population is important in protecting the Broadmeadow Water Transitional Waterbody, a valuable ecological resource and local amenity, from wastewater pollution.

5.7.2 Waste Management

Waste management in Ireland is regulated by the Waste Management Acts, 1996 to 2011, which require Local Authorities to prepare detailed plans for the management of waste. Under the Waste Management Acts, a Development Plan is deemed to include the objectives of the Waste Management Plan (WMP) for its area.

The Eastern Midlands Region WMP 2015-2021 was adopted in May 2015. The overall vision of the Eastern Midlands Region WMP is to rethink the approach taken towards managing waste and that waste should be seen as a valuable material resource. The Plan also supports a move towards achieving a circular economy which is essential if the region is to make better use of resources and become more resource efficient.

In line with the Eastern Midlands Region WMP, FCC will continue to:

Strategic Environmental Assessment (SEA) Environmental Report

- promote a waste prevention and minimisation programme to target all aspects of waste; and
- promote awareness and an increase in the amount of waste reused and recycled.

Furthermore, FCC is trying to gradually move away from the disposal of waste to landfill. Balleally landfill has closed for the acceptance of waste with soil being accepted for restoration / capping purposes only and Dunsink landfill closed in the late 1990's.

There are two recycling centres in the County:

- Coolmine Recycling Centre, Blanchardstown; and
- Estuary Recycling Centre, Swords.

Construction and Demolition (C&D) Waste is generally collected by authorised collectors and often used for backfilling. Since there is a significant move away from landfill, which has been an outlet for C&D Waste, alternative recovery options are required in the future years.

The EC (Waste Directive) Regulations 2011, sets a 70% target for the reuse, recycling and recovery of man-made C&D waste in Ireland by 2020.

5.7.3 Transport

5.7.3.1 General

Land-use planning and transport planning are inextricably linked and their proper integration is a key determinant to sustainable development. The movement of employers and employees to and from Lissenhall East is a key consideration in the formulation of the LAP.

'*Smarter Travel: A Sustainable Transport Future*' is a national document which seeks to achieve a shift to more sustainable means of transport by setting Targets for Modal Change. Nationally the target is for modal share of car commuting to drop from 65% to 45% by 2020 and for cycling to reach 10% of journeys made by 2020.

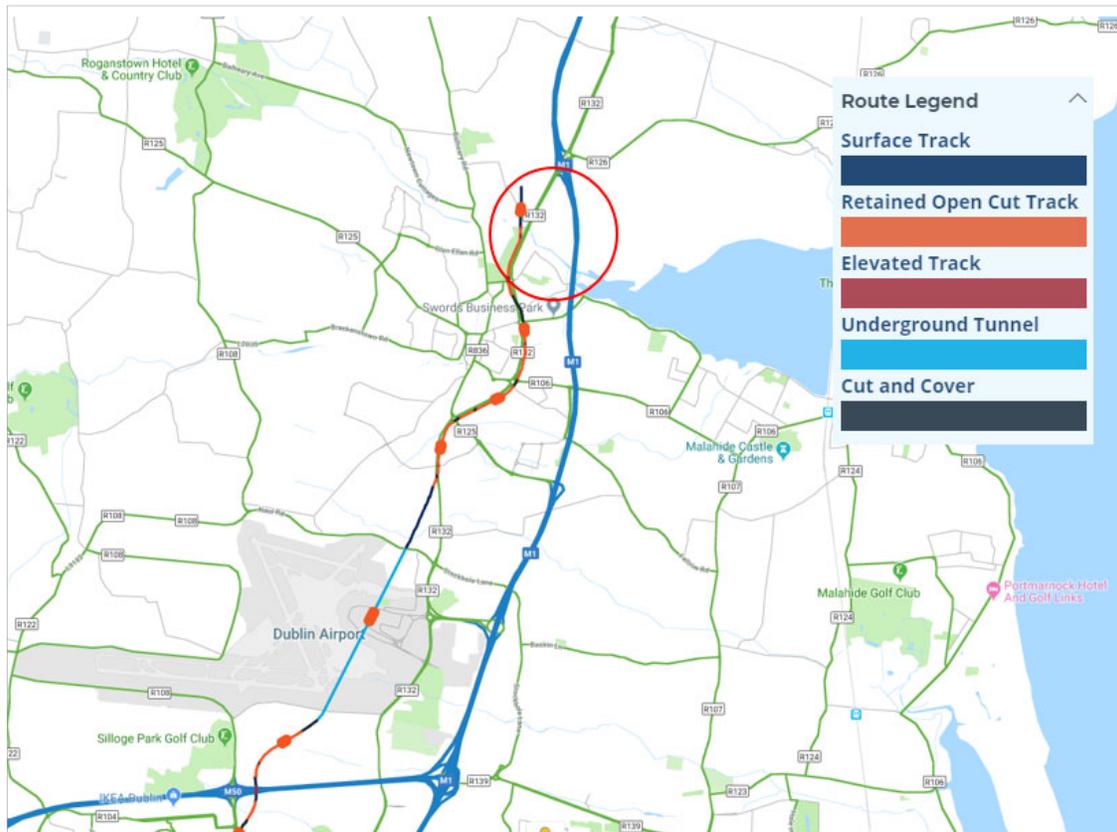
The main objectives are:

1. to encourage smarter travel, *i.e.* to reduce overall travel demand;
2. to maximise the efficiency of the transport network;
3. to reduce reliance on fossil fuels and therefore to reduce transport emissions; and
4. to improve accessibility to transport.

Promoting and facilitating the use of public transport, walking and cycling and is a key objective of the movement strategy for the Lissenhall East LAP lands. This will include facilitating improvements to existing infrastructure relating to public transport and other non-motorised modes of transportation as part of an integrated approach to transportation.

5.7.3.2 Public Transport

The planned delivery of the new MetroLink and BusConnects projects are two very important public transport initiatives for Swords. The proposed alignment of the new MetroLink runs directly along the R132 road and along the western boundary of the LAP lands. Currently, based on the current proposed alignment, the LAP lands will be served by the 'Estuary' stop located along the R132 road, see Figure 5.7.1. MetroLink will be an important key transport mode serving the LAP lands in the future with co-ordination of pedestrian and cycle linkages to ensure high quality connectivity with public transport services.

Figure 5.7.1: Proposed MetroLink Route⁵¹ (Location of LAP lands indicated in red)

Swords is already well served by bus provision, with five different operators serving the area. The routes and frequency of the services is varied, with Swords well served by routes both southwards to the Airport and Dublin City Centre, and towards Balbriggan to the West. The majority of the buses serve Swords on an hourly basis.

The LAP lands is currently within a desirable / acceptable walking distance to the Dublin Bus stops along the R132. The bus stops along the R132 have limited and substandard footpaths to facilitate users' access to the stops. There are no crossings provided to enable access to the bus stops located on either side of the road. Pedestrians are forced to access the bus stops by using the footbridges, which are a long detour and are not on desire lines.

The Core Bus Network proposed as part of the BusConnects initiative includes a route from Swords to Dublin City Centre. While this does not extend to the LAP lands directly, connectivity can be achieved through complementary infrastructure providing a high degree of accessibility.

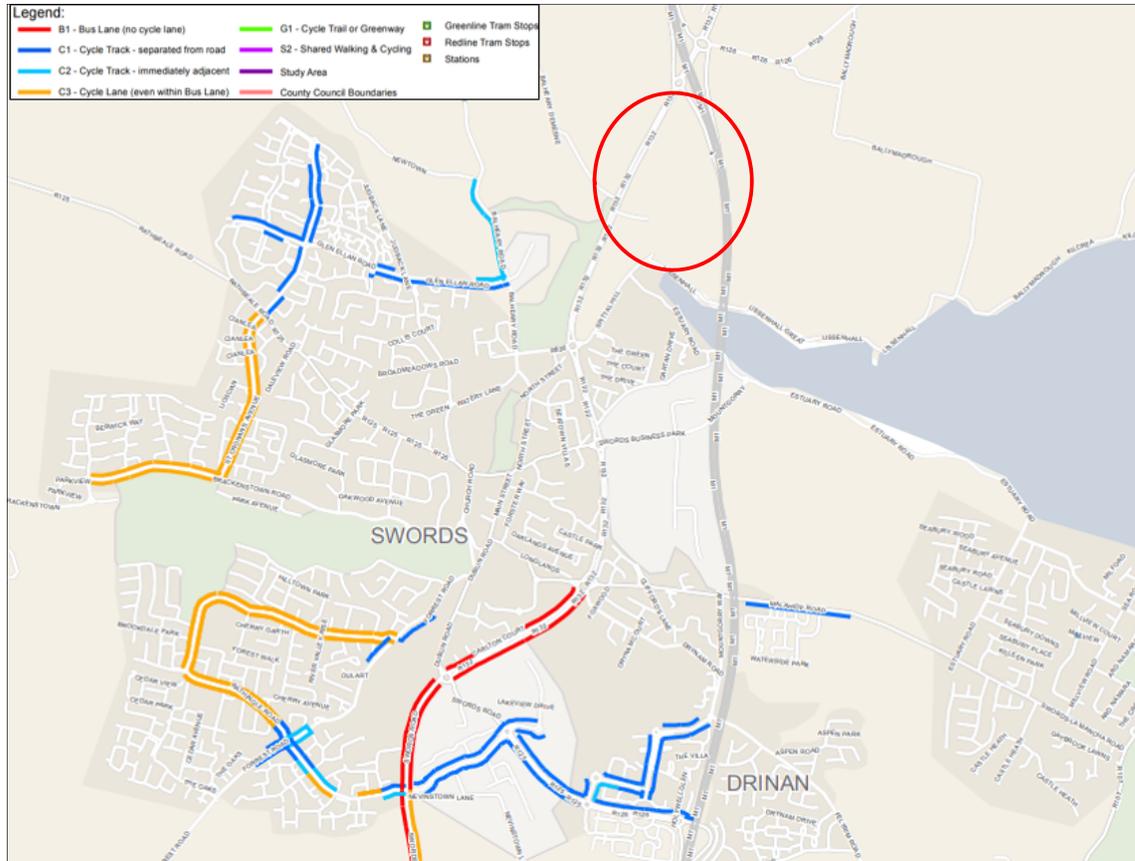
Cycling and walking is environmentally friendly, fuel-efficient and a healthy mode of transport to work, school, shopping and for recreational purposes. Cycling and walking are considered an efficient, fast and relatively inexpensive form of transport and its promotion is in line with the principles of sustainable development and promotion of healthy lifestyles.

The LAP lands directly adjoins the R132 and has good access to the wide dual-carriageway type road.

⁵¹ MetroLink Route Map (Sept 2019): <https://www.metrolink.ie/#/map>

There are currently limited cycling facilities within the urban areas in Fingal County. In Swords, the cycling provision predominately consists of cycle tracks or lanes along new roads and the shared use of bus lanes. As can be observed from the existing cycle network map in Figure 5.7.2, the cycle facilities lack continuity.

Figure 5.7.2: Existing Cycle Routes⁵² (Location of LAP lands indicated in red)



5.7.4 Transport Infrastructure Schemes

National primary and secondary roads play a central role in providing ready access to all regions of the Country. They connect Swords with the adjoining regions and provide direct access to the wider Dublin Region. Swords is strategically located close to Dublin Airport and has excellent access to the national road network (M50 and M1). Traffic from Swords can access Dublin City / Dublin Port via the M1 and Port Tunnel and Dublin Airport via the M1 or the R132 road.

The R132 has since become an integral part of Swords’ urban fabric, and functions as a local traffic distributor for the town’s population to places of employment and commerce. The LAP lands has an important position located immediately south of M1 Motorway Junction No. 4 and along the R132, the main thoroughfare within Swords.

Table 5.7.1 provides a description of potential road schemes of relevance to the Swords and the LAP lands. As there is acknowledged pressure on the road network generally around Swords, FCC has prepared and published a detailed South Fingal Transport Study, which has fed into the making of the LAP.

⁵² National Transport Authority, GDA Cycle Network Plan: https://www.nationaltransport.ie/wp-content/uploads/2014/04/Existing_Facilities_Maps11.pdf

Table 5.7.1: National Road Schemes in the Swords Area

Road Scheme	
Swords Western Relief Road	Inner Ward River Crossing.
Swords Western Distributor Road	Enhancement of junctions <i>e.g.</i> Castlegrange Junction; Glen Ellan Road / Balheary Road; Estuary Junction; and R125 Rathbeale Road / Murrough Road.
Completion of Airside to Feltrim Road Link	Widening Balheary Road between Glen Ellan Road and the Castlegrange junction and then eastward towards the R132 and M1.
R125 Rathbeale Road Improvements	Upgrading the roundabouts on Glen Ellan Road to cyclist friendly roundabouts.
Fosterstown Link Road	Provide for required road improvements including: the construction of the Fosterstown Link Road.

5.7.5 Energy

Ireland is committed to a range of renewable energy and efficiency targets. At European Level the '20/20/20' commitments agreed under the EU 'Climate Change and Energy Package' set three targets for 2020:

- A minimum 20% reduction in GHG emissions based on 1990 levels.
- 20% reduction in primary energy use compared with projected levels, to be achieved by improving energy efficiency.
- 20% of final energy consumption to be produced by renewable energy resources.

The Europe 2020 Strategy was adopted in 2010 and aims to enable Europe to emerge from the economic crisis in a stronger position, setting out five headline targets one of which includes Climate Change.

Ireland's National Targets are:

- Reduce emissions in the non-traded sector by 20% compared to 2005 levels.
- Increase the share of renewables in final energy consumption to 16% and to move towards a 20% increase in energy efficiency.

FCC seeks to ensure that all new developments contribute positively towards reducing energy consumption and the associated carbon footprint. The Council will promote and facilitate new and innovative technologies seeking to provide renewable energies. The Council will also ensure a balance is achieved between the development of renewable energy sources and the protection of the natural heritage, visual amenity, biodiversity and food producing lands.

5.7.6 Telecommunications

High-speed broadband and telecommunications is core to competitiveness. The National Broadband Plan⁵³ (NBP) sets out the strategy to deliver high speed broadband throughout Ireland. Ireland has made significant progress in recent years in terms of broadband connectivity at all levels: international connectivity, backhaul networks, Metropolitan Area Networks (MANs) and local access networks. This progress is reflected in improved broadband availability and take-up with the number of broadband subscribers increasing from 602,000 to over 1.666 million over the last five years.

Fingal has reasonably good access to the broadband network (see Table 5.7.2 and Figure 5.7.3) with figures from the 2016 Census indicating that 79.5% of households within Fingal had broadband connectivity compared with 63.8% nationally. However it is acknowledged that within the County there are many urban and rural locations where service is deficient⁵⁴.

⁵³ DCCAE, 2019: <https://www.dccae.gov.ie/documents/Delivering%20the%20National%20Broadband%20Plan.pdf>

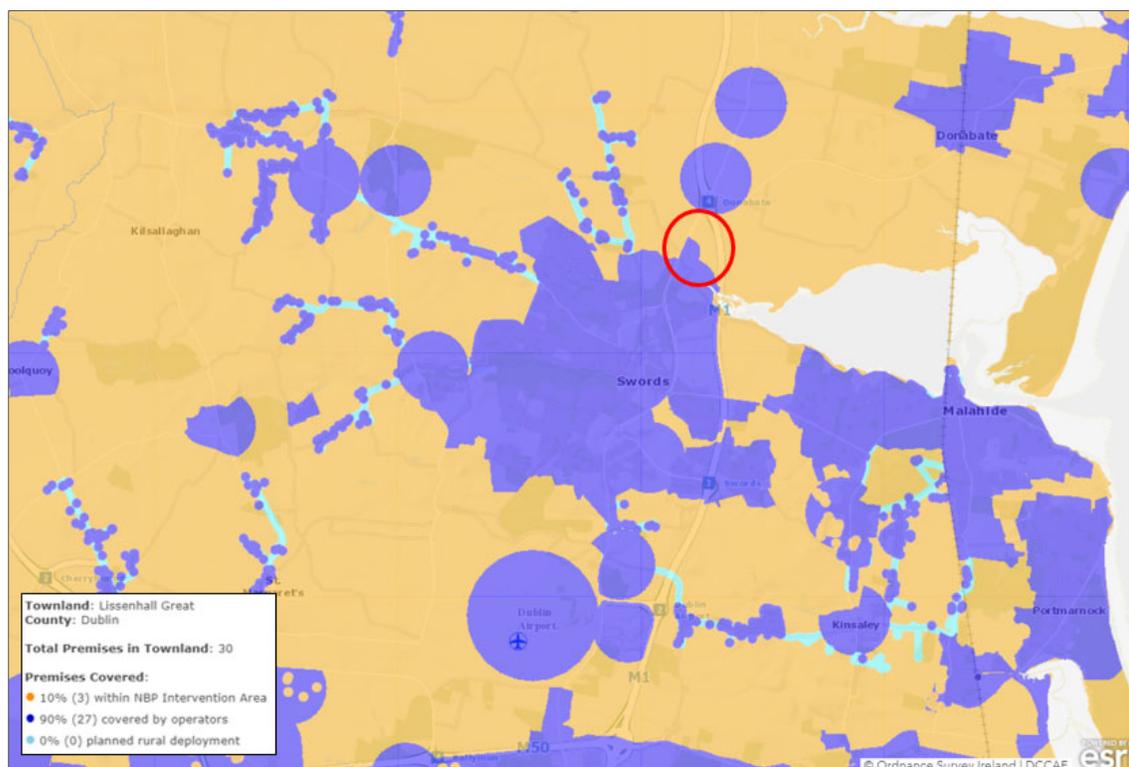
⁵⁴ DCCAE website for High Speed Broadband:

<https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=99c229dc4c414971afc50818b25337ef>

Table 5.7.2: Broadband connectivity in Fingal

Name	Total Number of Premises	Premises in Intervention Area	Premises covered by Commercial Operators	Premises to be covered by Planned Commercial Rural Deployment
Dublin Fingal	62,087	8%	92%	0%

Figure 5.7.3: Broadband Services in Swords Area⁵⁵ (Location of LAP lands indicated in red)



5.7.7 Material Assets Issues

The development of the LAP lands will result in increasing demand for water, wastewater treatment, waste management, transport infrastructure / links and energy and telecom services.

New developments, including lands zoned for high technology (office, research and development), will generate pressure on existing water sources to meet demands and provide a suitable, safe and secure quantity and quality of drinking **water supply**.

New developments, should only be permitted where there is adequate capacity in the **wastewater** infrastructure in accordance with urban wastewater treatment disposal requirements and standards. Currently, municipal wastewater discharges are creating significant pressure on the receiving waterbody. Similarly, all new development should be drained on separate systems (*i.e.* separate foul and surface water pipes), as this will reduce the likelihood of flooding of foul water pipelines during periods of very heavy rainfall. Inadequate infrastructure, including inadequate capacity, contribute to the contamination of receiving surface water and groundwater waterbodies.

⁵⁵ DCENR Broadband Map: <https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=99c229dc4c414971afc50818b25337ef>

In Ireland in recent years there has been a move away from the disposal of **waste** to landfill. Population growth and development continues to put pressures on the local authorities to provide better waste management and access to waste services. According to CSO figures, some 500,000 homes in Ireland do not implement waste prevention practices⁵⁶.

New developments, will generate waste during both the Construction and Operational Phase of the development. Construction methodologies and choice of sustainable material will be encouraged for new developments, and developers will need to demonstrate that sustainable construction materials used are sourced sustainably. Waste material generated onsite during the Construction Phase must be in accordance with the relevant national waste management legislation.

The Operational Phase of new developments, shall comply with *Fingal County Council Waste Management Plan* regarding a three bin collection system and bottle bank / textile sites, etc.

The movement of people to and from Lissenhall East is key to the success and development of the LAP lands. Adequate **transport** infrastructure (*i.e.* road, cycle and pedestrian routes) to the LAP lands and accessibility through the Site (safe footpath and cycle paths) is fundamental to the development of the LAP lands and Swords.

The development of road infrastructure services, has major implications for biodiversity, landscape and air quality, as it causes habitat and landscape fragmentation and has health and Climate Change implications. In Ireland, the development of the road infrastructure network, has led to an over-reliance on private cars and the road network. There is a need to encourage a shift away from private cars usage and provide more reliable and connected modes of public transport. Promoting public transport, cycling and pedestrian activity, through the provision of quality and integrated public transport networks and infrastructure, can ensure traffic volumes and congestion on local road networks are minimised.

Currently 88% of Ireland's **energy** is derived from fossil fuels, which has a negative impact on the environment and on human health⁵⁷. There is a need to phase out the reliance on fossil fuels, with a shift to renewable energy resources, however, renewable energy will require large scale investment (public and private) in energy efficiency and innovative systems. Identifying and enabling indigenous renewable energy will also support Ireland's energy security. New developments and large developments like the LAP lands require excellent energy and power services which create direct and indirect emissions, particularly CO₂, methane and dioxins.

The CSO predicts that the average annual population growth rate during the period 2016-2026 will be between 0.4% and 1%. Consequently, it is important to ensure that new developments are offered connection to high speed **broadband** and telecommunication services. The infrastructure requires the need to plan for all these elements to ensure that there is adequate availability to support future development, in a manner that is environmentally appropriate, cost effective and efficient while ensuring the protection of public health.

5.8 Cultural Heritage

The physical traces left in the landscape by previous generations in archaeological monuments and sites and in historic buildings, townscapes and vernacular structures forms part of the tangible cultural heritage of Fingal linking the past and present. It is part of our identity, part of the distinctive character, vibrancy and attractiveness of where we come from or the places we live and work in and plays a significant role in drawing visitors to the area. The Council recognises the importance of identifying, valuing and safeguarding

⁵⁶ CSO: <https://www.cso.ie/en/releasesandpublications/ep/p-eii/eii2016/waste/>

⁵⁷ Ireland's Environment 2016: http://www.epa.ie/media/Chapter11_Environment_Energy.pdf

the archaeological and architectural heritage of Fingal for future generations which can be achieved through the proper management, sensitive enhancement and / or appropriate development of this resource.

5.8.1 Archaeological Heritage

The archaeological heritage of an area includes structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other types as well as their context, whether situated on or under land or water.

The National Monuments Acts 1930-2004 provide for the protection of archaeological heritage. The Record of Monuments and Places (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994 and structures, features, objects or sites listed in this Record are known as Recorded Monuments.

Monuments on the Register of Historic Monuments are established under the Section 5 of the National Monuments (Amendment Act) 1987. Under the provisions of Section 5(8) of the National Monuments (Amendment) Act 1987, any person who plans to carry work in the vicinity of a monument recorded on the Register of Historic Monuments must give two months' notice to the Minister for Culture, Heritage and the Gaeltacht. Owners of lands on which a monument listed on the Register of Historic Monuments is situated have been notified of the presence of the monument and the legal protection which applies.

The discovery of unrecorded monuments can often occur during excavations. Section 26 of the National Monuments Act 1930 (as amended) requires that excavations for archaeological purposes must be carried out by archaeologists acting under an excavation licence. The Database of Irish Excavation⁵⁸ contains summary accounts of excavations carried out in Ireland from 1969 to the present year.

One site is located in the LAP lands (ref. No. DU012-102----) and a site (DU012-015----) is located on the southern boundary of the lands, see Table 5.8.1 and Figure 5.8.1.

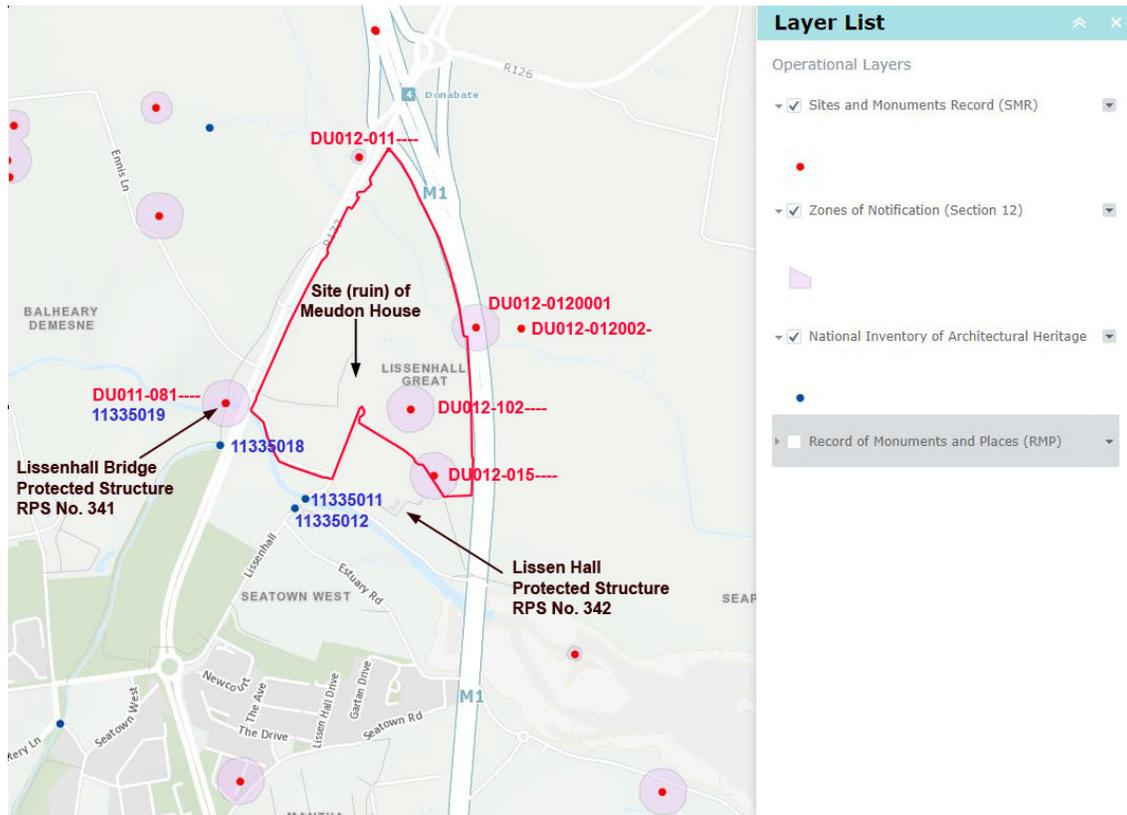
Table 5.8.1: The National Monument Site within / in close proximity to the LAP lands

Site Reference No.	Class	Townland	Scheduled for inclusion in the next revision of the RMP	Description
Within LAP Lands				
DU012-015----	Enclosure	Lissenhall Great	Yes	Located north of the eastern limit of the estuary to the rear of Lissenhall House. Named ' <i>site of fort</i> ' on the 1837 OS 6-inch map. Not visible at ground level. (On boundary between LAP lands and Lissen Hall).
DU012-102----	Enclosure	Lissenhall Great	Yes	A substantial ditch enclosure was initially identified in the course of geophysical survey (17R0185). Responses indicate an irregular rectilinear ditched enclosure (c.40m x 28m). Further responses suggest internal features (Leigh 2018). (Within LAP lands)
In proximity to LAP Lands				
DU011-081----	Bridge	Balheary Demesne / Lissenhall Great	Yes	Five-arched bridge, located off the Dublin-Belfast road north of Swords village where it crosses the Broadmeadow river. It is marked on the Down Survey (1655-6) map. Built of mortared limestone masonry. The bridge has

⁵⁸ Irish Excavation Ireland website: <http://www.excavations.ie/>

Site Reference No.	Class	Townland	Scheduled for inclusion in the next revision of the RMP	Description
				three abutting sections, the middle section has slightly pointed arches with wattle marks. The upriver cutwaters are triangular with semi-pyramidal cutwater cappings. It has been dated to the period 1450-1550 (O'Keefe, P. and Simington, T. 1991, 186-188). (South-west of LAP lands)
DU012-011----	Ritual site - holy well	Lissenhall Little	Yes	Marked on the OS 1837 and subsequent historical maps as Sunday Well. A natural spring well it was formerly a 'station well of great estimation' (O'Danachair 1958, 81). Infilled during roadworks c.1974 (Healy 1975). No visible remains. (Under R132 north-west of LAP lands).
DU012-0120001	Enclosure	Lissenhall Great	Yes	Located in low-lying tillage N of a stream, close to the Malahide estuary. An aerial photograph (CUCAP, BDS 48) shows cropmark evidence for a sub-circular enclosure (diam. c. 60m) with two possible fields (DU0 12-012002-) attached to the E of it. Possibly of Early Christian date. Not visible at ground level. (Under M1 Motorway east of LAP lands).
DU012-012002-	Field System	Lissenhall Great	Yes	Located in low-lying tillage N of a stream, close to the Malahide estuary. An aerial photograph (CUCAP, BDS 48) shows cropmark evidence for a subcircular enclosure (diam. c. 60m) with two possible fields (DU012-012002-) attached to the E of it. Possibly of Early Christian date. Not visible at ground level. (East of M1 Motorway).

Figure 5.8.1: The National Monuments and NIAH Sites in close proximity to the LAP lands



5.8.2 Architectural Heritage

Section 10 of the Planning & Development Act 2000 (as amended) places an obligation on all Local Authorities to include in their Development Plan objectives for the protection of structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. These buildings and structures are compiled on a register known as the Record of Protected Structures (RPS).

A Protected Structure, unless otherwise stated in the RPS, includes:

- the interior of the structure;
- the land lying within its curtilage;
- any other structures within the curtilage, and their interiors; and
- all fixtures and features which form part of the interior or exterior of any of these structures.

Owners or occupiers of a protected structure may request the Council to issue a declaration as to the type of works, which may or may not be permitted in their structure. The record of protected structures in Fingal is contained within the Fingal Development Plan.

There are no protected structures or references on the National Inventory of Architectural Heritage (NIAH) on the LAP lands, however there is a tear-drop shaped site covered in trees that contains the ruins of Meudon, a 19th Century house, see Section 3.2 and Figure 3.3 above. There is 1 No. Protected Structure located immediately south of the lands, Lissen Hall House, and Lissenhall Bridge is located to the south-east of the LAP lands (see Table 5.8.2). While none are on the LAP lands, a number of structures close to the LAP lands are also included in the National Inventory of Architectural Heritage (NIAH), see Table 5.8.3 below and Figure 5.8.1 above.

Table 5.8.2: Protected Structures in close proximity to the LAP lands

RPS Number	Structure Name	Description
340	Balheary Bridge	Double arch stone bridge over Broadmeadow River. (South-west of LAP lands)
341	Lissenhall Bridge	Five arch stone bridge over Broadmeadow River. (South-west of LAP lands)
342	Lissen Hall	18 th Century house, outbuildings & entrance gates. (South of LAP lands)

Table 5.8.3: Features / Structures included in the National Inventory of Architectural Heritage (NIAH)

Reg. No.	Structure Name	Description
11335018	Balheary Bridge	Double-arch ashlar granite road bridge over river, c.1850. (South-west of LAP lands)
11335019	Lissenhall Bridge	Five-arch random rubble road bridge over river, c.1760, with triangular cut waters to upstream side. Possibly incorporating fabric of pre-1600 bridge. (South-west of LAP lands)
11335011	Lissenhall Bridge	Double-span bridge, built 1895, comprising two lintel spans. Limestone piers and cast-iron railings to road. (South of LAP lands)
11335012	Lissenhall Bridge	Double-span road bridge, enlarged 1903, containing fabric of earlier bridge. Red brick and vitrified curved brick coping to parapet, with recessed rendered panels. Cast-iron I-beams supporting parapet. (South of LAP lands)

5.8.3 Architectural Conservation Areas (ACAs)

There are thirty-two Architectural Conservation Areas (ACAs) in County Fingal, however there is no ACA on or adjoining the LAP lands. The closest ACA is Newbridge Demesne, which is located c. <2km to the north-east of the LAP lands.

5.8.4 Cultural Heritage Issues

Construction activities have the potential for direct negative impacts on heritage features and their setting. There is one identified site of archaeological interest on the LAP lands (DU012-0102-, refer to Figure 5.8.1), and there is potential for development to impact further undiscovered archaeological features.

Implementation of the LAP also provides the opportunity to potentially uncover new heritage features and enhance public awareness of and access to these sites.

5.9 Landscape & Visual

The concept of landscape encompasses all that can be seen by looking across an area of land, *i.e.* it is the visible environment in its entirety. Landscape is the context in which all change takes place and helps to create a unique sense of place or identity within an area. The landscape supports a wide range of ecological habitats despite growth in its resident population. The interaction of all of these elements influences landscape character for future generations.

A National Landscape Strategy for Ireland 2015-2025⁵⁹ was published, in line with Ireland's obligations under the European Landscape Convention. The key objectives of this Strategy are the recognition of landscape in

⁵⁹ National Landscape Strategy: <https://www.chg.gov.ie/app/uploads/2015/07/N-Landscape-Strategy-english-Web.pdf>

law and the provision of a policy framework to put measures in place for the management and protection of landscape, the production of a national Landscape Character Assessment (LCA) through data gathering and an evidence based description of character assessment, raising awareness and public consultation.

5.9.1 Landscape Character Assessment (LCA)

Landscape Character Assessment (LCA) is a process that describes maps and classifies landscapes. Landscape character is defined as '*a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse*'. Defining landscape character enables an understanding to be formed of the inherent value and importance of individual landscape elements and the processes that may alter landscape character in the future. The cultural and ecological aspects of the landscape cannot be divorced from its physical and visual characteristics so all of these elements are considered.

Landscape Character Types (LCT) are distinct types of landscape that are relatively homogenous in character and are generic in nature in that they may occur in different localities throughout the country. Nonetheless, where they do occur, they commonly share similar combinations of geology, topography, land cover and historical land use, *e.g.* Upland Areas.

The LCA contained in the Fingal Development Plan divides the county into LCTs, (refer to Table 5.9.1). Swords, including the LAP lands, is located in a low-lying agricultural type, which is of modest value and low sensitivity. However, the Green Infrastructure Maps from the Fingal Development Plan show that the LAP lands are identified as a '*highly sensitive landscape*', due to the close proximity to the coastline (see Green Infrastructure Sheet No. 14, Map 1 of FDP 2017).

Table 5.9.1: Landscape Character Types in Fingal County

Landscape Character Types (LCTs)	Landscape Value	Landscape Sensitivity
Rolling Hills with Tree belts	Modest	Medium
High lying Agricultural	High	High
Low lying Agricultural	Modest	Low
Estuary	Exceptional	High
Coastal	Exceptional	High
River Valleys / Canal	High	High

5.9.2 Protect & Preserve Trees, Woodlands and Hedgerows / Preserve Views

Sheet No. 8 of the Fingal Development Plan indicates that there is 1 No. mature tree stand / wooded area located in the LAP lands which has a specific objective under the Development Plan to Protect and Preserve Trees, Woodland and Hedgerows or to Preserve Views, see Figure 3.2 in Section 3.2 above.

5.9.3 Landscape & Visual Issues

The visual impact upon the landscape is being taken into consideration in the preparation of the LAP. The landscape character of the LAP lands is located in a low-lying agricultural type, but within a highly sensitive landscape due to the close proximity to the coast. In the long-term the LAP is unlikely to have an adverse effect on the landscape, since the area to the south is Swords Town Centre and to the west is zoned as the *ME - Metro Economic Corridor*.

Development of the LAP lands where feasible should seek to conserve and enhance natural habitats and ecosystems to protect and improve biodiversity by improving existing roadside boundary treatments, trees, water features and hedgerows.

5.10 Interactions and Cumulative Impacts

The environment is both complex and dynamic and the various elements of the environment interact in an equally complex and dynamic manner. The permutations can be numerous, however, at a basic level the principal interactions can be either qualified or quantified in most instances. Interactions between various elements of the LAP are considered in this SEA Environmental Report. Equally, an assessment of cumulative impacts arising from measures in the Draft LAP are also included in the Environmental Report.

6.0 Strategic Environmental Objectives

6.1 Strategic Environmental Objectives (SEOs)

A series of Strategic Environmental Objectives (SEOs) have been selected in line with current guidance and also with specific reference to the SEA for the existing Fingal Development Plan. The SEOs provide a basis for the assessment of the environmental effects of the Plan and are framed in such a manner as to enable the Plan to be fully assessed in environmental terms.

SEOs are distinct from the objectives within the Plan, although they will often overlap and are developed from international, national and regional policies which generally govern environmental protection objectives. Appropriate targets and indicators have been developed in the SEA Environmental Report (refer to Chapter 10). The scoping aspect of the SEA process affords an opportunity for consultees to provide input to the range and detail of the environmental objectives.

Table 6.1: Strategic Environmental Objectives (SEOs) for Lissenhall East Draft LAP Lands

Theme	Objective
Biodiversity (Flora & Fauna) (B)	Preserve, protect, maintain and where appropriate restore the terrestrial, aquatic and soil biodiversity, including internationally, EU and nationally designated sites and protected species.
Population & Human Health (PHH)	Provide for sustainable development that is protective of human health and well-being.
Soils & Geology (SG)	Safeguard sensitive soil and geological resources.
Water (W)	Protect and where necessary improve and maintain water quality and the management of watercourses, groundwater and the marine environment, in compliance with the requirements of the WFD objectives and measures.
Air & Noise (AN)	Minimise emissions of, and adverse effects from air pollution and noise generation.
Climate Change (CC)	Minimise contribution to Climate Change by adopting adaptation and mitigation measures.
Material Assets (MA)	Make best use of existing infrastructure and promote the sustainable and timely development of new infrastructure to meet the needs of the county's and Swords population.
Cultural Heritage (CH)	Protect places, features, buildings and landscapes of cultural, archaeological and / or architectural heritage from impact as a result of development.
Landscape (L)	Protect and maintain the special qualities of the landscape and visual character of the county, including its coastal character.

6.2 Strategic Environmental Indicators and Targets

The overall purpose of Environmental Indicators in SEA is to provide a way of assessing the environmental effect of implementing the Draft LAP. Indicators are also used to track progress in achieving the targets set in SEA as well as in the Draft LAP.

SEA indicators and targets are identified as part of the SEA process. These indicators and targets are attributable to the implementation of the Draft LAP and set out in Chapter 10 of this report.

7.0 Alternatives

7.1 Introduction

The SEA Directive requires the Environmental Report to consider reasonable alternatives taking into account the objectives and geographical scope of the plan or programme and the significant environmental effects of the alternatives selected.

In accordance with the Guidelines the alternatives put forward should be reasonable, realistic and capable of implementation. They should also be in line with the appropriate strategic level at which the local area plan will be implemented within the planning hierarchy. The local area plan is framed within a policy context set by a hierarchy of National, Regional and County level plans as well as within Irish and the European legislative framework. In this regard the site is zoned for HT – High Technology in the Fingal Development Plan and hence a change in zoning is not considered a viable alternative.

Therefore, given the constraints, two reasonable development framework alternatives scenarios have been assessed:

Development Alternative 1: Allows for proposals to develop organically within the LAP lands on a demand-need basis. Each development would address biodiversity and green infrastructure, sustainable water management, parks, open space and recreation, cultural heritage and movement and transport requirements on a development by development basis.

Development Alternative 2: Directs proposals to develop within a structured framework within the LAP lands that addresses overall biodiversity and green infrastructure, sustainable water management, parks, open space and recreation, cultural heritage and movement and transport requirements in an integrated manner.

In addition to the development framework alternative scenarios, three alternative capacity scenarios have been assessed (also detailed in Appendix 05: Transport Assessment of the Draft LAP):

Capacity Alternative 1: LAP lands at Lissenhall East to accommodate up to 3,000 jobs.

Capacity Alternative 2: LAP lands at Lissenhall East to accommodate up to 2,000 jobs.

Capacity Alternative 3: LAP lands at Lissenhall East to accommodate up to 1,000 jobs.

Given the likely timeframe involved in delivery, the proposed Metrolink project has been excluded in the assessment of the alternative capacity scenarios. The assessment does include for population and employment growth in Swords in line with existing and committed developments and with the following schemes:

- R132 Connectivity Project: Upgrade roundabouts to Traffic Signalised junctions and cycle and pedestrian facilities;
- Traffic signalised junction access to Lissenhall East;
- BusConnects scheme; and
- Completion of Airside to Feltrim Road Link (Barrysparks Link); Fostertown Link and Inner Ward River Crossing.

7.2 Assessment of Alternative Scenarios

The assessment of the alternatives development and capacity scenarios is carried out with reference to potential impacts on the Strategic Environmental Objectives (SEOs) set out in Chapter 6 of this report and presented in Table 7.1.

7.2.1 Development Alternatives

Development Alternative 1 would lead to an informal pattern of development on the LAP lands outside of a framework for the overall lands. The approach would give rise to uncertain and/or negative environmental impacts on the SEOs for all environmental factors (SEOs).

Development Alternative 2 would lead to a planned approach to how development and environmental considerations are integrated for the overall LAP lands. The approach would give rise to positive and/or neutral environmental impacts on the SEOs for all environmental factors (SEOs).

7.2.2 Capacity Alternatives

While the majority of environmental factors are broadly similar for the different alternatives for capacity of employment on the LAP lands, there are differences in terms of potential traffic generation and hence in terms of potential impacts on air and noise and climate factors as set out in Table 7.1.

Capacity Alternative 1 would lead to substantial employment and economic activity potential with positive effects for population. However, it would also result in a substantial increase in traffic with negative effects on material assets (roads), air and noise and climate factors.

Capacity Alternative 2 would lead to moderate employment and economic activity potential with positive effects for population. However, it would also result in a considerable increase in traffic with negative effects on material assets (roads), air and noise and climate factors.

Capacity Alternative 3 would provide lower employment and economic activity potential still with positive effects for population. However, the associated moderate traffic generation would not lead to adverse impacts on material assets (roads), air and noise and climate factors.

Table 7.1: Assessment of Alternatives against SEOs

Alternative	Potential Positive Environmental Effects	Potential Neutral Environmental Effects	Potential Uncertain Environmental Effects	Potential Negative Environmental Effects
Development Alternatives				
Development Alternative 1			Population and Human Health (PHH), Soils and Geology (SG), Air and Noise (AN), Climate (CC),	Biodiversity (B), Water (W), Material Assets (A), Cultural Heritage (CH), Landscape (L)
Development Alternative 2	Cultural Heritage (CH)	Biodiversity (B), Population and Human Health (PHH), Soils and Geology (SG), Water (W), Air and Noise (AN), Climate (CC), Material		

Alternative	Potential Positive Environmental Effects	Potential Neutral Environmental Effects	Potential Uncertain Environmental Effects	Potential Negative Environmental Effects
		Assets (A), Landscape (L)		
Capacity Alternatives				
Capacity Alternative 1	Population and Human Health (PHH)	Biodiversity (B), Soils and Geology (SG), Water (W), Cultural Heritage (CH), Landscape (L)		Material Assets (MA), Air and Noise (AN), Climate (CC)
Capacity Alternative 2	Population and Human Health (PHH)	Biodiversity (B), Soils and Geology (SG), Water (W), Cultural Heritage (CH), Landscape (L)	Material Assets (MA), Air and Noise (AN), Climate (CC)	
Capacity Alternative 3	Population and Human Health (PHH)	Biodiversity (B), Soils and Geology (SG), Water (W), Air and Noise (AN), Climate (CC) Material Assets (MA), Cultural Heritage (CH), Landscape (L)		

7.3 Selection of the Preferred Alternative for the Local Area Plan

Development Alternative 2 with Capacity Alternative 3 has been selected as the preferred alternative strategy for the Lissenhall East Draft LAP lands because they facilitate:

- prior and appropriate consideration for protection and positive integration of significant natural cultural and built heritage;
- planned and orderly development of the LAP lands in tandem with provision of required infrastructure;
- Economic development and employment without adverse effects on the transport networks; and
- Sustainable development of the LAP lands, without significant adverse effects on the environment.

8.0 Environmental Assessment

8.1 Methodology

This chapter provides an environmental assessment of the provisions of the Lissenhall East Draft LAP. The relevant aspects of the current state of the environment (see Chapter 5) and the Strategic Environmental Objectives (see Chapter 6 and Table 6.1) are utilised in the assessment process.

The SEA Directive requires the Environmental Report to include information on the likely significant effects on the environment, including on biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

The specific provisions of the LAP are assessed (refer to Table 8.1) using compatibility criteria in order to determine how they would be likely to affect the status of the SEOs.

The Fingal Development Plan (FDP) already provides for overall land use, zoning and objectives for the Lissenhall East lands. The development plan also includes the specific objective (Objective SWORDS 27) to prepare a local area plan for Lissenhall East. Therefore the land use zoning for Lissenhall East was included in the Fingal Development Plan 2017-2023 and was subject to full SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) during the preparation of the FDP.

Where required mitigation measures to prevent or reduce potential significant adverse or uncertain environmental effects posed by the LAP are identified in Chapter 9 – and these have been integrated into the Lissenhall East Draft LAP.

8.2 Appropriate Assessment

The Draft LAP has been subject to a Stage 2 Appropriate Assessment (AA) which has been prepared alongside the preparation of the LAP and the SEA. The requirement for AA is provided under the EU Habitats Directive (Directive 92/43/EEC). The AA has concluded that the Draft LAP will not affect the integrity of the Natura 2000 network. Various measures have been integrated into the LAP to facilitate this (see Natura Impact Report at Appendix 02 to Draft LAP). The preparation of the Draft LAP, SEA and AA has taken place concurrently and the findings of the AA has informed the Draft LAP and the SEA and recommendations made have been integrated into the Draft LAP.

8.3 Potential Adverse Effects and their Determination

Environmental impacts are determined by the nature and extent of multiple or individual projects and site specific environmental factors. Avoidance of conflict with SEOs and the environment is dependent upon compliance with mitigation measures, including those which have emerged through the SEA and AA processes and which have been integrated into the Draft LAP. The assessment of the specific objectives for the Lissenhall East Draft LAP against the SEOs (refer to Chapter 6 of this report) for the environmental factors is presented in Table 8.1. Where an objective has potential for adverse or uncertain environmental effects the requirement for mitigation is noted and addressed further in Chapter 9 – Mitigation Measures. Where the objective provides for protection of the environment this is also noted in Table 8.1.

Where potentially significant negative and uncertain environmental effects arising from implementation of the LAP have been identified, these are addressed in Chapter 9 – Mitigation Measures of this report.

8.3.1 Population and Human Health

Land use planning impacts on the everyday lives of people and can either hinder or help promote healthy sustainable environments and communities. For example the provision of safe walking routes, cycle-ways,

high quality open spaces and environments, public transport facilities, etc. result in direct and indirect health benefits and allow for healthier transportation choices to be made by communities. The Draft LAP includes specific objectives under Movement and Transport (i.e. MT8 & MT9) to provide options for pedestrian and cycle friendly movement through the LAP lands and requires the preparation of a Mobility Management Plan to be submitted with development applications (i.e. MT11). Likewise the Draft LAP includes specific objectives for the protection and development of open space lands (e.g. PO1, PO2, PO3), and for the protection and incorporation of features natural and cultural heritage (e.g. BI1, BI2, BI3, AAH1, AAH4, L1, L2, L3).

The maintenance, protection and enhancement of water quality are important and are closely allied to human health generally. The Draft LAP provides for key objectives for the delivery of nature-based surface water management (e.g. SW1, SW2); for SuDS and attenuation measures (e.g. SW5 to SW11); for maintenance / improvement of water quality (SW12) and for delivery of critical infrastructure (e.g. IS1 to IS6, and DF2, DF3, DF6).

Overall, the Draft LAP is likely to improve the status of the SEOs on population and human health.

8.3.2 Biodiversity (Flora and Fauna)

The Draft LAP includes detailed objectives for assessment, protection and enhancement of biodiversity within the LAP lands. Particular measures identified as positive effects on Biodiversity SEOs include: an objective for the development of a green infrastructure management plan (BI3); for pollinators (BI4); planting and screening (BI5); for protection of hedgerows and watercourses (BI6); lighting design for bats (BI8); to rectify and maintain a mammal underpass (BI9) and for the use of native planting species (L4).

Infrastructure has the potential to generate adverse impacts on biodiversity, with key potential impacts relating to disturbance, disruption, fragmentation and loss of habitats. However, the approach for the Draft LAP is set development within a landscape network which retains significant natural (BI1, BI2, BI6, PO1) and cultural features (PO2, AAH1, AAH3) and provides enhanced natural and landscape areas (PO3, PO4) with the promotion of green / blue infrastructure (BI3) to assist in reducing the adverse impacts.

Indirect and cumulative impacts are identified for biodiversity in the event of damage to soil and water resources associated with development activities. Water pollution or surface water run off could give rise to negative effects on water quality and rivers within the lands with subsequent adverse effects on biodiversity. Potential for effects on the Broadmeadow SAC and SPA have been assessed and mitigated in the Natura Impact Report (NIR – Appendix 02) and the Draft LAP includes objective BI10 which provides for further environmental assessments associated with development proposals. Flood risk considerations have informed the preparation and strategy for the Draft LAP and reinforced through specific objectives on flood risk (SW2, SW3) and surface water management (SW1, SW4 to SW12).

8.3.3 Soils and Geology

Soil quality and function may be enhanced through particular measures associated with water quality and landuse and achieving the Water Framework Directive Objectives. The quality of groundwater is directly related to soil quality and landuse.

The most significant potential soil and geology effect identified relates to new built development on green field lands. Soil sealing and increased risk of surface run-off are addressed largely by the development of the Draft LAP framework, the protection of significant natural and cultural features (objectives BI1 to BI10), the avoidance of development in area of flood risk (SW2, SW3, SW11); in the provision of an extensive attenuation and SuDS strategy (Appendix 4 and objectives SW1, SW4 to SW11) and in the development of a green infrastructure strategy (Appendix 07 and objective BI3).

8.3.4 Water

Potential effects on water resources (and potentially biodiversity) in the absence of mitigation, include a reduction in water quality in ground and surface waters; surface water runoff; changes in the flow rates; and potential pollution. However, the Draft LAP includes specific objectives for the maintenance, protection and enhancement of water quality. The Draft LAP provides for key objectives for the protection of natural features such as groundwater and watercourses (BI1, BI3, PO3, SW2, SW3); for the delivery of nature-based surface water management (e.g. SW1, SW4); for SuDS and attenuation measures (e.g. SW5 to SW11); for maintenance / improvement of water quality (SW12) and for delivery of critical infrastructure (e.g. IS1 to IS6, and DF2, DF3, DF6).

Potential for effects on the Malahide Estuary SAC and the Malahide Estuary SPA have been assessed and mitigated in the Natura Impact Report (NIR – Appendix 02) and the Draft LAP includes objective BI10 which provides for further environmental assessments associated with development proposals.

8.3.5 Air and Noise

Development in the form of construction and operation can give rise to negative impacts through reduction in air quality and generation of dust and / or noise. The Draft LAP includes specific objectives to manage such potential effects including BI10 Environmental Assessments, DF3 and DF7.

8.3.6 Climate

Development in the form of construction and operation can give rise to negative impacts on climate change. However, the manner in which development is planned and its delivery and operation managed can also give rise to beneficial effects in the form of an enhanced green infrastructure network (BI3) which protects significant natural and cultural features (BI1 to BI10 & AHH2, AHH3), which positively manages flooding (SW2, SW3) and surface water quality (SW12) and which encourages sustainable modes of transport (e.g. walking and cycling, i.e. MT8, MT9 and mobility management MT11).

8.3.7 Material Assets – Significant Effects

Specific transport objectives for public transport and walking and cycling (i.e. MT8, MT9) create positive impacts as they support more sustainable transport options with positive interrelationship impacts for human health, biodiversity, air quality and climate.

The strategic vision for the LAP lands promotes employment and sustainable development with positive effects for population and material assets. However, development of the LAP lands in line with the strategic vision can also give rise to uncertain / negative impacts for other environmental factors such as biodiversity water, cultural heritage and landscape. Likewise provision of critical energy, transport, utility and telecommunications infrastructure can also negatively impact environmental factors.

As such the Draft LAP includes objectives which are protective of these environmental factors (refer to Table 8.1) including biodiversity objectives BI1 to BI10, open space objective PO4, water objectives SW1, SW2, SW11 and SW12, cultural heritage objectives AAH2 and AAH3, landscape objectives L1 to L4, transport objective MT11, and development framework objectives DF3, DF5 and DF7.

8.3.8 Cultural Heritage

Overall the potential impacts of the Draft LAP are long-term and positive in relation to cultural heritage due to the recognition of the value of cultural heritage and the range of cultural heritage features including built heritage, natural heritage and landscapes in the LAP lands (refer to Appendix 06 and objectives PO2, AAH1 to AAH4).

Potential cultural heritage impacts arise more in relation to potential archaeology within the LAP lands. However, the Draft LAP includes specific objectives (AAH1 to AAH4) for protection, site investigation and development management control (DF1, DF3, DF7).

8.3.9 Landscape

The Draft LAP is structured around a landscape and nature-based framework and includes a detailed Green Infrastructure strategy (Appendix 07 and objective BI3) and detailed objectives for natural heritage (BI1 to BI10), and cultural heritage (AAH1 to AAH4) as well as specific landscape objectives (PO1 to PO4 and L1 to L4).

Additional green infrastructure measures including SuDS measures (SW1, SW4 to SW12) and enhanced walking and cycling opportunities (MT8, MT9) also contribute positively to landscape parameters.

8.3.10 The Interrelationship between Environmental Factors

The SEOs and the environmental factors are considered against each other to identify which interactions - if any - would cause effects on specific components of the environment. The presence of potential for significant interrelationships between environmental factors are identified in Table 8.2. While potential for significant effects arise in the interaction / interrelationship of environmental factors (refer to Table 8.2) it is considered that the implementation of the LAP will not give rise to significant effects between these components.

8.3.11 Cumulative Effects

Cumulative effects can be described as the addition of many small impacts to create one larger, more significant, impact. There are 2 types of potential cumulative effects that have been considered, namely:

- Potential Intra-Plan cumulative effects - these arise from the interactions between different types of potential environmental effects resulting from a plan, programme, etc. The interrelationships between environmental factors that help determine these potential effects are identified on Table 8.2.
- Potential Inter-Plan cumulative effects - these arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, projects, etc.

The draft LAP sits beneath the Fingal Development Plan, as well as higher level plans, which oversee and manage development and environmental protection across the county, including Lissenhall East.

During the preparation of the draft LAP, effects that may arise as a result of implementing the plan have been avoided or mitigated wherever possible as identified in Table 8.1 and in Chapter 9 of this report.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Table 8.1: Environmental Assessment of Specific Objectives for Lissenhall East Draft Local Area Plan

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
Strategic Vision				
	Facilitate opportunities for 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 sustainable design and aesthetic quality will be promoted to enhance corporate image and identity.	While the strategic vision has positive effects in terms of employment and economic activity and sustainable use of material assets (MA) the development of the lands also has potential for uncertain effects on biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN) climate change (CC), cultural heritage (CH) and landscape (L).	Yes	-
Vision Statement	To establish a location for high end, high quality value-added businesses, blending sustainable urban design and architecture with nature to create a distinct, enjoyable sense of place.	While the vision statement has positive effects in terms of employment and economic activity and sustainable use of material assets (MA) the development of the lands also has potential for uncertain effects on biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN) climate change (CC), cultural heritage (CH) and landscape (L).	Yes	-
Guiding Principles	Central to delivering the vision is to develop the lands in a sustainable manner, in a way that reflects its existing landscape, heritage and environmental assets. Any development on the LAP lands shall promote an urban design approach and built form which contributes positively to the quality of life of those who work in and visit Lissenhall East. Through evidence-based analysis of the environment and its strategic policy context, three key themes were identified in order to shape and inform the vision for the lands and act	Provides for positive effects in terms of sustainable development of the lands with potential for significant positive effects on all SEOs, for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN) climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	<p>as guiding principles underpinning the policies, objectives, and actions in the LAP.</p> <p>These themes reflect those contained in the Regional Spatial and Economic Strategy (RSES) for the East and Midlands Region (EMRA) 2019-2031 and include:</p> <ol style="list-style-type: none"> 1. Economic Opportunity; 2. Healthy Placemaking; and 3. Climate Action. 			
Achieving the Vision	<p>Objective GI17 of Fingal County Development Plan 2017 – 2023 requires all Local Area Plans to protect, enhance, provide and manage green infrastructure in an integrated and coherent manner and to address the five Green Infrastructure themes set out in the Development Plan, namely:</p> <ul style="list-style-type: none"> • biodiversity; • parks, open space and recreation; • sustainable water management; • archaeological and architectural heritage; and • landscape. <p>Each of these themes are addressed in the following sections of the LAP and describe the</p>	<p>Provides for positive effects in terms of protection, enhancement, providing and managing green infrastructure has potential for significant positive effects on all SEOs, including biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN) climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	existing situation, the proposed LAP approach and the relevant LAP objectives for each theme.			
Biodiversity				
Objective BI1 – Conservation and Enhancement	Provide for the protection, conservation and enhancement of wild life habitats and natural resources, including the existing water courses on site and features such as ecologically important hedgerows and mature trees within the LAP area.	Protective environmental nature of the objective results in significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN) climate change (CC), cultural heritage (CH) and landscape (L). Objective provides for neutral effects on SEO for material assets (MA). There are no significant negative environmental effects on SEOs.	No	Yes
Objective BI2 – Bio-Diversity	Conserve, protect and manage the existing natural resources, where appropriate, in a sustainable manner and develop measures and provide conditions to enhance bio-diversity where possible.	Protective environmental nature of the objective results in significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), climate change (CC), cultural heritage (CH) and landscape (L). Objective provides for neutral effects on SEOs for air and noise (AN) and material assets (MA). There are no significant negative environmental effects on SEOs.	No	Yes
Objective BI3 –Green Infrastructure Management Plan	A practical management plan for managing Green Infrastructure and ecologically valuable habitats within the LAP lands shall be prepared and submitted along with any initial planning application for the development of the Initial Development Area and shall be updated with each subsequent application.	Positive management for ecology and green infrastructure results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L).	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		Objective provides for neutral effects on SEO for material assets (MA). There are no significant negative environmental effects on SEOs.		
Objective BI4 – Pollinators	Identify areas of habitat and associated features, that could be practically managed, to benefit bees and other pollinators.	Objective provides for significant positive effects on SEOs for biodiversity (B) and landscape (L). Objective provides for neutral effects on SEOs for population and human health (PHH), soils and geology (SG), water (W), climate change (CC), air and noise (AN), cultural heritage (CH) and material assets (MA). There are no significant negative environmental effects on SEOs.	No	Yes
Objective BI5 – Planting and Screening	Reinforce planting and screening particularly around perimeter areas such as the western perimeter of the LAP lands. Careful consideration must be given to species selection and priority should be given to the use of species of local origin where possible.	Positive enhancement and protective nature of the objective results in significant positive effects on SEOs for biodiversity (B), population and human health (PHH), climate change (CC) and landscape (L). Objective provides for neutral effects on SEOs for soils and geology (SG), water (W), air and noise (AN), cultural heritage (CH) and material assets (MA). There are no significant negative environmental effects on SEOs.	No	Yes
Objective BI6 – Hedgerows and Watercourses	Protect the integrity of existing townland hedgerows and watercourses for their biodiversity and amenity value including surface water management. To this end, ensure that no development, including clearance and storage of materials, takes place within a minimum distance	Protective nature of the objective results in significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), climate change (CC), cultural heritage (CH) and landscape (L). Objective provides for neutral effects on SEOs for air and noise (AN) and material assets (MA).	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	of 10-15 metres measured from each bank of the Lissenhall Stream.	There are no significant negative environmental effects on SEOs.		
Objective BI7 – Invasive Alien Species	Manage the potential for establishment of Invasive Alien Species (IAS) at all stages of development, so that the threat including outcompeting of retained vegetation including the woodland as well as water features.	<p>Protective management nature of the objective results in significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for air and noise (AN), climate change (CC), material assets (MA), and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes
Objective BI8 – Lighting Design and Bats	Ensure that the lighting design will be cognisant of bat commuting trails and follows the guidance of recent guidance (BCT 2018) including the location and type of lighting and the need for continuously lit areas.	<p>Protective nature of objective results in significant positive effects on SEOs for biodiversity (B) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and material assets (MA).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes
Objective BI9 – Mammal Underpass	Rectify and maintain the existing mammal underpass along the eastern boundary.	<p>Nature of the objective results in significant positive effects on SEO for biodiversity (B).</p> <p>Objective provides for neutral effects on SEOs for population and human health (PHH), soils and geology (SG), water (W) and landscape (L) air and noise (AN), climate change (CC), material assets (MA), and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
Objective BI10 – Environmental Assessments	All development proposals on the LAP lands will be subject to Screening for the requirement for Appropriate Assessment (AA), and the preparation of a Natura Impact Statement (NIS) if required, and to Screening for the requirement for Environmental Impact Assessment (EIA), and the preparation of an Environmental Impact Assessment Report (EIAR) if required.	Protective objective results in significant positive effects on SEOs for biodiversity (B) and water (W). Objective provides for neutral effects on SEOs for population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	Yes
Parks, Open Space and Recreation				
Objective PO1 – Park and Protected Woodland	Provide open space in a new centrally located park and integrating the protected mature tree stand / woodland area as part of the Initial Development Area. This park will be capable of being extended as future development is introduced into the rest of the LAP lands.	Provision of open space with incorporation of existing ecological / landscape features results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC) and landscape (L). Objective provides for neutral effects on SEOs for water (W) and material assets (MA). Given the presence of potential archaeological features within the open space lands, there are uncertain environmental effects on cultural heritage (CH).	Yes	-
Objective PO2 – Meudon Ruins	Landscape proposals for the central park and protected wooded area will be required to explore incorporating the ruins of Meudon House as a landscape feature, where practicable.	Enhancement and incorporation of ruins of local heritage features results in the objective having significant positive effects on SEOs for population and human health (PHH), cultural heritage (CH) and landscape (L). Objective provides for neutral effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), climate change (CC) and material assets (MA).	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		There are no significant negative environmental effects on SEOs.		
Objective PO3 – Open Space and SuDS	The open space provision will include surface water management [SuDS] and Nature Based Solutions (NBS) in line with the requirements of the Development Plan and best practice.	Surface water management and the use of nature-based solutions has potential to enhance biodiversity and water management and thereby results in the objective having significant positive effects on SEOs for population and human health (PHH), soils and geology (SG), water (W), climate change (CC) and landscape (L). Objective provides for neutral effects on SEOs for air and noise (AN), cultural heritage (CH) and material assets (MA). Given the scale of the works there are also uncertain environmental effects on existing biodiversity (B) and water (W).	Yes	-
Objective PO4 – Biodiversity and Open Space	Ensure that the management of the proposed open spaces is pollinator-friendly, provides more opportunities for biodiversity, and is carried out without the use of pesticides where possible.	Provision for enhanced biodiversity without pesticide use results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), climate change (CC), air and noise (AN), and landscape (L). Objective provides for neutral effects on SEOs for, cultural heritage (CH) and material assets (MA). There are no significant negative environmental effects on SEOs.	No	Yes
Sustainable Water Management				
Objective SW1 – SuDS and NBS	Achieve best practice and innovation in SuDS design and nature based solutions as part of the Initial Development Area including the successful co-ordination of surface water management with biodiversity features and amenity functions of open space and landscaped areas.	Provision for enhanced surface water management and biodiversity results in the objective having significant positive effects on SEOs for biodiversity (B), water (W), climate change (CC) and landscape (L).	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		Objective provides for neutral effects on SEOs for population and human health (PHH), soils and geology (SG), air and noise (AN), cultural heritage (CH) and material assets (MA). There are no significant negative environmental effects on SEOs.		
Objective SW2 – Flood Risk Management	To manage flood risk in Lissenhall East in accordance with the requirements of The Planning System and Flood Risk Management Guidelines for Planning Authorities, DECLG and OPW (2009) and Circular PL02/2014 (August 2014).	Objective provides for potential significant positive effects on SEOs for population and human health (PHH), water (W), climate change (CC), material assets (MA) and landscape (L). Objective provides for neutral effects on SEOs for, biodiversity (B), soils and geology (SG), air and noise (AN), and cultural heritage (CH). There are no significant negative environmental effects on SEOs.	No	Yes
Objective SW3 – Flood Risk Assessment	All development proposals within a flood zone as indicated in Appendix 3 – Strategic Flood Risk Assessment shall be required to provide an appropriately detailed site specific Flood Risk Assessment which should include (but not limited to) the following: <ul style="list-style-type: none"> • An assessment of the reduction in flood volume storage, • An assessment of impacts downstream of the M1, • An assessment of climate change impacts, • Any change of the site development framework (including roads, development parcels, buildings plots, landscaping) near 	Objective provides for consideration of potential flood risk with significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), climate change (CC), and landscape (L). Objective provides for neutral effects on SEOs for air and noise (AN) and cultural heritage (CH). There are no significant negative environmental effects on SEOs.	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	<p>flood zones A and B would also need for the hydraulic modelling to be re-evaluated, and</p> <ul style="list-style-type: none"> The drainage strategy for planning should comply with the recommendations from the SuDS Strategy for the Lissenhall East LAP as set out in Appendix 4. 			
Objective SW4 – Surface Water Drainage Network	The new surface water drainage network provided within the Lissenhall East LAP lands shall be designed in accordance with the SuDS Strategy set out in Appendix 4, Ciria C753 The SuDS Manual and the Greater Dublin Strategic Drainage Systems (GSDSDS).	<p>Objective provides for significant positive effects on SEOs for population and human health (PHH), water (W), climate change (CC), material assets (MA) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for, biodiversity (B), soils and geology (SG), air and noise (AN), and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	-
Objective SW5 – Attenuation Pond Areas	The new surface water drainage networks should discharge at the proposed attenuation pond areas. Pond(s) should be constructed in the central eastern area close to the location of the culvert which drains under the M1. Attenuation volumes should be incorporated in the design of the pond(s).	<p>Surface water management objective provides for significant positive effects on SEOs for population and human health (PHH), water (W), climate change (CC), material assets (MA) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG), air and noise (AN), and cultural heritage (CH).</p> <p>Given the scale of the works there are also uncertain environmental effects on existing biodiversity (B) and water (W).</p>	Yes	-
Objective SW6 – Permeable Paving	Permeable Paving is recommended for use in all parking areas and landscaped areas to collect, clean, attenuate and store rainwater before	<p>Objective provides for significant positive effects on SEOs for biodiversity (B) and water (W).</p> <p>Objective provides for neutral effects on SEOs for population and human health (PHH), soils and geology (SG), air and noise (AN),</p>	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	discharging to the development's sustainable drainage system;	climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.		
Objective SW7 – Rainwater Harvesting	New buildings will incorporate rainwater harvesting for use within the building and planning applications for new development should include a consideration of the feasibility of green roofs and green walls for new buildings;	Objective provides for significant positive effects on SEO for water (W). Objective provides for neutral effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	-
Objective SW8 – Filter Drains	Subject to subsoil permeability, filter drains may be required to drain landscaped areas and other small green areas within the development. Runoff from green areas should, where possible, infiltrate directly to groundwater.	Objective provides for significant positive effects on SEO for water (W). Objective provides for neutral effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	-
Objective SW9 – Swales	Swales shall be constructed adjacent to the proposed drainage route to provide conveyance and treatment of runoff from the carriageway. These swales can also be used to provide separation between footpaths / cycle tracks and the carriageway.	Objective provides for significant positive effects on SEO for water (W). Objective provides for neutral effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
Objective SW10 – Runoff and Attenuation	Runoff from each development upstream of ponds should be limited to existing greenfield runoff rates. Attenuation should be provided for the 1% AEP rainfall event + 10% allowance for Climate Change.	<p>Management of surface water regime results in the objective having significant positive effects on SEO for water (W).</p> <p>Objective provides for neutral effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes
Objective SW11 – Flood Plain and SuDS	Locate SUDS measures outside the predicted flood plain so that they can operate during extreme storm events.	<p>Avoidance of flood plain results in objective having significant positive effects on SEO for water (W).</p> <p>Objective provides for neutral effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes
Objective SW12 – Water Quality	Protect and develop, in a sustainable manner, the existing groundwater sources and aquifers in the County and control development in a manner consistent with the proper management of these resources in conformity with the Eastern River Basin Management Plan 2009-2015 and the second cycle national River Basin Management Plan 2017-2021 and any subsequent plan and the Groundwater Protection Scheme.	<p>Protection of existing water resources and adherence to national policy results in objective having significant positive effects on SEO for water (W).</p> <p>Objective provides for neutral effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
Archaeological and Architectural Heritage				
Objective AAH1 – Meudon House	Landscape proposals for the central park and protected wooded area will be required to explore incorporating the ruins of Meudon House as a landscape feature, where practicable.	<p>Enhancement and incorporation of ruins of local heritage features results in the objective having significant positive effects on SEOs for population and human health (PHH), cultural heritage (CH) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), climate change (CC) and material assets (MA).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	-
Objective AAH2 – Geophysical Survey	The rectilinear enclosure identified by the geophysical survey will be investigated and recorded to inform future development appropriate development in the immediate area.	<p>Understanding potential of archaeological heritage feature results in the objective having significant positive effects on SEO for cultural heritage (CH).</p> <p>Objective provides for neutral effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA), and landscape (L).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes
Objective AAH3 – Townland Boundaries	Ensure trees, hedgerows and other features which demarcate townland boundaries are preserved and incorporated into the design of developments.	<p>Retention of townland boundary features results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH), cultural heritage (CH) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG), water (W), air and noise (AN), climate change (CC) and material assets (MA).</p>	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		There are no significant negative environmental effects on SEOs.		
Objective AAH4 – Signage and Education	Promote and facilitate appropriate interpretative concepts and signage illustrating the archaeological, built and natural heritage features within and adjoining the plan area, thus facilitating opportunities for education and understanding.	<p>Providing for education in / understanding of local features results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH), cultural heritage (CH) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG), water (W), air and noise (AN), climate change (CC) and material assets (MA).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	-
Landscape				
Objective L1 – Trees, Woodlands and Hedgerows	To seek to ensure key trees, woodlands and high value hedgerows are retained and contribute to the landscape character of the area insofar as practical and incorporate same into future development proposals.	<p>Retention of key landscape features results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA) and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes
Objective L2 – Protected Woodland	The protected mature tree stand / woodland area shall be assessed by a qualified arborist. The condition of the trees shall be recorded, and recommendations shall inform a conservation, replacement and management strategy for this protected woodland as part of proposals for this area.	<p>Understanding / protection of mature trees / woodland / landscape features results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA) and cultural heritage (CH).</p>	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		There are no significant negative environmental effects on SEOs.		
Objective L3 – Hedgerows and Design	Ensure trees, hedgerows and other features which demarcate townland boundaries are preserved and incorporated into the design of development proposals.	Protection of townland features results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH), cultural heritage (CH) and landscape (L). Objective provides for neutral effects on SEOs for soils and geology (SG), water (W), air and noise (AN), climate change (CC) and material assets (MA). There are no significant negative environmental effects on SEOs.	No	Yes
Objective L4 – Native Planting	Require the use of native planting where appropriate in new developments. Indigenous, non-invasive species should be considered to provide habitat for locally occurring fauna ensuring, at a minimum, there should be no net loss of the tree and hedgerow resource.	Use of native planting species results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH) and landscape (L). Objective provides for neutral effects on SEOs for soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA) and cultural heritage (CH). There are no significant negative environmental effects on SEOs.	No	Yes
Infrastructure and Services				
Objective IS1 – Public Sewer and Water Mains	Development shall connect to the public sewer and public water mains, subject to a connection agreement with Irish Water, in order to protect all waters in the plan area.	Ensuring that the correct public sewer and public water main connection agreements are confirmed by Irish Water ensures provision of capacity and results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH) and water (W). Objective provides for neutral effects on SEOs for soils and geology (SG), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		There are no significant negative environmental effects on SEOs.		
Objective IS2 – New Foul Sewer	Provide a new foul sewer to connect the LAP lands to the public foul sewer system discharging at Swords WWTP.	<p>Provision for the public sewer connection results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH) and water (W).</p> <p>As the route is not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>Objective has neutral effects on SEOs for air and noise (AN) and climate change (CC).</p> <p>There are no significant negative environmental effects on SEOs.</p>	Yes	-
Objective IS3 – Pumping Station	Provide a pumping station with 24-hour emergency storage capacity.	<p>Ensuring adequate emergency capacity for wastewater results in the objective having significant positive effects on SEOs for biodiversity (B), population and human health (PHH) and water (W).</p> <p>However, location, detail and operation aspects are not determined therefore the objective also has potential for uncertain environmental effects on SEOs for biodiversity (B), air and noise (AN) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG) and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	Yes	-
Objective IS4 – Gas and Electricity	Ensure that gas and electricity infrastructure is provided for the Initial Development Area, in a	Ensuring provision of required infrastructure results in the objective having significant positive effects on SEOs for population and human health (PHH) and material assets (MA).	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	manner that can be extended to service future development of the wider LAP lands in the future.	Objective provides for neutral effects on SEOs for biodiversity (B) soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.		
Objective IS5 – Gas and Electricity	Facilitate the provision of an adequate supply of electricity and gas to developments in the plan area, to the requirements of the relevant service provider and in accordance with the principles of proper planning and sustainable development. All future ESB services shall be undergrounded.	Ensuring provision of required infrastructure results in the objective having significant positive effects on SEOs for population and human health (PHH) and material assets (MA). As routes are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	Yes	-
Objective IS7 – Telecommunications Infrastructure	Facilitate the provision of adequate telecommunication infrastructure within the plan area, including telephone and broadband services, to the requirements of the relevant services providers and in accordance with the principles of proper planning and sustainable development.	Ensuring provision of required infrastructure results in the objective having significant positive effects on SEOs for population and human health (PHH) and material assets (MA). As routes are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	Yes	-
Objective IS6 – Strategic Telecommunications	Ensure that strategic telecommunications including fibre optic broadband links is provided for the Initial Development Area, in a manner that can be extended to service future development of the wider LAP lands in the future.	Ensuring provision of required infrastructure results in the objective having significant positive effects on SEOs for population and human health (PHH) and material assets (MA).	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		Objective provides for neutral effects on SEOs for biodiversity (B) soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.		
Movement and Transport				
Objective MT1 – Lissenhall East Transport Assessment	Implement the recommendations of the Lissenhall East Transport Assessment in respect of the Initial Development Area. It shall be a requirement that any planning application clearly demonstrate compliance with the recommendations of the Transport Assessment.	The transport assessment (Appendix 05 of Draft LAP), which provides recommendations to ensure that the development of the LAP lands do not adversely impact the surrounding transport network in a pre-Metrolink scenario, results in the objective having significant positive effects on SEOs for population and human health (PHH), air and noise (AN), climate change (CC) and material assets (MA). Objective provides for neutral effects on SEOs for biodiversity (B) soils and geology (SG), water (W), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	Yes
Objective MT2 – South Fingal Transport Study	Implement the relevant objectives of the South Fingal Transport Study. It shall be a requirement that any planning applications that result in an increased demand for travel, shall clearly demonstrate the required transport infrastructure and measures to accommodate the proposed increase in line with the recommendations of the South Fingal Transport Study.	Ensuring that the LAP conforms to the objectives of the higher level South Fingal Transport Study results in the objective having significant positive effects on SEOs for population and human health (PHH), air and noise (AN), climate change (CC) and material assets (MA). Objective provides for neutral effects on SEOs for biodiversity (B) soils and geology (SG), water (W), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
Objective MT3 – Improvements along the R132 Frontage	<p>Ensure proposals for improvements along the R132 frontage integrate with existing public transport services as well as future services such as BusConnects and MetroLink to include:</p> <ul style="list-style-type: none"> Improved bus facilities on the R132 including sheltered stops. Provide for the upgrade of pedestrian and cycle infrastructure on the R132 bordering the LAP lands. As existing sites / businesses come forward for extension and or redevelopment applicants will need to sufficient space along the boundary for such upgrades. 	<p>Ensuring that the proposal integrate with existing and planned public transport initiatives results in the objective having significant positive effects on SEOs for population and human health (PHH), air and noise (AN), climate change (CC) and material assets (MA).</p> <p>However, as details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), water (W), air and noise (AN), climate change (CC) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG) and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	Yes	-
Objective MT4 – Special Development Contribution for Improvement Works	<p>Implement the provisions of Section 48 including Section 48 (2)(c) of the Planning and Development Act, 2000, as amended to generate financial contributions towards the capital costs of providing local and strategic transport infrastructure, including the upgrade of pedestrian and cycle infrastructure along the boundary of the lands with the R132.</p>	<p>Ensures that development proposals provide financial support towards improvements in local and strategic transport infrastructure. Objective provides for neutral effects on all SEOs.</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	-
Objective MT5 – Junction with R132	<p>Require the junction design to integrate and align with proposals for the R132 regional road, the future Western Distributor Road and MetroLink.</p>	<p>Objective provides for enhanced connectivity with significant positive effects on SEOs for population and human health (PHH), and material assets (MA).</p> <p>However, as details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water</p>	Yes	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		(W), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).		
Objective MT6 – New Access Junction	Ensure the design of the new access junction to the lands from the R132 is capable of enhanced pedestrian and cycle connectivity across the R132 to link with a future MetroLink Estuary Stop and MetroLink Park and Ride.	Objective provides for enhanced pedestrian and cycle connectivity with significant positive effects on SEOs for population and human health (PHH), air and noise (AN) and climate change (CC). However, as details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L).	Yes	-
Objective MT7 – Rationalise Existing Entrances	Rationalise existing vehicular entrances / exits onto the R132. As existing sites / businesses come forward for extension and or redevelopment applicants will need to provide alternative access arrangements to the R132.	Objective provides for safer access arrangements with significant positive effects on SEOs for population and human health (PHH), and landscape (L). Objective provides for neutral effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA) and cultural heritage (CH). There are no significant negative environmental effects on SEOs.	No	-
Objective MT8 – Internal Pedestrian and Cycle Routes	Facilitate the delivery of a new north-south combined pedestrian / cyclist route through the LAP lands; linking the main access on the R132, Development Area No. 1 with the laneway to the south the eastern boundary of the food logistics park and Lissenhall.	Objective provides for enhanced pedestrian and cycle connectivity within the LAP lands with significant positive effects on SEOs for population and human health (PHH), air and noise (AN) and climate change (CC). However, as details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L).	Yes	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
Objective MT9 – Cycling Facilities	All development proposals within the LAP shall be required to demonstrate provision of high-quality cycle facilities for employees, to include secure bike parking facilities, and changing and shower facilities to incentivise sustainable transport. Cycle facilities shall comply with the National Cycle Manual and shall be designed in accordance with best practice.	Objective provides for enhanced cycle connectivity with significant positive effects on SEOs for population and human health (PHH), air and noise (AN) and climate change (CC). However, as details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L).	Yes	-
Objective MT10 – Parking Strategy	Require a parking strategy to be agreed with the Council prior to commencement of development; addressing the short, medium and long-term parking requirements having regard to the delivery of public transport.	Objective provides for agreement on a parking strategy prior to development. As details are not determined the objective has uncertain environmental effects on all SEOs, including biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).	Yes	-
Objective MT11 – Mobility Management Plans	All development proposals for the LAP lands will require a Mobility Management Plan to be submitted with planning application.	Objective provides for enhanced mobility and movement with significant positive effects on SEOs for population and human health (PHH), climate change (CC) and material assets (MA). Objective provides for neutral effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	Yes
Development Framework				
Objective DF1	Applications for development proposals shall have regard to the detailed requirements set out in Sections 11.3 to Section 11.7 of this Draft Local Area Plan.	Sections 11.3 to 11.7 of the LAP relate to Proposed Uses, Quantum and Proposed Uses, Strategic Development Framework, Initial Development Area, and Subsequent Development Area and as such set out the key principles the development of the LAP lands.	Yes	-

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		<p>Development of the LAP lands will see a gradual transition from the currently partly developed / partly greenfield baseline to a developed high-technology / open space position within a framework as envisaged in the Fingal Development Plan.</p> <p>Therefore, the objective has potential for uncertain / negative effects on all SEOs, i.e. for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p>		
Objective DF2	<p>Applications for development proposals for the Initial Development Area shall include a design statement demonstrating how the proposal addresses the design guidelines for Business Parks and Industrial Areas.</p>	<p>Ensuring that development proposals address design guidelines results in the objective having significant positive effects on SEOs for biodiversity (B) population and human health (PHH), water (W), material assets (MA) and landscape (L).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG), air and noise (AN), climate change (CC) and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	-
Objective DF3	<p>Applications for development proposals for the Initial Development Area shall provide details as to how the proposed development shall address, and provide for the requirements for biodiversity, open space, surface water management, archaeological and architectural heritage, landscape, infrastructure and services, and movement and transportation set out in this Draft LAP.</p>	<p>Ensuring that development proposals address requirements for natural and cultural features and infrastructural services results in the objective having significant positive effects on SEOs for biodiversity (B) population and human health (PHH), soils and geology (SG), water (W), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>Objective provides for neutral effects on SEO for air and noise (AN).</p> <p>There are no significant negative environmental effects on SEOs.</p>	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
<p>Objective DF4</p>	<p>The overall Design Statement should show how the proposal generally demonstrates/provides for:</p> <ul style="list-style-type: none"> a. Building layout and design which maximises daylight, natural ventilation, active transport and public transport use; b. Sustainable building/services/site design to maximise energy efficiency; c. Sensitive energy efficiency improvements to existing buildings; d. Energy efficiency, energy conservation, and the increased use of renewable energy in existing and new developments; e. On-site renewable energy infrastructure and renewable energy; f. Minimising the generation of site and construction waste and maximising reuse or recycling; and g. The use of construction materials that have low to zero embodied energy and CO2 emissions. 	<p>The objective ensures that development proposals address site layout and design, sustainable development, energy efficiency, renewable energy, minimising waste generation and low to zero embodied energy and CO2 emissions. This results in the objective having significant positive effects on SEOs for climate change (CC), material assets (MA) and landscape (L).</p> <p>Measures for renewable energy infrastructure have potential for uncertain effects on the SEO for biodiversity (B).</p> <p>Objective provides for neutral effects on SEOs for soils and geology (SG), air and noise (AN), climate change (CC) and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	<p>Yes</p>	<p>-</p>
<p>Objective DF5</p>	<p>All proposals for the Initial Development Area will be required to submit a Climate Action Energy Statement as part of the overall Design Statement to demonstrate how low carbon energy and</p>	<p>Ensuring that development proposals address climate and low carbon energy and heating solutions results in the objective having significant positive effects on SEOs for population and human health (PHH), air and noise (AN) and climate change (CC).</p>	<p>No</p>	<p>Yes</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	heating solutions, have been considered as part of the overall design and planning of the proposed development.	Objective provides for neutral effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.		
Objective DF6	All proposals for the Initial Development Area will be required to submit an infrastructure masterplan showing how the proposed development will be serviced and how the infrastructure extended to service the future development of the LAP lands.	Ensuring that development proposals address infrastructure requirements results in the objective having significant positive effects on SEOs for population and human health (PHH) and material assets. As extent and location of services are not determined, the objective has potential for uncertain effects on SEOs for biodiversity (B), water (W), cultural heritage (CH) and landscape (L). Objective provides for neutral effects on SEOs for soils and geology (SG), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	Yes	-
Objective DF7	Applications for development proposals shall provide details to avoid and mitigate potential adverse effects from noise, vibration, air quality, dust, and lighting during construction and operation as appropriate and with regard to national guidance.	Ensures that development proposals avoid and mitigate effects on the environment results in the objective having significant positive effects on all SEOs, including biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN) climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L). There are no significant negative environmental effects on SEOs.	No	Yes
Appendices				

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
<p>Appendix 01: SEA Environmental Report,</p> <p>Appendix 02: Natura Impact Report, and</p> <p>Appendix 03: Strategic Flood Risk Assessment</p>	<p>Appendices 01, 02 and 03 detail the SEA, AA and SFRA assessments carried out in tandem with the preparation of the Draft LAP.</p>	<p>Appendices 01, 02 and 03 provide for significant positive effects for all SEOs.</p> <p>There are no significant negative environmental effects on SEOs.</p>	<p>No</p>	<p>Yes</p>
<p>Appendix 04: SuDS Strategy</p>	<p>The scope of this report is:</p> <ul style="list-style-type: none"> Review of existing surface water and foul drainage network in respect of SuDS for current situation, future scenario with all live planning permissions built and with all proposed development and infrastructure in place as set out in both Fingal Development Plan 2011- 2017 and the proposals in the Lissenhall East LAP; Prepare a SuDS Strategy with recommendations regarding appropriate SuDS systems and devices for the implementation of the SuDS strategy for all proposed development and Planning Permission applications and development as determined by the Lissenhall East LAP, currently being developed, including maps showing possible layout, locations and sizing 	<p>Appendix 04 provides for a detailed appraisal, description and understanding of the surface water regime together with a strategy for sustainable urban drainage systems that incorporate climate change, groundwater, and surface water. The strategy results in significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), climate change (CC) and landscape (L).</p> <p>The findings of the appendix provides for neutral effects on SEOs for air and noise (AN), material assets (MA) and cultural heritage (CH).</p> <p>There are no significant negative environmental effects on SEOs.</p>	<p>No</p>	<p>Yes</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	<p>of proposed recommended SuDS devices and/or systems;</p> <ul style="list-style-type: none"> • Incorporate the effects of Climate Change, groundwater and the existing surface water drainage system into the SuDS Strategy; • Determine the effects on and of flooding, groundwater and surface water drainage system in the LAP area due to the incorporation of the SuDS Strategy; • Provide an assessment of the attenuation requirements needed and identify the regional attenuation structures necessary for the LAP area; and • Provide information gathered or generated from the Flood Risk Identifications and Assessments, by liaising and attending meetings with Consultants completing the Strategic Environmental Assessment (SEA) and Flood Risk Assessment (FRA) for the Lissenhall LAP. 			
<p>Appendix 05: Transport Assessment</p>	<p>The Transport Assessment for Lissenhall East is based on the Area Based Transport Assessment (ABTA) Guidance Notes published by Transport Infrastructure Ireland in April 2018.</p> <p>The assessment focuses on establishing the development potential of the LAP lands Pre-MetroLink based on a detailed analysis using the</p>	<p>Appendix 05 sets the Draft LAP within the existing and planned transport context of the local and wider area. The assessment sets out the transport strategy, including walking, cycling and public transport, for the development of the LAP lands to ensure that development does not adversely affect the existing network.</p>	<p>No</p>	<p>-</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	<p>National Transport Agency’s (NTA) Eastern Regional Model to identify future travel demand, patterns and modal splits based on overall projections for population and employment.</p> <p>The recommended strategy is based on a scenario for provision of 1000 jobs, as it would not have an undue negative impact on the local road network or the motorway junction. The assessment, which feeds in to the Draft LAP includes the following transport objectives:</p> <ul style="list-style-type: none"> • Maximise opportunities for walking and cycling trips; • Maximise travel by Public Transport, both pre-and post-delivery of the Metro; • Manage demand for car travel to the development to minimise the impact on the safety and operation of the local and National Road Network; and • Maximise opportunities for sustainable travel through the integration of land use and transport. 	<p>The findings of the assessment provides for neutral effects on all SEOs.</p> <p>There are no significant negative environmental effects on SEOs.</p>		
<p>Appendix 06: Archaeological, Architectural and Cultural Heritage</p>	<p>The report provides an archaeological, architectural and cultural heritage appraisal of lands located at Lissenhall Great townland, Swords, County Dublin.</p>	<p>Appendix 06 provides for a detailed appraisal, description and understanding of the known and potential heritage of the LAP lands. The appendix includes recommendations in relation to Archaeological Heritage, Architectural Heritage and Cultural Heritage, which have informed the preparation of the Draft LAP.</p>	<p>No</p>	<p>Yes</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
	<p>The appraisal describes the archaeological and historical background of the landscape within which the study area lies.</p> <p>The main purpose of the baseline study is to assess the significance of the receiving archaeological, architectural heritage and cultural heritage environment, and to identify areas of archaeological and cultural heritage potential which may provide constraints for any future development.</p>	<p>The findings of the appendix results in significant positive effects on SEOs for population and human health (PHH), cultural heritage (CH) and landscape (L).</p> <p>The findings of the appendix provides for neutral effects on SEOs for biodiversity (B) soils and geology (SG), water (W), air and noise (AN), climate change (CC) and material assets (MA).</p> <p>There are no significant negative environmental effects on SEOs.</p>		
Appendix 07: Ecology Survey and Green Infrastructure	<p>The purpose of the study is to:</p> <ul style="list-style-type: none"> Survey, map and assess habitats within the development boundary of the LAP lands; Identify green infrastructure; Liaise with Fingal Council staff in the development of policies and objectives to protect and conserve the green infrastructure; and Raise awareness about the biodiversity of the LAP lands. <p>In this regard, it is the intention that the report will inform the design and layout of the development and amenity lands within the LAP boundary as they are bought forward in due course.</p>	<p>Appendix 07 provides for a detailed appraisal, description and understanding of the ecological and green infrastructure of the LAP lands. The review of green infrastructure includes biodiversity; parks, open space and recreation; sustainable water management; archaeological and architectural heritage; landscape and other relevant objectives.</p> <p>The appendix includes strategic recommendations to ensure compliance with higher tier plans such as Fingal Development Plan and the National Biodiversity Action Plan, and additional recommendations in relation to Appropriate Assessment, Monitoring and Evaluation and Education and Public Engagement.</p> <p>The findings of the appendix results in significant positive effects on SEOs for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L).</p> <p>The findings of the appendix provides for neutral effects on SEO for material assets (MA).</p>	No	Yes

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Assessment against Strategic Environmental Objectives (refer to Table 6.1)	Mitigation Required	Protective Objective
		There are no significant negative environmental effects on SEOs.		

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Table 8.2: Interrelationships with Potential for Significant Effects

Component	Biodiversity	Population & Human Health	Soils & Geology	Water Quality	Air & Noise	Climate	Material Assets	Cultural Heritage	Landscape
Biodiversity		Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Population & Human Health			Yes	Yes	Yes	Yes	Yes	Yes	Yes
Soils & Geology				Yes	No	Yes	Yes	Yes	Yes
Water Quality					No	Yes	Yes	Yes	Yes
Air & Noise						Yes	No	Yes	Yes
Climate							Yes	Yes	Yes
Material Assets								Yes	Yes
Cultural Heritage									Yes
Landscape									

9.0 Mitigation

The environmental assessment of the provisions of the Lissenhall East Draft LAP (Chapter 8) identified potential uncertain / negative environmental effects as set out in Chapter 8 and Table 8.1. However, appropriate mitigation has been considered and provided for these uncertain / negative effects.

It is also noted that proposals for development within the LAP lands must also comply where appropriate with the relevant provisions included within the Fingal Development Plan. Given that the LAP sits within and at a lower level in the planning hierarchy, the measures contained in the Development Plan, and in its Natura Impact Report (NIR), SEA Environmental Report / SEA Statement and Strategic Flood Risk Assessment (SFRA) are also applicable to the Draft LAP.

Table 9.1 lists the objectives of the Draft LAP for which potential for an uncertain / negative environmental effects has been identified (refer to Table 8.1). For each objective appropriate mitigation has been identified to ensure that the objective does not adversely affect the environment.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Table 9.1: Mitigation of Potential Uncertain / Negative Objectives for Lissenhall East Draft Local Area Plan

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
Strategic Vision			
	<p>Facilitate opportunities for 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 sustainable design and aesthetic quality will be promoted to enhance corporate image and identity.</p> <p>Vision Statement</p> <p>To establish a location for high end, high quality value-added businesses, blending sustainable urban design and architecture with nature to create a distinct, enjoyable sense of place.</p>	<p>Potential for uncertain effects on biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN) climate change (CC), cultural heritage (CH) and landscape (L).</p>	<p>The Draft LAP includes a Strategic Flood Risk Assessment (SFRA) and sustainable drainage strategy (Appendices 03 and 04), a Transport Assessment (Appendix 05), and a detailed assessment of the existing natural, cultural and built heritage of the lands and surrounding area (Appendices 06 and 07).</p> <p>These assessments have influenced the preparation of the Draft LAP and have provided for sustainable management of the water regime, for protection of the transport network and for the incorporation of existing natural, cultural and built heritage, together with sustainable development of the lands.</p> <p>The Draft LAP includes the following objectives which will mitigate these potential uncertain or negative environmental effects.</p> <p>Biodiversity objectives BI1 to BI10;</p> <p>Parks, Open Space and Recreation objective PO4;</p> <p>Sustainable Water Management objectives SW2, SW3, SW11, SW12;</p> <p>Archaeological and Architectural Heritage objectives AAH2, AAH3;</p> <p>Landscape objectives L1 to L4;</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
			Infrastructure and Services objective IS1; Movement and Transport objectives MT1, MT11; and Development Framework objectives DF1 and DF3 to DF7.
Parks, Open Space and Recreation			
Objective PO1 – Park and Protected Woodland	Provide open space in a new centrally located park and integrating the protected mature tree stand / woodland area as part of the Initial Development Area. This park will be capable of being extended as future development is introduced into the rest of the LAP lands.	Given the presence of potential archaeological features within the open space lands, there are uncertain environmental effects on cultural heritage (CH).	The Draft LAP includes a Strategic Flood Risk Assessment (SFRA) and sustainable drainage strategy (Appendices 03 and 04), and a detailed assessment of the existing natural, cultural and built heritage of the lands and surrounding area (Appendices 06 and 07). These assessments have influenced the preparation of the Draft LAP and have provided for sustainable management of the water regime and for sustainable incorporation of existing cultural and built heritage, together with sustainable development of the lands.
Objective PO3 – Open Space and SuDS	The open space provision will include surface water management [SuDS] and Nature Based Solutions (NBS) in line with the requirements of the Development Plan and best practice.	Given the scale of the works there are uncertain environmental effects on existing biodiversity (B) and water (W).	The Draft LAP includes the following protective objective which will mitigate these potential uncertain or negative environmental effects. Biodiversity objectives BI1 to BI10; Parks, Open Space and Recreation objective PO4; Sustainable Water Management objectives SW1 to SW12; Archaeological and Architectural Heritage objective AAH2; and Development Framework objectives DF1 and DF3 to DF7.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
Sustainable Water Management			
Objective SW5 – Attenuation Pond Areas	The new surface water drainage networks should discharge at the proposed attenuation pond areas. Pond(s) should be constructed in the central eastern area close to the location of the culvert which drains under the M1. Attenuation volumes should be incorporated in the design of the pond(s).	Given the scale of the works there are uncertain environmental effects on existing biodiversity (B) and water (W).	<p>The Draft LAP includes a Strategic Flood Risk Assessment (SFRA) and sustainable drainage strategy (Appendices 03 and 04), and a detailed assessment of the existing natural heritage of the lands and surrounding area (Appendix 07).</p> <p>These assessments have influenced the preparation of the Draft LAP and have provided for sustainable management of the water regime, and for the incorporation of existing natural heritage, together with sustainable development of the lands.</p> <p>The Draft LAP includes the following objectives which will mitigate these potential uncertain or negative environmental effects.</p> <p>Biodiversity objectives BI1 to BI10;</p> <p>Parks, Open Space and Recreation objective PO3;</p> <p>Sustainable Water Management objectives SW1 to SW4 and SW6 to SW12; and</p> <p>Development Framework objectives DF1, DF3, DF4, DF5 DF7.</p>
Infrastructure and Services			
Objective IS2 – New Foul Sewer	Provide a new foul sewer to connect the LAP lands to the public foul sewer system discharging at Swords WWTP.	As the route is not determined the objective has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets	The Draft LAP includes a detailed assessment of the existing natural, cultural and built heritage of the lands and surrounding area (Appendices 06 and 07).

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
<p>Objective IS3 – Pumping Station</p>	<p>Provide a pumping station with 24-hour emergency storage capacity.</p>	<p>(MA), cultural heritage (CH) and landscape (L).</p> <p>As the location, detail and operation aspects are not determined the objective has potential for uncertain environmental effects on SEOs for biodiversity (B), air and noise (AN) and landscape (L).</p>	<p>These assessments have influenced the preparation of the Draft LAP and have provided for sustainable incorporation of existing natural heritage, together with sustainable development of the lands.</p> <p>The Draft LAP includes the following objectives which will mitigate these potential uncertain or negative environmental effects.</p> <p>Biodiversity objectives BI1 to BI10;</p> <p>Parks, Open Space and Recreation objective PO3;</p>
<p>Objective IS5 – Gas and Electricity</p>	<p>Facilitate the provision of an adequate supply of electricity and gas to developments in the plan area, to the requirements of the relevant service provider and in accordance with the principles of proper planning and sustainable development. All future ESB services shall be undergrounded.</p>	<p>As routes are not determined the objective has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L).</p>	<p>Sustainable Water Management objectives SW1 to SW4 and SW10 to SW12;</p> <p>Archaeological and Architectural Heritage objectives AAH2, AAH3;</p> <p>Landscape objectives L1 to L3; and</p> <p>Development Framework objectives DF1, DF3, DF4, DF5.</p> <p>and</p>
<p>Objective IS7 – Telecommunications Infrastructure</p>	<p>Facilitate the provision of adequate telecommunication infrastructure within the plan area, including telephone and broadband services, to the requirements of the relevant services providers and in accordance with the principles</p>	<p>As routes are not determined the objective has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), air and noise (AN), climate change (CC), cultural heritage (CH) and landscape (L).</p>	<p>Development Framework objectives DF1, DF3, DF4, DF5 DF7.</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
	of proper planning and sustainable development.		
Movement and Transport			
Objective MT3 – Improvements along the R132 Frontage	<p>Ensure proposals for improvements along the R132 frontage integrate with existing public transport services as well as future services such as BusConnects and MetroLink to include:</p> <ul style="list-style-type: none"> Improved bus facilities on the R132 including sheltered stops. Provide for the upgrade of pedestrian and cycle infrastructure on the R132 bordering the LAP lands. As existing sites / businesses come forward for extension and or redevelopment applicants will need to sufficient space along the boundary for such upgrades. 	As details are not determined the objective has uncertain environmental effects on SEOs for biodiversity (B), water (W), air and noise (AN), climate change (CC) and landscape (L).	<p>The Draft LAP includes a Strategic Flood Risk Assessment (SFRA) and sustainable drainage strategy (Appendices 03 and 04), a Transport Assessment (Appendix 05), and a detailed assessment of the existing natural, cultural and built heritage of the lands and surrounding area (Appendices 06 and 07).</p> <p>These assessments have influenced the preparation of the Draft LAP and have provided for sustainable management of the water regime, for protection of the transport network and for the incorporation of existing natural, cultural and built heritage, together with sustainable development of the lands.</p> <p>The Draft LAP includes the following objectives which will mitigate these potential uncertain or negative environmental effects.</p> <p>Biodiversity objectives BI1 to BI10;</p> <p>Sustainable Water Management objectives SW3, SW4, SW8, SW9, SW11, SW12;</p> <p>Archaeological and Architectural Heritage objectives AAH2, AAH3;</p> <p>Landscape objectives L1 to L4; and</p>
Objective MT5 – Junction with R132	Require the junction design to integrate and align with proposals for the R132 regional	As details are not determined the objective has uncertain environmental effects on SEOs for	

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
<p>Objective MT6 – New Access Junction</p>	<p>road, the future Western Distributor Road and MetroLink.</p> <p>Ensure the design of the new access junction to the lands from the R132 is capable of enhanced pedestrian and cycle connectivity across the R132 to link with a future MetroLink Estuary Stop and MetroLink Park and Ride.</p>	<p>biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>As details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L).</p>	<p>Development Framework objectives DF1 and DF3 to DF7.</p>
<p>Objective MT8 – Internal Pedestrian and Cycle Routes</p>	<p>Facilitate the delivery of a new north-south combined pedestrian / cyclist route through the LAP lands; linking the main access on the R132, Development Area No. 1 with the laneway to the south the eastern boundary of the food logistics park and Lissenhall.</p>	<p>As details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology (SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L).</p>	
<p>Objective MT9 – Cycling Facilities</p>	<p>All development proposals within the LAP shall be required to demonstrate provision of high-quality cycle facilities for</p>	<p>As details are not determined the objective also has uncertain environmental effects on SEOs for biodiversity (B), soils and geology</p>	

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
<p>Objective MT10 – Parking Strategy</p>	<p>employees, to include secure bike parking facilities, and changing and shower facilities to incentivise sustainable transport. Cycle facilities shall comply with the National Cycle Manual and shall be designed in accordance with best practice.</p> <p>Require a parking strategy to be agreed with the Council prior to commencement of development; addressing the short, medium and long-term parking requirements having regard to the delivery of public transport.</p>	<p>(SG), water (W), material assets (MA), cultural heritage (CH) and landscape (L).</p> <p>As details are not determined the objective has uncertain environmental effects on all SEOs, including biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p>	
<p>Development Framework</p>			
<p>Objective DF1</p>	<p>Applications for development proposals shall have regard to the detailed requirements set out in Sections 11.3 to Section 11.7 of this Draft Local Area Plan.</p>	<p>The objective has potential for uncertain / negative effects on all SEOs, i.e. for biodiversity (B), population and human health (PHH), soils and geology (SG), water (W), air and noise (AN), climate change (CC), material assets (MA), cultural heritage (CH) and landscape (L).</p>	<p>The Draft LAP includes a Strategic Flood Risk Assessment (SFRA) and sustainable drainage strategy (Appendices 03 and 04), a Transport Assessment (Appendix 05), and a detailed assessment of the existing natural, cultural and built heritage of the lands and surrounding area (Appendices 06 and 07).</p> <p>These assessments have influenced the preparation of the Draft LAP and have provided for sustainable management of the water regime, for protection of the transport network</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
<p>Objective DF4</p>	<p>The overall Design Statement should show how the proposal generally demonstrates/provides for:</p> <ul style="list-style-type: none"> a. Building layout and design which maximises daylight, natural ventilation, active transport and public transport use; b. Sustainable building/services/site design to maximise energy efficiency; c. Sensitive energy efficiency improvements to existing buildings; d. Energy efficiency, energy conservation, and the increased use of renewable energy in existing and new developments; e. On-site renewable energy infrastructure and renewable energy; f. Minimising the generation of site and construction 	<p>Measures for renewable energy infrastructure have potential for uncertain effects on the SEO for biodiversity (B).</p>	<p>and for the incorporation of existing natural, cultural and built heritage, together with sustainable development of the lands.</p> <p>The Draft LAP includes the following objectives which will mitigate these potential uncertain or negative environmental effects.</p> <p>Biodiversity objectives BI1 to BI10;</p> <p>Parks, Open Space and Recreation objective PO1 to PO4;</p> <p>Sustainable Water Management objectives SW1 to SW5 and SW11, SW12;</p> <p>Archaeological and Architectural Heritage objectives AAH2, AAH3;</p> <p>Landscape objectives L1 to L4;</p> <p>Infrastructure and Services objective IS1;</p> <p>Movement and Transport objectives MT1, MT11; and</p> <p>Development Framework objectives DF3, DF5, DF7.</p>

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Objective	Description	Potential Uncertain / Negative Aspects	Mitigation Measures
<p>Objective DF6</p>	<p>waste and maximising reuse or recycling; and</p> <p>g. The use of construction materials that have low to zero embodied energy and CO2 emissions.</p> <p>All proposals for the Initial Development Area will be required to submit an infrastructure masterplan showing how the proposed development will be serviced and how the infrastructure extended to service the future development of the LAP lands.</p>	<p>As the extent and location of services are not determined, the objective has potential for uncertain effects on SEOs for biodiversity (B), water (W), cultural heritage (CH) and landscape (L).</p>	

10.0 Monitoring

10.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The SEA Monitoring Programme is set out in Table 10.1.

10.2 Indicators and Targets

Monitoring is based around indicators and targets which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives (Chapter 6) used in the assessment. The monitoring programme may be updated as required to address specific environmental issues - including unforeseen effects - should they arise. Such issues may be identified by the Council, or identified to the Council by other agencies.

10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency (EPA), the National Parks and Wildlife Service (NPWS), Irish Water (IW), Office of Public Works (OPW) and the Central Statistics Office (CSO).

10.4 Reporting

The Council is responsible for monitoring and the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action. The Chief Executive's Report on the implementation of the LAP, which must be carried out within two years of the making of the Plan, will include detail on the monitoring of the indicators for the local area plan.

Environmental indicator assessment during monitoring can show positive / neutral impacts or negative impacts on the environment. Where an indicator value highlights a positive / neutral impact on the environment, it is likely that the objectives of the LAP are well-defined with regard to the environment. Conversely where the objectives of the LAP have a negative impact on the environment, it may be necessary to review the objectives of the LAP or to take some other form of intervention. For example, if an objective is having a significant adverse impact, an amendment may be considered during the lifetime of the LAP.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Table 10.1 SEA Monitoring

Environmental Factor	Strategic Environmental Objective (SEO)	Indicator	Target	Source & Frequency
Biodiversity (Flora & Fauna) (B)	Preserve, protect, maintain and where appropriate restore the terrestrial, aquatic and soil biodiversity, including internationally, EU and nationally designated sites and protected species.	Change in condition of habitats and number and range of species present in LAP lands.	Improve condition of habitats and number and range of species present in LAP lands.	Fingal County Council / Inland Fisheries / NPWS. Two year basis.
Population & Human Health (PHH)	Provide for sustainable development that is protective of human health and well-being.	Number of people employed on LAP lands. Number of people cycling / walking to work in LAP lands.	Increase number of people employed on LAP lands. Increase percentage of people cycling / walking to work in LAP lands.	Fingal County Council / NTA. Two year basis.
Soils & Geology (SG)	Safeguard sensitive soil and geological resources.	Percentage of land outside of development footprint where original soil is retained on LAP lands. Extent of soil exported from the LAP lands	Maximise retention of original soil cover outside of development footprint. Minimise quantity of soil exported from LAP lands.	Fingal County Council. Two year basis.
Water (W)	Protect and where necessary improve and maintain water quality and the management of watercourses, groundwater and the marine environment, in compliance with the requirements of the WFD objectives and measures.	Status and quality of groundwater and surface water features relating to LAP lands. Water pollution incidences relating to LAP lands.	Improve status and quality of groundwater and surface water features. No water pollution incidents.	Fingal County Council / Inland Fisheries / EPA / OPW. Two year basis.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

Air & Noise (AN)	Minimise emissions of and adverse effects from air pollution and noise generation.	Air quality status. Incidents of noise and / or dust complaints / exceedances related to LAP lands.	Maintain / improve air quality status No incidents of noise / dust complaints / exceedances.	Fingal County Council / EPA. Two year basis.
Climate Change (CC)	Minimise contribution to Climate Change by adopting adaptation and mitigation measures.	Submission of Climate Action Energy Statements with applications for development on LAP lands. Submission of measures for Climate Adaptation and Mitigation with applications for development on LAP lands.	Enhance positive climate change / adaptation measures. Compliance with CO ₂ emission reduction targets.	Fingal County Council / EPA. Two year basis.
Material Assets (MA)	Make best use of existing infrastructure and promote the sustainable and timely development of new infrastructure to meet the needs of the county's and Swords population.	Status of critical infrastructure for energy, telecommunication, transport, waste, water and utilities on LAP lands.	Provide necessary critical infrastructure in a timely manner to support development of LAP lands.	Fingal County Council / NTA / Irish Water / Energy & Utility providers. Two year basis.
Cultural Heritage (CH)	Protect places, features, buildings and landscapes of cultural, archaeological and / or architectural heritage from impact as a result of development.	Status of features / landscapes / sites of cultural heritage significance.	Improve conservation status and education of and presentation of features / landscapes / sites of cultural heritage significance.	Fingal County Council. Two year basis.
Landscape (L)	Protect and maintain the special qualities of the landscape and visual character of the county, including its coastal character.	Status of character and quality of the landscape and its key features including visual character. Architectural / visual quality of new buildings / developments.	Enhance character and quality of the landscape and its features. High quality buildings and developments including	Fingal County Council. Two year basis.

Lissenhall East Draft Local Area Plan 2022

Strategic Environmental Assessment (SEA) Environmental Report

			quality of finish and workmanship.	
Interrelationships	Maintain and improve the health of people, ecosystems and natural processes. Actively integrate opportunities for cultural, environmental and social enhancement.	Blue and Green Infrastructure measures implemented over lifetime of local area plan.	Increase network of blue and green infrastructure achieved over lifetime of the local area plan.	Fingal County Council. Two year basis.

11.0 References

- Council Directive Habitats Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.*
- Environment Director General of the European Commission (2003). *Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment.*
- Environmental Protection Agency (2022a). *SEA of Local Authority Land-Use Plans – EPA Recommendations and Resources.*
- Environmental Protection Agency (2022b). *Spatial Information Resources Inventory.*
- Environmental Protection Agency (2022c). *SEA Pack.*
- Environmental Protection Agency (2020). *Ireland’s Environment – An Integrated Assessment 2020.*
- Environmental Protection Agency (2015). *Strategic Environmental Assessment Resource Manual for Planning Authorities – Integration of SEA Legislation with Procedures for Land Use Plans.*
- Environmental Protection Agency (2013a). *Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland (2001-DS-EEP-2/5) Synthesis Report*
- Environmental Protection Agency (2008). *SEA Process Checklist [Consultation Draft 18th January 2008]. European Parliament and Council Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.*
- Fingal County Council (2017). *Fingal Development Plan 2017 – 2023.*
- Fingal County Council (2022). *Draft Fingal Development Plan 2023 – 2029.*
- Fossitt, J.A. (2000). *A Guide to Habitats in Ireland.* The Heritage Council: Kilkenny.
- Geological Survey Ireland (2022). *Data and Maps.*
- Government of Ireland (2018). *Project Ireland 2040 – National Planning Framework.*
- Government of Ireland (2004). *Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities.*
- Inland Fisheries Ireland (2020) *Planning for Watercourses in the Urban Environment.*
- Inland Fisheries Ireland (2016) *Guidelines on Protection of Fisheries during construction works in and adjacent to Waters.*
- NPWS (2017). *Site Synopsis: Malahide Estuary SAC (000205).*
- NPWS (2013). *Conservation Objectives Series: Malahide Estuary SAC (000205).*
- NPWS (2013). *Site Synopsis: Malahide Estuary SPA (004025).*
- NPWS (2013). *Conservation Objectives Series: Malahide Estuary SPA (004025).*
- OPW (2009). *The Planning System and Flood Risk Management – Guidelines for Planning Authorities. Planning and Development Act 2000, as amended. Planning and Development Regulations 2001, as amended.*
- Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436/2004).*
- Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2004 (S.I. 201/2011).*

Brady Shipman Martin

DUBLIN

Mountpleasant Business Centre,
Mountpleasant Avenue Upper,
Ranelagh,
Dublin D06 X7P8
+353 1 208 1900

CORK

Penrose Wharf Business Centre
Penrose Wharf
Cork
+353 21 242 5620

LIMERICK

11 The Crescent
Limerick
+353 61 315 127

mail@bradyshipmanmartin.com
www.bradyshipmanmartin.com

Appendices

Page left intentionally blank

