



# Oranmore Local Area Plan 2012 – 2018

## Natura Impact Report

Updated November 2012

## Summary

In April 2012 Galway County Council published a draft Oranmore Local Area Plan (LAP). The purpose of this Plan is to provide direction for the future growth, development and land use of the town of Oranmore from 2012 to 2018. The draft Plan included land use zonings that aim to direct appropriate development to relevant zonings within the lifetime of the Plan.

As part of the preparation of the draft LAP a Habitat Directive Assessment was undertaken. Initially a Stage 1 Screening Assessment was undertaken to evaluate whether or not the implementation of the plan without mitigation, was likely to result in significant effects to European Sites.

As part of this process all European Sites occurring within a 15km radius of the Plan area were identified. Once identified an assessment was undertaken to determine which of these Sites were located within the sphere of influence of the draft LAP. This was based upon identifying impact pathways linking the LAP to qualifying features of the European Sites. In total 13 European Sites were identified as occurring within a 15km radius of the LAP area and four of these (i.e. Galway Bay SAC; Inner Galway Bay SPA; Greganna Marsh SPA; and Rahasane Turlough SPA) were identified as occurring within the sphere of influence of the Plan. Once the European Sites occurring within the Plan's sphere of influence were identified the remainder of the Screening Assessment focused on establishing, in detail, how the Plan could potentially affect the qualifying features and conservation status of these four European Sites.

The principal impacts identified include perturbations to the water quality of surface and groundwater and disturbance of key qualifying species as a result of development and human activity in the vicinity of Galway Bay and particularly Greganna Marsh SPA.

The Screening Assessment concluded that, without mitigation, these potential impacts would have the potential to result in likely significant effects to the integrity and conservation status of European Sites.

The Stage 2 Appropriate Assessment followed on from the Screening Assessment by identifying which specific Policies and Objectives were likely to result in the types of negative impacts outlined in the Screening Assessments. Subsequent to this, other Policies and Objectives of the Plan whose function is to ensure that likely significant effects to the environment are avoided were outlined. These are referred to as Mitigatory Policies and Objectives and their presence in the draft LAP from the outset underpinned the precautionary approach that sought to avoid significant environmental effects during the development of the draft Plan. These mitigatory policies and objectives were reviewed to identify any gaps in the Plan where insufficient environmental safeguards were associated with potentially negative policies and objectives. Once reviewed, recommendations were made for the inclusion of further environmental safeguards within the Plan. These safeguards included recommended re-wording of existing mitigatory policies/objectives to further strengthen their protective environmental role or the recommendation of additional mitigatory measures in the form of new policies or objectives. Furthermore, recommendations were also made to re-word potentially negative policies and objectives so that their implementation would be subject to suitable environmental safeguards.

Upon completion of the draft Plan and supporting environmental assessments the Plan was put on public display in April 2012. Following the period of public display submissions were received from statutory consultees, private organisations and the general public. The issues raised during the submissions were considered and where appropriate recommended changes to the draft Plan and the NIR were outlined.

Following the review of submissions and the completion of the Manager's Report, Material Alterations to the draft Plan were proposed by Galway County Council. The Material Alterations were Screened for likely significant effects to the conservation status of European Sites. The Screening Assessment of the Material Alterations is provided in Appendix 5 of this report.

The results of the Habitats Directive Assessment of the Material Alterations and the final Oranmore LAP concluded that the Plan will not result in likely significant effects to the conservation status of European Sites. Galway County Council's approach to land use in the Plan area, its commitment to the Habitats Directive and a range of mitigatory policies and objectives which form an integral part of the Plan provide sufficient environmental safeguards to ensure that the implementation of the adopted Oranmore LAP will not result in likely significant effects to European Sites or the environment in general.

## Table of Contents

<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>1.1</b>	<b>HABITATS DIRECTIVE ASSESSMENT</b>	<b>1</b>
<b>1.2</b>	<b>STAGES OF THE HABITATS DIRECTIVE ASSESSMENT</b>	<b>2</b>
<b>2</b>	<b>SCREENING METHODOLOGY</b>	<b>3</b>
<b>2.1</b>	<b>INTRODUCTION</b>	<b>3</b>
<b>2.2</b>	<b>CONSULTATION &amp; REVIEW</b>	<b>4</b>
<b>3</b>	<b>ORANMORE LAP &amp; NATURA 2000 BASELINE</b>	<b>4</b>
<b>3.1</b>	<b>SUMMARY DESCRIPTION OF ORANMORE LAP</b>	<b>4</b>
<b>3.2</b>	<b>ORANMORE LAP AND NATURE CONSERVATION MANAGEMENT</b>	<b>5</b>
<b>3.3</b>	<b>SUMMARY OF ELEMENTS OF THE ORANMORE LAP THAT COULD NEGATIVELY AFFECT NATURA 2000 SITE</b>	<b>5</b>
<b>3.4</b>	<b>NATURA 2000 SITES OCCURRING WITHIN A 15KM BUFFER OF THE ORANMORE LAP</b>	<b>6</b>
<b>3.5</b>	<b>CONSERVATION MANAGEMENT OBJECTIVES FOR NATURA 2000 SITES</b>	<b>7</b>
<b>4</b>	<b>LIKELY SIGNIFICANT EFFECTS TO NATURA 2000 SITES</b>	<b>7</b>
<b>4.1</b>	<b>ASSESSMENT OF EFFECTS</b>	<b>15</b>
<b>5</b>	<b>STAGE 2 – APPROPRIATE ASSESSMENT</b>	<b>24</b>
<b>5.1</b>	<b>DETAILED DESCRIPTION OF NATURA 2000 SITES AND THE PLAN ZONINGS</b>	<b>24</b>
<b>5.1.1</b>	<b>GALWAY BAY NATURA 2000 SITES</b>	<b>24</b>
<b>5.1.2</b>	<b>CREGGANNA MARSH SPA</b>	<b>25</b>
<b>5.1.3</b>	<b>RAHASANE TURLOUGH</b>	<b>26</b>
<b>5.2</b>	<b>HABITATS OF UNDEVELOPED LANDS AFFECTED BY PLAN POLICIES AND OBJECTIVES</b>	<b>26</b>
<b>5.2.1</b>	<b>DEVELOPMENT LAND USE ZONINGS</b>	<b>26</b>
<b>5.3</b>	<b>POTENTIAL IMPACTS OF POLICIES AND OBJECTIVES</b>	<b>31</b>
<b>5.3.1</b>	<b>WATER QUALITY IMPACTS</b>	<b>32</b>
<b>5.3.2</b>	<b>IMPACTS TO KARST FEATURES</b>	<b>32</b>
<b>5.3.3</b>	<b>DISTURBANCE IMPACTS TO QUALIFYING SPECIES</b>	<b>32</b>
<b>5.3.4</b>	<b>AIR EMISSIONS</b>	<b>33</b>
<b>5.4</b>	<b>MITIGATION MEASURES</b>	<b>33</b>
<b>5.4.1</b>	<b>MITIGATORY POLICIES AND OBJECTIVES IN THE PLAN</b>	<b>34</b>
<b>5.4.2</b>	<b>ADDITIONAL MITIGATION MEASURES</b>	<b>63</b>
<b>6</b>	<b>NATURA IMPACT REPORT CONCLUSION</b>	<b>64</b>
<b>7</b>	<b>REFERENCES</b>	<b>66</b>

**APPENDIX 1: NATURA 2000 SITES MAPS**

**APPENDIX 2: INTERACTION BETWEEN PLAN POLICES AND OBJECTIVES AND NATURA 2000 SITES** **72**

**APPENDIX 3: BRIEF DESCRIPTION OF NATURA 2000 SITES** **117**

**APPENDIX 4: UNDEVELOPED LANDS ZONED FOR FUTURE DEVELOPMENT** **136**

**APPENDIX 5: SCREENING STATEMENT OF MATERIAL AMENDMENTS TO THE DRAFT ORANMORE LOCAL AREA PLAN** **142**

**8 ADDENDUM SCREENING REPORT ON PROPOSED MATERIAL ALTERATIONS TO THE DRAFT ORANMORE LOCAL AREA PLAN 2012 -2018.** **143**

**8.1 1.1 INTRODUCTION** **143**

8.1.1 3.6.1 CONTEXT 162

**8.2 2.2 SCREENING CONCLUSION** **168**

# 1 Introduction

Minogue & Associates & Doherty Environmental have been appointed by Galway County Council to undertake a Strategic Environmental Assessment and Habitats Directive Assessment of the Oranmore Local Area Plan (LAP). This Habitats Directive Assessment (HDA) has been undertaken in conjunction with the Strategic Environmental Assessment (SEA) of the LAP and should be read in combination with the LAP and the associated SEA.

The purpose of this Habitats Directive Assessment is to assess whether the Oranmore LAP has the potential to result in likely significant effects to the integrity and conservation status of Natura 2000 Sites.

## 1.1 Habitats Directive Assessment

The Habitats Directive Assessment is an assessment of the potential effects of a land use plan or project on one or more Natura 2000 (N2K) Sites. It is noted that a Habitats Directive Assessment is commonly referred to as an “Appropriate Assessment” (Dodd *et al*, 2007). However “Appropriate Assessment” forms only one stage of the HDA process (all stages making up the assessment process are outlined in detail below). The EU Habitats Directive provides the legislative framework for the protection of habitats and species throughout Europe through the establishment of a network of designated conservation areas known as the N2K network. The N2K network includes sites designated as Special Areas of Conservation (cSACs), under the EU Habitats Directive and Special Protection Areas (SPAs) designated under the EU Birds Directive. cSACs are designated in areas that support habitats listed on Annex I and/or species listed on Annex II of the Habitats Directive. SPAs are designated in areas that support: 1% or more of the all-Ireland population of bird species listed on Annex I of the EU Birds Directive; 1% or more of the population of a migratory species; and more than 20,000 waterfowl.

Articles 6(1) & (2) of the Habitats Directive set out provisions for the conservation management of N2K sites. Articles 6(3) and 6(4) of this Directive set out a series of procedural steps to test whether or not a plan or project is likely to affect an N2K site. Article 6(3) also establishes the requirement for a HDA: *“any plan or project not directly connected with or necessary to the management of the (Natura 2000) site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”*.

Therefore, the objective of this HDA is to conclude whether or not the Oranmore LAP will adversely affect the integrity of N2K Sites. Such a conclusion will be arrived at by assessing the implications of the LAP for each N2K site’s “qualifying interests” (i.e. those Annex I habitats, Annex II species, and Annex I bird species and populations for which the Site has been designated).

The HDA is underpinned by the precautionary principle. Therefore, if the risk of adverse impacts to the conservation objectives of a N2K cannot be ruled out it is assumed that an adverse impact may exist. Where such uncertainties are identified during the assessment, measures will be proposed to avoid or mitigate the risk of adverse impacts occurring.

The HDA was undertaken with reference to the following guidance documents on Habitats Directive Assessments:

- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (2009). DEHLG.
- Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats directive 92/43/EEC. European commission (2000). (To be referred to as MN 2000).
- Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats directive 92/43/EEC. European Commission (2001). (To be referred to as the APP Guidelines).
- Guidance on Article 6(4) of the Habitats Directive 92/43/EEC – Clarification of the Concepts of: Alternative Solutions, Imperative reasons of Overriding Public Interest, Compensatory Measures, Overall coherence, Opinion of the Commission. European Commission (2007).
- Appropriate Assessment of Plans. Scott Wilson, Levett-Therivel sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants (2006).
- Department of the Environment Heritage and Local Government (DEHGL) Circular Letter SEA 1/08 & NPWS 1/08 dated 15 February 2008.

## **1.2 Stages of the Habitats Directive Assessment**

The APP Guidance has outlined a staged process for the completion of a HDA.

- Stage 1 – Screening: This stage defines the proposed plan, establishes whether the proposed plan is necessary for the conservation management of the Natura 2000 site and assesses the likelihood of the plan to have a significant effect, alone or in combination with other plans or projects, upon a Natura 2000 site.
- Stage 2 – Appropriate Assessment: If a plan or project is likely to have a significant effect an Appropriate Assessment must be undertaken. In this stage the impact of the plan or project to the Conservation Objectives of the Natura 2000 site is assessed. The outcome of this assessment will establish whether the plan will have an adverse effect upon the integrity of the Natura 2000 site.
- Stage 3 – Assessment of Alternative Solutions: If it is concluded that, subsequent to the implementation of mitigation measures, a plan has an adverse impact upon the integrity of a Natura 2000 site it must be objectively concluded that no alternative solutions exist before the plan can proceed.

- the Stage 4 – Where no alternative solutions exist and where adverse impacts remain but imperative reasons of overriding public interest (IROPI) exist for the implementation of a plan or project an assessment of compensatory measures that will effectively offset the damage to the Natura site 2000 will be necessary.

The remainder of this document sets out the Methodology and Results of the Stage 1 Screening Assessment and Stage 2 Appropriate Assessment of the Plan. It is structured as follows:

- Section 2: Habitats Directive Assessment Methodology;
- Section 3: Oranmore LAP & N2K Baseline;
- Section 4: outlines the Likely Significant Effects to Natura 2000 Sites;
- Section 5: Stage 2 Appropriate Assessment of the Plan; and
- Section 6: Natura Impact Report Conclusion

## 2 Screening Methodology

### 2.1 Introduction

The function of the Screening Assessment is to identify whether or not policies associated with the LAP will have a likely significant effect on N2K sites. In this context “likely” means any effect that may be reasonably predicted and “significant” means not trivial or inconsequential but an effect that is potentially relevant to the Site’s conservation objectives<sup>1</sup>. Any effect, which would compromise the functioning and viability of a Site and interfere with achieving the conservation objectives of the Site would constitute a significant effect.

The nature of the likely interactions between the LAP and the integrity of N2K Sites will depend upon the sensitivity of the Site’s qualifying features to potential impacts associated with LAP policies; the current conservation status of the Site; and the likely changes that will result from the implementation of the LAP, in combination with other plans and projects.

The APP Guidelines (2001) outline the stages involved in undertaking a Screening assessment of a plan or project that has the potential to have likely significant effects on N2K Sites. The methodology adopted for the Screening assessment of this LAP is informed by these guidelines and was undertaken in the following stages:

1. Define the LAP and determine whether it is necessary for the conservation management of Natura 2000 Sites;
2. Identification of Natura 2000 Sites occurring within the sphere of influence of the LAP;

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<sup>1</sup> See English Nature’s Habitat Regulations Guidance Note No. 3, 1999.



3. Review the policies and objectives within the LAP to determine which have the potential to affect N2K Sites and determine whether the N2K Sites are vulnerable to the effects. A Source-Pathway-Receiver model of assessment will be used to determine whether or not Policies/Objectives with the potential to result in negative impacts will affect Natura 2000 Sites; and
4. Identification of other plans or projects that, in combination with the policies and proposals of the LAP, have the potential to affect N2K Sites;

## **2.2 Consultation & Review**

Initial scoping consultation was undertaken on the Strategic Environmental Assessment to the Department of the Arts, Heritage & Local Government, the Environmental Protection Agency and the Department of Communications, Marine and Natural Resources during the development of the Oranmore LAP and the SEA. Comments, where received, on the HDA through this process were integrated and considered in the NIR.

The development of the Oranmore Local Area Plan is an iterative process, and similarly, the Habitats Directive Assessment is an iterative process, and assessed the Plan at pre-draft, draft and final stages. All statutory and non-statutory consultees were afforded the opportunity to review the LAP, SEA and HDA at all pre-draft and draft stages prior to the adoption of the Plan. As a result of the consultation process and specific comment made in reference to the LAP and HDA changes were made to these documents.

Any changes made to the draft LAP were listed as Material Alterations to the draft Plan. All Material Alterations to the draft Plan under-went a Habitats Directive Stage 1 Screening Assessment. The details and results of this Screening Assessment are provided in Appendix 5.

Changes have also been made to this HDA as a result of submissions received during the consultation process. These changes relate, in the main to additional information outlining in detail to likely affects to qualifying features of the various potential impacts associated with the implementation of the adopted Plan.

## **3 Oranmore LAP & Natura 2000 Baseline**

### **3.1 Summary Description of Oranmore LAP**

The Oranmore LAP aims to provide a statutory framework for the future growth, development and improvement of Oranmore that is consistent with the policies and objectives contained in *the Galway County Development Plan (GCDP) 2009-2015* including its *Core Strategy/Settlement Strategy* and which addresses the needs and requirements of the local community, service providers and other stakeholders.

The purpose of the Local Area Plan is to guide future development within the town of Oranmore, in a sustainable and equitable manner and to inform members of the public, the local community, stakeholders, developers and the Planning Authority regarding policies and objectives for the

development of the town, including provisions in relation to land use management, community facilities and amenities, transport and infrastructure, urban design, heritage and the environment.

The overall strategic vision for Oranmore as set out in the LAP aims “to promote Oranmore as a sustainable, self-sufficient and vibrant town, which maintains its unique, attractive character, capitalises on its accessibility strengths - in particular rail, while offering a pleasant environment for a growing community, for living, shopping, business, recreation and tourism, balanced against the need to safeguard and enhance the environmental sensitivities of the area, for present and future generations to come.”

### **3.2 Oranmore LAP and Nature Conservation Management**

The Plan sets out an overall strategy for the proper planning and sustainable development of Oranmore. It is clear from this definition of the Plan that it is not necessary for the management of any Natura 2000 Site for nature conservation purposes. Therefore consideration was given to the Plan and whether it was likely to have a significant effect on N2K Sites and if so what the implications would be to the Conservation Objectives for these Sites.

### **3.3 Summary of Elements of the Oranmore LAP that Could Negatively Affect Natura 2000 Sites**

The elements of the Plan that have the potential to negatively affect Natura 2000 Sites are outlined in full in Appendix 2 of this NIR. The main elements of the Plan with the potential to result in such impacts relate to the zoning of development land-use in undeveloped sites within the vicinity of Natura 2000 Sites and Specific Objectives such as the development of recreational infrastructure in potentially sensitive coastal/riparian locations adjacent to or connected to Natura 2000 Sites.

The zoning of particular parcels of undeveloped land for residential development in Oranhill and Moneyduff to the south of the Plan area and the Business and Technology zoning in the northeast of the Plan area represent the most significant risks to Natura 2000 Sites.

Residential zonings in Oranhill and Moneyduff are located immediately adjacent to an area of alkaline and calcareous fen, the latter a priority habitat of the Galway Bay Complex cSAC and the Cregganna Marsh SPA. Specific parcels of zoned residential land in this area are situated on elevated terrain that overlooks the Cregganna Marsh SPA. Existing residential developments occur in this area and further development will lead to increased human densities. Pressures associated with increased housing and human presence in this area may be manifested in a variety of ways through direct disturbance of qualifying habitats (e.g. trampling in fen areas) and species (eg disturbance of grazing Greenland White-fronted Geese of the Cregganna Marsh SPA) or indirectly by interfering with groundwater, springs and surface watercourses. It is noted that any disturbance to geese at Cregganna and the deterioration of the foraging habitat at this location are likely to have negative implications for the geese population at Rahasane Turlough SPA. This is due to the fact that the geese population using Cregganna Marsh is derived from a “parent” population located at Rahasane Turlough.

The Business and Technology zoning to the northeast of the Plan area is located immediately adjacent to another sensitive area of the Galway Bay Complex cSAC, which supports alkaline and calcareous fen habitats. Surface watercourses are also located adjacent to this area.

The general impacts to the qualifying interests of Natura 2000 Sites associated with elements of the Plan will include:

- A reduction in water quality in groundwater, springs and watercourses associated with the construction phase of new developments.
- Surface water runoff from impermeable surfaces leading to reduced water quality in groundwater, springs or surface waters affecting qualifying habitats and species downstream.
- Changes in the flow rate of watercourses arising from an increased footprint of impermeable surfaces within the Plan area. Increasing the extent of impermeable surfaces will result in a decrease in infiltration and an increase in runoff.
- Inadequate wastewater treatment resulting in pollution of groundwater, springs or surface watercourses.
- Disturbance to qualifying habitats and species from encroaching development and increased human presence.
- Physical disturbance to karst formations resulting in impacts to groundwater dependent habitats downstream or within the vicinity of karst formations.

In addition to the above, Specific Objectives to support the development of a coastal walkway will have the potential to disturb qualifying bird species of the Inner Galway Bay SPA.

Section 3.4 below lists the Natura 2000 Sites occurring within or surrounding the Plan area and identifies which Natura 2000 Sites are at risk of experiencing likely significant effects as a result of the Plan.

### **3.4 Natura 2000 Sites occurring within a 15km Buffer of the Oranmore LAP**

In order to identify the Natura 2000 Sites that could be significantly affected by the implementation of the Oranmore LAP an initial long-list of sites occurring within 15km of the LAP area (to be referred to as the study area) has been compiled. The establishment of a 15km buffer area surrounding the LAP area is in line with recommended procedures for identifying sites, as outlined in Scott Wilson *et al.* (2006).

A total number of 13 Natura 2000 Sites, 9 SACs and 4 SPAs, were identified within the 15km buffer area surrounding the LAP boundary (see Appendix 1: Figures 1 and 2). *Appendix 3* provides a brief description of these sites with regard to the following elements:

- Qualifying interests;
- Site sensitivity/vulnerability;
- Current Conservation Status; and
- Threats.

The qualifying interests are the features for which the site has been designated as an N2K Site under the EU Habitats and Birds Directives.

Site sensitivity/vulnerability is based on the sensitivities of the qualifying interests for which the site is designated. For instance Galway Bay Complex cSAC has been designated for the presence of saltmarshes, among other habitats. This habitat is dependent on saltwater influences and appropriate grazing regimes and is highly sensitive to changes in the concentration of freshwater/saltwater or changes in livestock grazing regimes.

As conservation management plans have not been published for the majority of these Natura 2000 Sites the known threats described in Appendix 3 were sourced from a review of the NPWS Article 17 Report to the European Commission “Status of EU Protected Habitats and Species in Ireland” (NPWS, 2008). However, this report assesses the conservation status and associated threats to Annex-listed habitats and species on a countrywide basis, and therefore, the status and threats to specific sites in the study area were not available at the time of writing. There is no similar information collated for SPAs.

### **3.5 Conservation Management Objectives for Natura 2000 Sites**

At the time of writing specific Conservation Management Plans were unavailable for all Natura 2000 sites listed in Appendix 3. For sites lacking a published Plan, a list of generic conservation management objectives (CMOs) have been provided by the NPWS. These are:

*For SACs*

- To maintain the Annex I habitats for which the SAC has been selected at favourable conservation status;
- To maintain the Annex II species for which the SAC has been selected at favourable conservation status;
- To maintain the extent, species richness and biodiversity of the entire site; and
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

*For SPAs*

- To maintain the bird species of special conservation interest, for which the SPA has been designated, at favourable conservation status.

Since the conservation management objectives for the N2K sites focus on maintaining the favourable conservation status of the qualifying interests of each site, the Screening process concentrated on assessing the potential implications of the Plan against the qualifying interests of each site.

## **4 Likely Significant Effects to Natura 2000 Sites**

*Table 4.1* provides an assessment of the Plans influence on each site listed in Appendix 3 and determines which Sites are at risk of experiencing negative impacts as a result of implementing the Oranmore LAP.

As outlined in Section 2.1 a Source-Pathway-Receiver model was used to determine which N2K Sites are at risk of being negatively impacted by the Plan. In this model the Source represents the Policies/Objectives with the potential to result in negative impacts. The pathway represents the process by which such impacts might negatively affect the Receiver i.e. Natura 2000 Sites.

The types of Pathways that will link Sources to Receivers are divided into two categories:

1. Direct Impacts; and
2. Indirect Impacts.

Direct Impacts are impacts which occur within or immediately adjacent to Natura 2000 Sites and result in the:

- Physical loss of Qualifying Interests through habitat loss, habitat fragmentation, species disturbance or mortality; and
- Physical damage to Qualifying Interests through habitat degradation, habitat fragmentation, severance/barrier effects and edge effects.

As three Natura 2000 Sites occur within or immediately adjacent to the Plan area, the land-use measures proposed in the Plan will have the potential to directly impact these Sites. Therefore these Sites (identified in Table 4.1 below) are brought forward for Stage 2 Appropriate Assessment.

Indirect Impacts are impacts which occur as result of direct impacts, the interaction of effects or off-site from a project/ land use zoning area. Examples of indirect impacts include the effects of displaced species on the occupancy of alternative habitats; the effects of habitat degradation on species; the downstream effects of reduced water quality on riparian, lotic or transitional habitats.

Indirect impact pathways include:

- Physical proximity
- Hydrological linkages
- Mobile species linkages
- Aerial deposition

The potential for Oranmore LAP to indirectly influence or impact other Natura 2000 Sites will depend on whether these pathways link impact sources (i.e. policies/objectives) with the receiver (i.e. Natura 2000 Sites).

Where no such impact pathways link policies/objectives and Natura 2000 Sites then it is concluded that the Natura 2000 Sites do not occur within the sphere of influence of the Oranmore LAP and are not considered further.

**Table 4-1: Natura 2000 Sites within 15km of the Oranmore LAP Boundary and Assessment of Likely Significant Effects**

Natura 2000 Site	Distance from Oranmore LAP	Direct Impacts	Indirect Impacts			Potential for Likely Significant Effect exists?
			Hydrological Impacts	Aerial Impacts	Disturbance	
000268 - Galway Bay Complex cSAC	0km. Within plan area.	Yes. Policies and Objectives of the Plan will have the potential to result in direct impacts to this cSAC	Yes. Policies and Objectives of the Plan will have the potential to affect the water quality of watercourses flowing through the LAP area. Reductions in water quality could result in indirect impacts to qualifying interests of the coastal and transitional zone downstream.	Yes. Developments resulting from Policies and Objectives of the Plan could have the potential to result in the deposition of aerial contaminant with the potential to affect qualifying interests in the surrounding area.	Yes. Developments resulting from Policies and Objectives of the Plan will have the potential to result in indirect disturbance to qualifying interests of this cSAC.	Yes
004031 - Inner Galway Bay SPA	0km. Within plan area	Yes. Policies and Objectives of the Plan will have the potential to result in direct impacts to this SPA	Yes. Policies and Objectives of the Plan will have the potential to affect the water quality of watercourses flowing through the LAP area. Reductions in water quality could result in indirect impacts to qualifying	Yes. Developments resulting from Policies and Objectives of the Plan could have the potential to result in the deposition of aerial contaminant with the potential to affect qualifying interests in the surrounding area.	Yes. Developments resulting from Policies and Objectives of the Plan will have the potential to result in indirect disturbance to qualifying interests of this SPA	Yes

			interests associated with the coastal and transitional zone downstream.			
004142 – Cregganna Marsh SPA	0km Within plan area	Yes. Policies and Objectives of the Plan which target development land use in the Oranhill area will have the potential to result in indirect disturbances to this qualifying species of this SPA.	Yes. Policies and Objectives of the Plan will have the potential to affect the water quality of watercourses and groundwater flowing through the LAP area. Reductions in water quality could result in indirect impacts to qualifying interests associated with the coastal and transitional zone downstream.	Yes. Developments resulting from Policies and Objectives of the Plan could have the potential to result in the deposition of aerial contaminant with the potential to affect qualifying interests in the surrounding area.	Yes. Policies and Objectives of the Plan which target development land use in the Oranhill area will have the potential to result in indirect disturbances to this qualifying species of this SPA.	Yes
000297 – Lough Corrib cSAC	5.6km	No. This cSAC is located 5.6km to the north of the Plan and will not be directly impacted by the policies and objectives of the Plan	No impacts. There are no hydrological linkages between this cSAC and the LAP boundary.	No impacts. Any significant effects associated with aerial emissions arising from industrial development, increase traffic etc. within the Plan area will be restricted to the local area surrounding the Plan area and will not affect this Site located 5.6km to the	No impacts. This site is located at a remote distance from the LAP area where Policies and Objectives of the Plan will not result in negative impacts to qualifying species.  Indirect impacts associated with the potential	No

				north.	displacement of qualifying species (i.e. freshwater fish and otters) from the Plan area to this cSAC will not result in significant impacts to the alternative habitats in this SAC or adverse impacts between existing and displaced populations.	
004042 – Lough Corrib SPA	8.3m	No. This SPA is located 8.3km to the north of the Plan and will not be directly impacted by the proposed development	No impacts. There are no hydrological linkages between this SPA and the LAP boundary.	No impacts. Any significant effects associated with aerial emissions arising from industrial development, increase traffic etc. within the Plan area will be restricted to the local area surrounding the Plan area and will not affect this Site located 8.3km to the north.	No impacts. This site is located at a remote distance from the LAP area where Policies and Objectives of the Plan will not result in negative impacts to qualifying species.  Indirect impacts associated with the potential displacement of qualifying bird species from the Plan area to this SPA will not result in likely significant impacts to alternative habitats in this cSAC or adverse impacts between existing and	No



					displaced bird populations.	
000606 - Lough Fingall Complex cSAC	6.3km	No. This cSAC is located 6.3km to the south, southeast of the Plan and will not be directly impacted by the proposed development	No Impacts. There are no hydrological linkages between this cSAC and the LAP boundary.	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs to qualifying species.	No
000322 - Rahasane Turlough cSAC	8.2km	No. This cSAC is located 8.2 km to the southeast of the Plan and will not be directly impacted by the proposed development.	No Impacts. There are no hydrological linkages between this cSAC and the LAP boundary.	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs to qualifying species.	No
004089 - Rahasane Turlough SPA	8.2km	No. This SPA is located 8.2km to the southeast of the Plan and will not be directly impacted by the proposed development. However, Greenland White fronted geese from the Rahasane	No Impacts. There are no hydrological linkages between this SPA and the LAP boundary.	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs	Yes. Populations of Greenland White-fronted Geese associated with the Cregganna Marsh SPA are derived from Rahasane Turlough. Any negative disturbance to populations of this species at Cregganna will have the potential	Yes

		Turlough flock also use Cregganna Marsh so there may be indirect impacts should adverse effects arise in the Cregganna Marsh SPA from the LAP.			to have consequent effects on the Rahasane Turlough populations.	
000242 - Castletaylor Complex cSAC	8.8km	No. This cSAC is located 8.8 km to the southeast of the Plan and will not be directly impacted by the proposed development	No Impacts. There are no hydrological linkages between this cSAC and the LAP boundary.	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs to qualifying species.	No
001285 - Kiltiernan Turlough cSAC	8.9km	No. This cSAC is located 8.9km to the south, southeast of the Plan and will not be directly impacted by the proposed development	No Impacts. There are no hydrological linkages between this cSAC and the LAP boundary.	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs to qualifying species.	No
002244 - Ardrahan Grassland cSAC	10km	No. This cSAC is located 10km to the south, southeast of the Plan and will not	No Impacts. There are no hydrological linkages between this cSAC and the LAP	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result	No

		be directly impacted by the proposed development	boundary.	in LSEs	in LSEs to qualifying species.	
001926 – East Burren Complex cSAC	13.6km	No. This cSAC is located 13.6km to the south, of the Plan and will not be directly impacted by the proposed development	No Impacts. There are no hydrological linkages between this cSAC and the LAP boundary.	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs to qualifying species.	No
002294 – Cahermore Turlough	14.4km	No. This cSAC is located 14.4km to the south, of the Plan and will not be directly impacted by the proposed development	No Impacts. There are no hydrological linkages between this cSAC and the LAP boundary.	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs	No Impacts. This site is located at a remote distance from the LAP area where such impacts will not result in LSEs to qualifying species.	No

As outlined in Table 4.1 four Natura 2000 Sites are at risk of experiencing likely significant effects. The Galway Bay Complex cSAC, the Inner Galway Bay SPA (to be referred to as the Galway Bay Natura 2000 Sites), the Cregganna Marsh SPA and Rahasane Turlough SPA represent the Natura 2000 Sites that are at risk of being negatively impacted by the Oranmore LAP. Appendix 1: Figure 3 shows the relationship between these Natura 2000 Sites and the Plan area. Section 4.1 below presents a description of these risks following the Assessment Criteria outlined in the APP Guidelines (2002). Both direct and indirect impacts will have the potential to result in likely significant effects to these Natura 2000 Sites.

No Natura 2000 Sites occurring outside the Plan area are considered to be at risk of experiencing likely significant effects from the implementation of the policies/objectives of the Plan. It is noted that Oranmore receives its water supply from the Tuam Regional Water Supply Scheme, which sources its water from Lough Corrib. However a recent Habitats Directive Assessment of the Tuam Local Area Plan concluded that the Tuam Regional Water Supply Scheme is operating at sustainable water abstraction yields and future abstractions to satisfy the needs of the supply scheme area, including Oranmore, will not negatively affect Lough Corrib cSAC.

Policy IS1 and IS2 of the Galway CDP set out water supply policies for Galway County. Policy IS1 seeks to augment the Tuam RWWS and extend the public supply network while Policy IS2 disposes Galway County Council to the consideration of additional abstraction from the Lough Corrib to supply an extended water supply network.

With regard to Policy IS1 of the CDP and the water abstraction policies and objectives of the LAP it is considered within the Tuam LAP Appropriate Assessment and the CDP Appropriate Assessment that water supply derived from the Luimnagh Water Treatment Plant is operating within sustainable yields and is therefore not resulting in likely significant impacts to Lough Corrib and the qualifying interests supported by it.

Policy IS2 of the Galway CDP was identified in the Appropriate Assessment of the CDP as a Policy that will require detailed assessment of subsidiary plans or proposals to ensure no adverse effects on Critical Environmental Conditions required to sustain the Favorable Status of Qualifying Interests. Any additional water abstractions from Lough Corrib to service future development will require a Habitats Directive Assessment in advance of any additional abstractions. As detailed plans for future changes to abstraction rates are not outlined in the LAP the potential effects of such abstractions cannot be assessed at this stage. Policies and objectives of the LAP (i.e. Policy NH1 etc.) and CDP will ensure that any future plans or projects detailing proposals to increase abstraction from Lough Corrib will undergo Habitats Directive Assessment and will only take place where a risk of likely significant effects does not arise.

#### **4.1 Assessment of Effects**

**Describe the individual elements of the plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 Site.**

The elements of the plan that will have the potential to give rise to impacts to the Galway Bay Natura 2000 Sites, the Cregganna Marsh SPA and Rahasane Turlough SPA are evaluated in Table 4.2 below in line with the APP Guidelines (2002) assessment criteria.

The potential impacts identified in Table 4.2 are also outlined in Appendix 2 of this NIR where the potential impacts arising from specific Policies or Objectives are presented. With regard to potential impacts to Cregganna Marsh SPA and Rahasane SPA it is noted that as the populations of Greenland White-fronted Geese at both these sites are shared any potential impact to Cregganna Marsh SPA is likely to have ramifications for the overall population at Rahasane. This is due to the fact that the populations using Cregganna as a foraging site are derived from a “parent” population at Rahasane. Therefore in the assessment outlined in Table 4.2 any potential effects with the potential to negatively effect Cregganna Marsh will also have the potential to have associated impacts to the Rahasane Turlough population.

**Table 4-2: Assessment of Likely Significant Effects to the Galway Bay Complex cSAC & Inner Galway Bay SPA**

<b>Assessment Criteria</b>																																																		
<i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 sites by virtue of:</i>																																																		
Size and Scale	<p>The Oranmore Plan area is approximately 704.9ha in size. The undeveloped land zoned for future development within the LAP amounts to approximately 478ha. The following development zonings within the Plan contribute to this total:</p> <table border="1"> <thead> <tr> <th>Plan Zoning</th> <th>Zoning in Undeveloped Land (Ha) Approximate</th> <th>Total Zoned Land (developed &amp; undeveloped) (Ha)</th> </tr> </thead> <tbody> <tr> <td>R – Residential (Existing)</td> <td></td> <td>89.66</td> </tr> <tr> <td>R1 – Residential Phase 1</td> <td>33.97</td> <td>33.97</td> </tr> <tr> <td>R2 – Residential Phase 2</td> <td>18.09</td> <td>18.09</td> </tr> <tr> <td>C1 - Town centre/Commercial</td> <td>5.52</td> <td>11.77</td> </tr> <tr> <td>C2 - Commercial and Mixed Use</td> <td>2.33</td> <td>11.99</td> </tr> <tr> <td>BT - Business &amp; Technology</td> <td>78.58</td> <td>89.10</td> </tr> <tr> <td>BE - Business &amp; Enterprise</td> <td>1.09</td> <td>3.47</td> </tr> <tr> <td>I - Industrial</td> <td>27.2</td> <td>72.16</td> </tr> <tr> <td>CF - Community Facilities</td> <td>9.29</td> <td>16.94</td> </tr> <tr> <td>OS – Open space/Recreational &amp; Amenity</td> <td>57.06</td> <td>57.23</td> </tr> <tr> <td>EM – Environmental Management</td> <td>181.12</td> <td>181.7</td> </tr> <tr> <td>AG- Agriculture</td> <td>34.35</td> <td>35.6</td> </tr> <tr> <td>SR -Strategic Reserve</td> <td>30.25</td> <td>32.83</td> </tr> <tr> <td>TI – Transport and Infrastructure</td> <td></td> <td>50.39</td> </tr> <tr> <td><b>Total</b></td> <td><b>478.85</b></td> <td><b>704.9</b></td> </tr> </tbody> </table>		Plan Zoning	Zoning in Undeveloped Land (Ha) Approximate	Total Zoned Land (developed & undeveloped) (Ha)	R – Residential (Existing)		89.66	R1 – Residential Phase 1	33.97	33.97	R2 – Residential Phase 2	18.09	18.09	C1 - Town centre/Commercial	5.52	11.77	C2 - Commercial and Mixed Use	2.33	11.99	BT - Business & Technology	78.58	89.10	BE - Business & Enterprise	1.09	3.47	I - Industrial	27.2	72.16	CF - Community Facilities	9.29	16.94	OS – Open space/Recreational & Amenity	57.06	57.23	EM – Environmental Management	181.12	181.7	AG- Agriculture	34.35	35.6	SR -Strategic Reserve	30.25	32.83	TI – Transport and Infrastructure		50.39	<b>Total</b>	<b>478.85</b>	<b>704.9</b>
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Land-take	<p>The Oranmore LAP will not involve any land-take from lands included within the Galway Bay Natura 2000 Sites or the Cregganna Marsh SPA.</p>																																																	

<p>Distance from Natura 2000 sites or key features of the Plan area</p>	<p>Sections of the Galway Bay Complex cSAC, the Inner Galway Bay SPA and Cregganna Marsh SPA are located within the Oranmore Plan area.</p>
<p>Resource requirements</p>	<p>The Tuam Regional Water Supply Scheme (RWSS) services the Oranmore Plan area. Section 3.6.1 of the Oranmore LAP notes that water supply is not a limiting factor for the future development of Oranmore. Thus the LAP does not contain any Policies or Objectives facilitating or supporting the abstraction of additional raw water from Lough Corrib or any other suitable sources.</p> <p>The Tuam RWSS services a number of urban and rural catchment areas throughout Galway. The water supply for this scheme is currently supplied from Lough Corrib. The design capacity of the Luimnagh Water Treatment Plant is currently 48,000m<sup>3</sup>/day. The current demand placed on the RWSS is operating at a sustainable yield with a spare capacity of 10,000m<sup>3</sup>/day.</p> <p>It is noted that other Local Area Plans for urban centres supplied by the Tuam RWSS include Objectives to develop and expand the water supply systems for these towns in order to facilitate the supply of serviced lands for future developments.</p> <p>Similarly Objectives IS1 and IS2 of the Galway County Development Plan support the augmentation of the Tuam RWSS and the consideration of additional abstraction from Lough Corrib to service an extended water supply network.</p> <p>In addition Phase 3 of the Terryland Water Treatment Plant, which supplies Galway City with water, will assess the need for increased abstraction from the River Corrib, downstream of Lough Corrib.</p> <p>While abstraction rates under the Water Abstraction Order associated with Luimnagh Water Treatment Plant currently has a spare capacity of 10,000m<sup>3</sup>/day it is possible that the combined effect of any additional water abstraction from the Corrib system could result in a level of water drawdown (most likely during drought conditions) with the potential to adversely affect the conservation status of qualifying habitats or species supported by Lough Corrib SAC and SPA. It is noted that such a drawdown will not arise as a result of the implementation of the Oranmore LAP.</p> <p>Furthermore the potential risks posed by water abstraction to Lough Corrib</p>

has been recognized by the Corrib Water Management Unit which identified the Luimnagh Water Treatment Plant and associated abstractions as a potential pressure/risk to the Corrib system.

In order to ensure none of the above Plans and associated project-level proposals for water abstraction result in adverse impacts to the conservation status of the Corrib Natura 2000 Sites, either alone or in combination, a range of mitigatory policies and objectives has been set out in each LAP as well as the CDP. These Policies and Objectives set out requirements to undertake environmental and Habitats Directive Assessments of any plans or projects that may result in likely significant effects to the environment and Natura 2000 Sites. In addition to this other Policies and Objectives outlined in each Plan seek to maintain water quality and conserve aquatic habitats and species. A non-exhaustive list of the most pertinent examples of these mitigatory Policies and Objectives are:

*For Galway County Development Plan:*

Policy HL44, HL45, HL46, HL47, HL50, HL54, HL70, HL71 HL72, HL84, HL85

Objective HL26, HL42

*For Tuam Local Area Plan*

Policy WS4, NH5, NH14, NH17

Objective WS8, NH6, NH7, NH9, NH15

*For the Athenry Local Area Plan*

Policy UI1, UI2,

Objective UI5, NH1, NH2, NH4, NH6,

*For Galway City Development Plan*

Policy 4.4, 4.5, 8.12,

Emissions	<p><b>Surface Water Run-off and Pollution Events during the Construction of Lands Zoned for Development Adjacent to Galway Bay Natura 2000 sites and Cregganna Marsh SPA</b></p> <p>Surface water run-off from construction site areas adjacent to the Galway Bay Natura 2000 Sites and to a lesser extent the Cregganna Marsh SPA will have the potential to result in perturbations to the water quality of groundwater,</p>
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springs and surface watercourses.

The storage of fuels, lubricants and other polluting materials on construction sites within or adjacent to hydrological pathways (e.g. groundwater, surface watercourses) will present a risk of pollution to groundwater-fed alkaline and calcareous fens, springs and transitional qualifying habitats occurring downstream. The ingress of such polluting materials to hydrological pathways will have the potential to affect the conservation status of qualifying habitats and species downstream at Galway Bay.

With regard to agricultural land use activities it is noted that agricultural practices will be required to adhere to all measures outlined in the Good Agricultural Practices Regulations (S.I. No. 610 of 2010). Part 4 of these regulations set out specific requirements for the prevention of water pollution from agricultural activities. The regulations set out specific buffer distances between waterbodies and certain listed agricultural practices that represent potential adverse impacts to water quality. The application of these buffer distances aims to protect water quality. All required buffer distances will be adhered to within the plan area.

#### **Wastewater**

The Plan has zoned lands for Business and Technology and Residential development immediately adjacent to alkaline and calcareous fens (the latter a priority habitat of the EU Habitats Directive), which are qualifying interests of the Galway Bay Complex cSAC.

Should inadequate wastewater treatment infrastructure accompany new developments in these areas there will be a risk of pollution to alkaline/calcareous fens and other qualifying habitats of the Galway Bay Complex cSAC at coastal locations downstream. Pollution derived from the inadequate wastewater treatment facilities will also have the potential to negatively affect qualifying species of the Galway Bay Natura 2000 Sites.

#### **Noise Emissions**

Residential developments in R1 and R2 parcels at Oranhill and along the coast will have the potential to result in noise disturbance to qualifying species of the Inner Galway Bay SPA and the Cregganna Marsh SPA. Significant changes to the baseline noise levels could arise during the construction phase of such developments. Disturbance of white-fronted geese at Cregganna could lead to an overall deterioration in this area potential to function as a foraging resource for geese. Such an effect will have negative impacts for both Cregganna Marsh SPA and Rahasane Turlough SPA. The deterioration of



	<p>foraging resources at Cregganna will lead to an overall restriction in the foraging resource available to the Rahasane Turlough population and an increase in competition for foraging areas. Such effects will have the potential to reduce the overall conservation status of geese populations at Rahasane and Cregganna.</p> <p><b>Air</b></p> <p>The development of science and technology facilities in the lands zoned for Business and Technology could present a risk to sensitive alkaline and calcareous fen habitats through the emission and deposition of pollutants within the immediate vicinity of such facilities.</p> <p><b>Visual</b></p> <p>Residential developments adjacent to the Inner Galway Bay SPA and particularly the Cregganna Marsh SPA could visually intrude upon these areas resulting in a disturbance of qualifying bird species using these sites as feeding grounds. Similar to disturbance impacts arising from noise emissions visual disturbance to geese foraging at Cregganna will have the potential to reduce this site’s capacity to function as foraging site for geese, leading to an effect on the geese populations associated with Cregganna and Rahasane.</p>
Excavation requirements	Excavations associated with the development in the vicinity of alkaline and calcareous fens and on areas of karst geology will have the potential to result in adverse impacts to the above qualifying habitats and any other qualifying habitats i.e. Atlantic saltmarsh influenced by groundwater.
Transportation requirements	The Oranmore Plan includes Specific Objectives to support the development of a link road through Oranhill as well as coastal and river walkways. Such developments will have the potential to adversely affect alkaline/calcareous fen habitats, coastal Atlantic saltmarsh and mudflat habitats and qualifying species of the Galway Bay Natura 2000 Sites and the Cregganna Marsh SPA.
<b>Describe any likely changes to the N2K site arising as a result of:</b>	
Reduction of habitat area	<p>There will be no direct loss of any Natura 2000 Site qualifying habitats as a result of the adoption of the Oranmore LAP. The implementation of the Environmental Management Area Zoning Objective will ensure that the existing footprint of qualifying habitats occurring within Natura 2000 Sites is protected.</p> <p>However indirect loss of habitat could arise through the abandonment of feeding grounds by qualifying species as a result of disturbance brought about</p>

	by noise, visual intrusion or human presence.
Disturbance of key species	<p>Elements of the proposed plan that will give rise to construction activity during new development, or have the potential to result in water pollution and human disturbance could negatively affect key qualifying species, particularly aquatic species such as common seals and otters and birds that are sensitive to changes in water quality and disturbance.</p> <p>Changes in the trophic status of surface watercourses as a result of pollution could also lead to eutrophication in the Galway Bay area. The eutrophication of estuarine habitats could potentially interfere with the structure and function of these habitats resulting in negative impacts to the distribution or densities of qualifying species.</p>
Habitat or species fragmentation	The Oranmore LAP will not result in the direct fragmentation of qualifying habitats or the fragmentation of habitats upon which qualifying species sites rely.
Reduction in species density	<p>Developments arising as a result of the Plan will have the potential to adversely affect water quality of rivers flowing through the Plan area and discharging to Galway Bay. Perturbation to the water quality of these rivers will have the potential to result in a reduction in key species densities occurring downstream in the Galway Bay Natura 2000 Sites.</p> <p>Disturbance of qualifying species, particularly bird species, of the Inner Galway Bay SPA and the Cregganna Marsh SPA could reduce their densities within designated areas in the immediate vicinity of the Plan area. A reduction in habitat quality at Cregganna Marsh as a result of disturbance could lead to the abandonment of this area. Such effects will not just have significant implications for Cregganna Marsh but could also lead to negative effects at Rahasane Turlough, with more geese competing for a restricted foraging resource.</p>
Changes in key indicators of conservation status	<p>The European Commission (2006) Explanatory Notes and Guidelines for the Assessment, Monitoring and Reporting under Article 17 of the Habitats Directive outlines key indicators for assessing the conservation status of designated sites. The key indicators for assessing the conservation status of key species are:</p> <p><i>Range:</i> disturbance impacts associated with the Plan could result in a reduction in range for qualifying species in the vicinity of the proposed site.</p>

*Population:* disturbance impacts associated with the Plan could result in a reduction in population densities of qualifying species, particularly bird species, in the designated areas immediately surrounding the Plan area.

*Habitat for the species:* Impacts to water quality and disturbance potentially arising from residential, business and technology and coastal walkway developments could negatively affect habitats supporting qualifying species of the Galway Bay Natura 2000 Sites and the Cregganna Marsh SPA. A reduction in habitat quality at Cregganna Marsh will lead to negative population effects for the Rahasane Turlough SPA; and

*Future Prospects:* The interaction of the above effects could adversely affect the future prospects of qualifying species occurring within the immediate vicinity of the Plan area.

The key indicators for assessing the conservation status of Annex 1 qualifying habitats are:

*Range:* Developments adjacent to alkaline or calcareous fen habitats and downstream impacts associated with perturbations to water quality could negatively affect the range of qualifying habitats immediately surrounding the Plan area.

*Area covered by habitat type within range:* Similar to the reasons outlined above the area covered by alkaline and calcareous fens and qualifying coastal habitats could be reduced as a result of the Plan.

*Specific structures and functions:* The structure and function of qualifying habitats such as mudflats, estuaries, large shallow inlets, saltmarshes and alkaline and calcareous fens could be negatively affected by land use zonings and subsequent developments. For instance changes to groundwater and surface water flow patterns arising from developments adjacent to alkaline and calcareous fens could interfere with the wetland structure and functioning of this habitat.

*Future prospects:* The interaction of the above effects could negatively affect the future prospects of qualifying habitats, particularly coastal and alkaline and calcareous fen habitats occurring within the Plan area.

Climate change	There is currently insufficient information to predict the effects of climate change on the proposed site. It is predicted that on a national level winters will become wetter and summers drier but the effect on local precipitation is unknown.
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<b>Describe any likely impacts on the Natura 2000 Site as a whole in terms of:</b>	
Interference with key relationships that define the structure of the site	<p>Groundwater, freshwater and tidal influences are the key features that define the structure of the Galway Bay Natura 2000 Sites and the Cregganna Marsh SPA. Any impacts to qualifying habitats; surface water quality; instream habitats; the connectivity of the freshwater and coastal ecosystems; groundwater flow patterns and quality; or the tidal influences within the designated areas will have the potential to negatively impact on the structure of the cSAC/SPA.</p> <p>For reasons outlined above the Plan will have the potential to interfere with key relationships that define the structure of alkaline and calcareous fen and coastal qualifying habitats.</p>
Interference with key relationships that define the function of the site	<p>Potential impacts which could result in adverse affects to the water quality and/or flow regime of waterbodies, will in turn have the potential to negatively impact Annex 1 habitats and/or populations of qualifying species for both the cSAC and SPA.</p> <p>The interaction between species and habitats and the abiotic factors that determine the structure of Galway Bay is the key relationship that defines the function of the cSAC and SPA.</p> <p>For reasons outlined above the Plan will have the potential to interfere with the key relationships that define the function of alkaline and calcareous fen and coastal qualifying habitats. For instance, changes to groundwater and/or surface water flow and/or drainage of alkaline or calcareous fens as a result of development will have the potential to interfere with the wetland functioning of this habitat.</p>
<b>Describe from the above the elements of the project or plan or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.</b>	
The evaluation of the Plan against the assessment criteria outlined in this Table shows that the Plan, in the absence of appropriate mitigation measures, will have the potential to result in likely significant effects to Natura 2000 Sites.	

## 5 Stage 2 – Appropriate Assessment

One cSAC, the Galway Bay Complex cSAC and three SPAs, Inner Galway Bay SPA, Cregganna Marsh SPA and Rahasane Turlough SPA have been brought forward for Stage 2 Appropriate Assessment. The qualifying habitats at risk of likely significant effects from the Plan include the coastal qualifying habitats of the Galway Bay Natura 2000 Sites and alkaline and calcareous fens of the Galway Bay Complex cSAC. The qualifying species at risk of experiencing negative impacts include the qualifying bird species of the Inner Galway Bay SPA (16 in total) and the Cregganna Marsh SPA and Rahasane Turlough SPA (Greenland White-fronted Geese). The common seal and otter of the Galway Bay Complex cSAC are also included in this assessment.

### 5.1 Detailed Description of Natura 2000 Sites and the Plan Zonings

A brief summary description of the four Natura 2000 Sites brought forward to Stage 2 is provided in Appendix 3 to this NIR. A more detailed description of the parts of the Galway Bay Natura 2000 Sites and Cregganna Marsh SPA occurring within or adjacent to the Plan area is provided in this Section. Rahasane Turlough is also briefly described below.

#### 5.1.1 Galway Bay Natura 2000 Sites

The qualifying habitats of the Galway Bay Complex cSAC that occur within or adjacent to the Plan area include mudflats, large shallow inlets and bays, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows and alkaline and calcareous fens. With the exception of alkaline and calcareous fens all of the above habitats are coastal in nature.

Sections of the Atlantic saltmarsh habitat occurring to the north of the Plan area were surveyed as part of the Saltmarsh Monitoring Programme (2007). The Site Report for Oranmore Bay North concluded that the conservation status of the Atlantic saltmarsh fringing the Plan area is in an unfavourable/bad condition. The site report (see Oranmore North, Volume 3 of the Saltmarsh Monitoring Report, 2007) noted that previous infilling/construction, coastal defences and a pipeline excavation have led to a significant disturbance of this example of Atlantic saltmarsh qualifying habitat.

Five distinct areas of alkaline/calcareous fen occur inland from the coast within or immediately adjacent to the Plan area. The fen habitats are situated in the townland of Moneyduff, Rocklands/Moneymore East, Rinn, Frenchfort and Cregganna. A survey undertaken in 2007 for the BIOCHANGE project noted the unfavourable condition of the alkaline fen habitat at Frenchfort in the Galway Bay Complex cSAC. This alkaline and calcareous fen habitat is dominated by *Schoenus fen* and *Cladium mariscus* and *Phragmites australis* swamp on mineral soils. Hoverfly (Diptera, Syrphidae) and snail-killing (Diptera, Sciomyzidae) invertebrate data collected during the BIOCHANGE surveys were analysed to assess the status of the fen habitat. These invertebrate groups are indicators of ecological status within fen habitats and the results of this analysis suggested that the fen at Frenchfort was not functioning as a wetland site for these invertebrate indicator groups.

The fen habitat at Frenchfort is fed by two springs at its eastern end: Loughannawillin and the Fishpond Spring. The status of these springs was considered to be favourable however the presence of drains within the wetland is resulting in the drying out of the fen habitat.

Both common seals and otters are known to occur in Oranmore Bay. Common seal haul out sites occur within inner Oranmore Bay. Otter are also likely to forage along the Frenchfort Stream, which connects disjoint sections of the Galway Bay Complex cSAC along the coast and at Carrowmoneash.

The EPA report Water Quality in Ireland 2007 – 2009 (2010) classed the Inner Galway Bay, which includes Oranmore Bay, as unpolluted. An assessment of dissolved oxygen concentrations in estuarine and coastal waters around Ireland in 2009 (O’Boyle et al, 2009) found slightly elevated BOD levels (4 -6 mg/l O<sub>2</sub>) in Inner Galway Bay.

Large numbers of Golden Plover have been recorded within Oranmore Bay in recent years. IWeBS bird counts for the over-wintering period of 2002-2003 and 2003-2004 recorded high numbers of Golden Plover with over 1% of the national average recorded over three survey visits in the 2002 – 2003 season.

#### 5.1.2 Cregganna Marsh SPA

Cregganna Marsh SPA is an open expanse of marsh and wet grassland, with areas of limestone pavement and calcareous fen. The marsh, which is primarily fed by groundwater, is crossed by several drainage canals and contains several springs from which a stream rises before flowing to the southeast.

The use of Cregganna Marsh as an occasional feeding ground for Greenland White-fronted Geese has been established for some time (see Ruttledge and Ogilvie, 1979, Fox et al. 1994). The main feeding area for the populations associated with Cregganna Marsh is at Rahasane Turlough to the southeast.

Greenland White-fronted Geese depend primarily on wetlands throughout their annual cycle either as a source of food, or as disturbance-free refuge areas where feeding occurs on agricultural grassland areas. They are highly site-loyal to wintering areas (Wilson *et al.* 1991; Warren *et al.* 1992) and demonstrate a very traditional use of sites at all times of the year. The non-breeding habitat requirements for this species includes:

- Undisturbed wetland roost site;
- Access to adequate feeding areas comprising either natural wetlands or managed agricultural landscapes with varying degree of management intensification; and
- Sites with multiple feeding areas giving the potential to move locally in response to disturbance.

Greenland White-fronted Geese are known for being easily disturbed by people (Norris and Wilson, 1988, 1993) and the International Single Species Action Plan for the Conservation of the Greenland White-fronted Goose (2011) noted impacts associated with disturbance by humans and the loss or modification of wetland feeding habitats as reasons for local declines in populations.

### 5.1.3 Rahasane Turlough

The Rahasane Turlough is approximately 4km in length and lies in gently undulating land and consists of two basins that are connected at times of flood but separated as the waters decline (Drew & Daly, 1996). It is considered to be one of the largest turloughs in Europe and is of major ecological significance as one of only two large turloughs that still function naturally.

The turlough is influenced by both groundwater and surface waters. During periods of high flow, the Dunkellin River overflows its banks and floods the adjoining lands to form the Rahasane Turlough. Drew & Daly (1993) noted that for 75% of the year on average inflows to the turlough basin exceeded outflows. While groundwaters are generally the dominant source of water influencing turloughs, the influence of the surface water i.e. the Dunkellin River is considered to be more pronounced at Rahasane Turlough as it is inflowing to groundwater with sections of the river becoming completely dry during times of the year (Drew, 2010). The importance of the Dunkellin River as a source of recharge water for the turlough also increases the vulnerability of the turlough to any negative water quality or flow regime impacts upstream along the Dunkellin River.

Rahasane Turlough is the most important turlough in the country for bird species. It supports a significant population of Greenland White-fronted geese which for the parent population for the geese occurring at Cregganna Marsh SPA. It also supports internationally important populations of Whooper Swans, Golden Plover, Wigeon and Shoveler. Nationally important numbers of 12 other species are also supported by the Turlough.

## 5.2 Habitats of Undeveloped Lands Affected by Plan Policies and Objectives

A number of land use zonings, including Residential; Industrial; Business & Technology; Business & Enterprise; Community Facilities as well as Specific Objective such as the Oranhill Distributor Route and coastal/riverside walkways may be located in green-field sites immediately adjacent to or in the vicinity of Natura 2000 Sites. The habitats occurring in these greenfield sites are described in more detail in Section 5.2.1 below.

In general these greenfield sites are characterised by improved agricultural grassland; dry calcareous and neutral grassland; and dry meadows and grassy verges. The majority of these areas are underlain by karst geology with groundwater systems that directly influence the status of qualifying habitats i.e. alkaline fens of the Galway Bay Complex cSAC. The construction of new developments in such areas will have the potential to result in adverse impacts to groundwater quality, springs and groundwater-fed fen habitats. Furthermore development in greenfield sites connected via surface watercourses or groundwater flows to transitional qualifying habitat i.e. saltmarshes, mudflats etc. will have the potential to negatively impact these habitats through the discharge of nutrient-enriched or contaminated water to transitional zones.

### 5.2.1 Development Land Use Zonings

#### Residential Phase 1 Land Use Zonings (R1)

The majority of the residential land occurring within the Plan area is characterised by existing urban land cover. The habitats associated with this land cover include buildings and artificial surfaces (BL3) and amenity grassland (GA2).

Areas of undeveloped land zoned for R1 and R2 residential development are labelled and shown on Appendix 4: Figure 1 to this NIR report.

The parcel of R1 labelled R1 Area 1 on Appendix 4: Figure 1 is located within close proximity to alkaline fen habitat that forms a section of the Galway Bay Complex cSAC at Moneyduff. As described in Section 3.4.2 above this area of the cSAC is characterised by an area of spring and groundwater fed alkaline/calcareous fen. It is dominated by *Molinia caerulea* and *Schoenus* rush species. This parcel of R1 is also located within the vicinity of Cregganna Marsh SPA.

At the western section of this parcel of R1 an area of land zoned open space buffers this R1 zoning from the alkaline fen and Galway Bay Complex cSAC. This western section of R1 Area 1 supports dry calcareous and neutral grassland (GS1). A range of plant species typically associated with calcareous grassland occur in this area. Previous surveys undertaken in this area for the NPWS in 2006 and during the Plan assessment identified the following species in this area: *Briza media*, *Campanula rotundifolia*, *Rosa pimpinellifolia*, *Lotus corniculatus*, *Centaurea nigra*, *Galium verum*, *Potentilla erecta*, *Leucanthemum vulgare*, *Polygala serpyllifolia*, *Ranunculus repens*, *Cerastium fontanum*, *Stachys sylvatica*, *Thymus praecox*, *Plantago lanceolata*, *Conopodium majus*, *Cynosurus cristatus*, *Poa* species, *Carex flacca* and *Fragaria vesca*. Typical calcicole bryophytes noted within this area included *Brachythecium rutabulum*, *Tortula tortuosa*, *Grimmia funalis*, *Thuidium tamariscinum* and *Pseudoscleropodium purum*. Juniper was also noted as occurring in this area during the 2006 survey.

The eastern section of this parcel, adjacent to the existing N18 road, was surveyed in 2009 as part of a detailed Flora and Fauna Assessment of the impacts of a proposed residential development in this area (McCarthy Keville O'Sullivan, 2009). This assessment formed part of an Environmental Report for a proposed residential development (see Planning Reference 09/1925). This assessment noted the main habitats within the eastern section of this R1 parcel as: species-rich scrub; dry meadow; spoil and improved grasslands. Small areas of calcareous grassland and limestone pavement were noted in this area. However these were not considered to be ascribable to Annex 1 habitats listed on the EU Habitats Directive.

The Flora and Fauna assessment referred to above found that no increased visual disturbance of geese was expected to arise as a result of the proposed development. It also found that the predicted noise levels generated during the construction phase of the development would not cause disturbance to the wintering flock of Greenland White-fronted Geese that use Cregganna Marsh. Operational noise levels were adjudged to be insignificant with no potential to disturb geese.

Furthermore the Environmental Impact Assessment for Planning Ref 09/1925 found that there would be no hydrological or hydrogeological impacts associated with the residential development in this parcel of R1 zoning.



An Appropriate Assessment Stage 1 Screening Report was completed for the residential development associated with the above Planning Reference. The Screening Assessment resulted in a finding of No Significant Effects to Natura 2000 Sites as a result of the proposed development at this location.

It is noted that a previous planning application concerning lands to the south of the R1 Area 1 parcel (see Planning Ref 08/1611) was refused planning permission because of concerns relating to the potential impacts to the Greenland White-fronted Geese supported by Cregganna Marsh. It is noted that the majority of the land holding (and specifically its more sensitive southern extent) associated with this previous application is now zoned within the LAP as agricultural land.

The parcel of R1 labelled R1 Area 2 on Appendix 4: Figure 1 is located to the south of the Frenchfort Stream towards the centre of the LAP area. This parcel of R1 is made up of three contiguous areas. A review of 2010 aerial orthophotography and a visual inspection of this area from Millplot to the west suggests that this area is dominated by improved agricultural grassland. The two southern sections of this R1 parcel are surrounded by existing residential development while the northern, larger area abuts existing residential developments to the south.

The parcel of R1 labelled R1 Area 3 includes two distinct areas to the north of the Frenchfort Stream. Both areas form part of an approved planning application for a residential development (Planning Reference 04/1093 & 11/855). The land parcel to the east of this area abuts the existing N6 road. Habitat surveys undertaken for the above planning application recorded the following habitats within this parcel of R1: tall herb swamp (FS2) along the Frenchfort Stream channel with dry meadow and grassy verge (GS2) dominating a linear section of land parallel to the stream's western bank. Aside from these habitats the majority of this section of R1 Area 3 and the entire area of the more westerly section of this parcel of R1 are dominated by a mosaic of habitats consisting of dry calcareous and neutral grassland (GS 2), wet grassland (GS4) and rich fen and flush (PF1). This latter habitat corresponds with the EU Habitats Directive Annex 1 listed habitat Alkaline Fens. However the assessment of this habitat concluded that due to this example of rich fen colonising areas of artificial infilling with no peat accumulation and little evidence of indicator bryophyte species it was not considered to be representative of Annex 1 alkaline fen habitat. Nevertheless these habitats are deemed to be at least of local conservation value. Following an appeal to Galway County Council's decision to grant planning for a residential development at this location An Bord Pleanála upheld the Council's decision stating that the proposed residential development at this parcel of R1 would not interfere with the integrity of adjoining European Sites and that the sensitivities of the proposed site (which encompasses this parcel of R1) could be protected appropriately by condition, including in particular the strengthening of a wildlife corridor along the Frenchfort Stream.

The parcel of R1 labelled R1 Area 4 on Appendix 4: Figure 1 is located towards the northwest of the Plan area. A review of 2010 Ortho-photography suggests that the following habitats dominate this area: improved agricultural grassland (GA1) and scrub (WS1). This parcel of R1 is small in scale and is buffered from the Galway Bay Natura 2000 Sites by the R338 regional road and existing residential dwellings along the southern side of the regional road. An area of Atlantic saltmarsh, a qualifying habitat of the Galway Bay Complex cSAC is located to the south of these residential dwellings. The status of this area

of saltmarsh was assessed during the Saltmarsh Monitoring Programme in 2007 and found its overall conservation status to unfavourable/bad.

### **Residential Phase 2 Land Use Zonings (R2)**

Areas of undeveloped land zoned for R2 are labelled and shown on Appendix 4: Figure 1 to this NIR report.

The parcel R2 labelled R2 Area 1 on Appendix 4: Figure 1 abuts the Cregganna Marsh SPA and is located within 50m of the Galway Bay Complex cSAC at Oranhill. The land cover occurring within this R2 parcel is dominated by improved agricultural grassland (GA1) with hedgerows (WL1), stonewall (BL4) field boundaries and a small area of mixed broadleaved woodland (WD1) occurring. In places no existing boundaries such as hedgerows, stonewalls, roads etc separate this area of R2 from the SPA boundary.

The northern area of the Cregganna Marsh SPA abutting this parcel of R1 is representative of improved agricultural grassland. This habitat is of less value for supporting Greenland White-fronted Geese, which predominantly are associated with the wetland habitats occurring to the south and southeast of the SPA and the improved grassland in the immediate vicinity of these wetlands. The nearest area of high value wetland habitat and surrounding improved grassland to this parcel of R2 is located approximately 450m to the southeast.

The parcel of R2 labelled R2 Area 2 on Appendix 4: Figure 1 abuts the Galway Bay Complex cSAC with the Inner Galway Bay SPA occurring approximately 130m to the northwest. This area of R2 consists of improved agricultural grassland (GA1) with hedgerow (WL1) and treeline (WL2) field boundaries. Atlantic saltmarsh qualifying habitats of the cSAC are located immediately to the west/northwest of this parcel of R2.

The parcel of R2 labelled R2 Area 3 on Appendix 4: Figure 1 abuts the Cregganna Marsh SPA. While ortho-photography of this area suggests the presence of grassland habitats within this parcel a site walkover of the HDA of the Plan in January 2012 noted infilling of this parcel with hardcore material. This parcel forms part of a previously approved planning application (see Planning Reference 04/1973 as extended in 09/2113).

### **Business and Technology**

The northeastern corner of the Plan area has been zoned for Business and Technology (BT) development (see Appendix 4: Figure 2). The BT area is bisected by the Galway – Dublin Intercity Railway line that runs east west through the site. The majority of the undeveloped land occurring to the north of the railway line is associated with an approved planning application (Planning Reference 05/2030) for the development of a Science and Technology Park by IDA Ireland. Habitat surveys undertaken in 2003 at this site as part of the Environmental Impact Statement concluded that the majority of the site was of low ecological value dominated by improved agricultural grassland. A small area of dry calcareous grassland and a pond were noted in the southwest of the proposed site. These features were considered to be of moderate ecological value.

A review of 2010 Ortho-photography suggests little change of habitats and land cover within the site from those presented following the 2003 habitat surveys. The exception to this is the more recent development of site roadways as part of the approved planning application.

A review of the 2010 ortho-photography suggests that the area of the BT zoned lands to the south of the railway line are dominated by improved agricultural grassland. Wetland habitats dominated by fen habitats occur immediately adjacent to the BT area to the south of the railway line. Throughout the majority of this southern area no physical boundary i.e. hedgerow, watercourse etc. separates the BT zoning from the cSAC boundary.

### **Commercial and Mixed Use**

Only one parcel of Commercial and Mixed Use (C2) zoning is located within undeveloped land within the Plan area (see Appendix 4: Figure 3).

It is buffered from an area of qualifying alkaline fen associated with the Galway Complex cSAC by the existing N18. It is located within/adjacent to the site of an existing commercial and mixed use centre and a review of 2010 Ortho-photography suggests that it consists of recolonising bare ground habitat.

### **Industrial**

Industrial land use zoned on undeveloped land is restricted to the west of the existing Carrowkeel Industrial Estate in the north of the Plan area (see Appendix 4: Figure 4). This undeveloped land is characterised by improved agricultural grassland with treeline and hedgerow field boundaries and is located approximately 500m to the north of the boundary of the Galway Bay Natura 2000 Sites. This undeveloped land is also buffered from these Natura 2000 Sites by the R338, agricultural grassland, the Galway Dublin railway line and the R446 (formerly the N6 national primary road).

### **Community Facilities**

Community Facilities (CF) land use has been zoned on three areas of undeveloped land within the Plan.

The parcel of CF zoning labelled CF Area 1 on Appendix 4: Figure 5 is located towards the northwest of the Plan area. A review of 2010 Ortho-photography suggests that the following habitats dominate this area: improved agricultural grassland (GA1) and scrub (WS1). This parcel of CF is buffered from the Galway Bay Natura 2000 Sites by the R338 regional road and existing residential dwellings along the southern side of the regional road. An area of Atlantic saltmarsh, a qualifying habitat of the Galway Bay Complex cSAC is located to the south of these residential dwellings. The status of this area of saltmarsh was assessed during the Saltmarsh Monitoring Programme in 2007, which found its overall conservation status to unfavourable/bad.

The parcel of CF zoning labelled CF Area 2 on Appendix 4: Figure 5 is located adjacent to the town centre and abuts the coastal boundary of the Galway Bay Natura 2000 Sites. A section of this parcel has been the subject of a previously approved outline planning application for a school development (see Planning Reference 11/947). A Habitats Directive Assessment was undertaken for the school development and found that the proposed development would not represent a risk of likely significant effects to the conservation status or integrity of Natura 2000 Sites. While this site was previously

characterised by improved agricultural grassland the majority of this area has recently been infilled with hardcore material.

### **Strategic Reserve**

The Strategic Reserve zoning encompasses an area of approximately 32ha in the northwest of the plan area. Part of this area was approved for a new train station (planning application 10/1877) and was subject to an appropriate assessment screening in 2010. The purpose of the strategic reserve designation is to 'Protect and safeguard the lands within the designated Strategic Reserve Area from any development that would prejudice their potential as a reserve for the future, longer term strategic growth of Oranmore.....' (Objective DS 7).

The habitat survey undertaken as part of the planning application and Appropriate Assessment determined that the majority of the project area was improved agricultural grassland (GA1), with ryegrasses (*Lolium spp*) and clover (*Trifolium spp*) dominant. Sections of the site were found to support dry calcareous and neutral grassland overlying shallow soils with limestone outcrops occurring; this area although heavily grazed and poached in places supported a more diverse sward and included Lady's Bedstraw (*Gallium verum*), selfheal (*Prunella vulgaris*) and occasional species such as wild thyme (*Thymus praecox*). Dry meadows and grassy verges (GS2) were present either side of the railway line and were dominated by tall rank grasses including False Oat Grasses (*Arrhenatherum elatius*), and some calcicolous species such as Harebell (*Campunula rotundifolia*). A small section of salt marsh habitat was identified, and is present in an area immediately adjoining the R336 Coast Road. It is fed by seawater via a culvert and species including Thrift (*Armeria maritime*) and Sea Aster (*Aster Tripolium*) are present. Lower salt marsh (CM1) has links to several Annex I habitats and while the AA Screening determined that this habitat may correspond to Atlantic Salt Meadows, the Screening Report noted the limited extent of this habitats within the site along with intensive grazing and poaching of the habitat. Scrub (WS1) was identified in a number of areas around the site including the existing railway embankment and towards the southeast of the site. This scrub habitat is dominated by bramble, bindweeds and blackthorn.

The above review of undeveloped lands zoned for future development within the Plan shows that much of these lands have been the subject of previous planning applications which have been granted planning approvals. The approved projects have outlined a range of mitigation measures and are committed to adhering to additional mitigatory conditions, which form part of these planning approvals. With regard to the zoning of these areas as part of the LAP a range of mitigatory Policies and Objectives have been included within the Plan that will ensure likely significant effects associated with future developments, alone and in combination with other existing and proposed developments, in these areas are avoided. Further detail on these mitigatory Policies and Objectives are provided in Section 5.4 below.

### **5.3 Potential Impacts of Policies and Objectives**

A range of potential impacts relating to certain Policies and Objectives of the Plan have been outlined in the: Stage 1 Screening Assessment; Appendix 2 of this NIR; and in Section 5.2.1 above which described a

variety of potential impacts to Natura 2000 Sites from previously proposed developments in the Plan area.

The principal impacts associated with the Policies and Objectives of the Plan and in particular the Zoning and Specific Objectives are summarised in detail below.

### 5.3.1 **Water Quality Impacts**

Qualifying habitats and species sensitive to changes in water quality occur within and immediately adjacent to the Plan area. Developments in areas adjacent to sensitive habitats could adversely affect water quality through:

- Surface water runoff from construction sites and impermeable surfaces during the operation phase of developments. Runoff during the construction phase of developments can become contaminated with potentially polluting material associated with construction machinery. Sedimentation of watercourses resulting from sediment-laden runoff from areas of bare soils can also occur.
- The implementation of inadequate wastewater treatment facilities for new developments could give rise to surface water and groundwater pollution resulting in downstream impacts to coastal qualifying habitats and species. Elevations in nutrient levels and eutrophication are likely to be the principal impacts arising from the discharge of any untreated wastewater from new developments.

### 5.3.2 **Impacts to Karst Features**

Karst features are prevalent throughout the Oranmore Plan area. These features have been noted at a number of proposed developments in areas of currently undeveloped land zoned for future development. The presence of karst features within new development sites will present particular risks to the water quality of groundwater and groundwater-dependent/influenced habitats such as springs, fens and coastal saltmarshes.

Development on karst formations can give rise to ground instability leading to risks of collapse and the blocking of subterranean channels for groundwater flow. The blocking of groundwater channels in the vicinity of alkaline fens or springs could lead to significant drying out of these habitats. The blocking of groundwater channels could also result in flooding in surrounding areas.

### 5.3.3 **Disturbance Impacts to Qualifying Species**

Aside from potential disturbance issues arising from water quality issues, qualifying species could also be disturbed as a result of

- Improved access (i.e. coastal walkways) to the coastal area of Oranmore Bay,
- Increases in noise levels during the construction phase of developments;

- Increased visual intrusion resulting from developments within the vicinity of qualifying species feeding or roosting grounds. The potential visual intrusion of residential developments on the feeding grounds of Greenland White-fronted Geese within Cregganna Marsh SPA has already led to planning permission refusals in the area of Oranhill.

#### 5.3.4 Air Emissions

Reductions in air quality and the deposition of polluting substances within the Plan area could also impact habitats such as alkaline fens and Atlantic saltmarshes, which are sensitive to, changes in nutrient levels. An air quality impact assessment associated with the proposed IDA Biopharmaceutical development towards the north of the Plan area concluded that nutrient levels were likely to increase within the immediately vicinity of the plant as a result of onsite operations. While these levels were adjudged to be insignificant and below the threshold of impact to vegetation, the cumulative impact of additional developments of a similar nature could have the potential to result in the deposition of higher concentrations with the capacity to affect sensitive vegetation communities.

Appendix 2 to this report outlines the potential impact of individual Policies and Objectives to Natura 2000 Sites at risk from the Plan's implementation.

#### 5.4 Mitigation Measures

From the outset the Plan has sought to provide a template for the sustainable development of the Plan area while at the same time protecting the integrity of Natura 2000 Sites. As outlined in Section 1 of the Plan a key consideration during its preparation has been the statutory provisions of the EU Habitats Directive. The Strategic Vision Statement of the Plan aims to balance the promotion of a sustainable and vibrant town that offers a pleasant environment for a growing community, for living, shopping, business, recreation and tourism against the need to safeguard and enhance the environmental sensitivities of the Plan area.

The preferred development strategy option is for a Local Area Plan that is informed by Environmental Assessment and Development Strategy Objective DS 3 sets out the intention of the Plan to protect Natura 2000 Sites. This Objective sets out a firm commitment to ensure that the provisions of Article 6 of the EU Habitats Directive are fully implemented. Further strengthening of this Objective is outlined in Section 5.4.1 to ensure compliance with regard to Article 6(4) and the protection of priority habitats.

Section 3.9 of the Plan sets out a number of Objectives that further reinforces the approach of the Plan to protect Natura 2000 Sites. These Objectives will ensure that all plans or projects that have the potential, either alone or in combination with other plans and project, to result in likely significant effects on Natura 2000 Sites and on natural heritage in general will undergo assessment.

In addition to these overarching Objectives, which aim to protect Natura 2000 Sites and implement the provisions of the EU Habitats Directive, a number of specific Policies and Objectives are included within the Plan to ensure that the Plan affords protection to Natura 2000 Sites. The land use Objective LU 9 – Environmental Management Area and the resulting zoning of all Natura 2000 Sites as Environmental Management Areas will limit direct impacts to Natura 2000 Sites and ensure that the range and extent

of their qualifying habitats are not lost to the footprint of proposed developments. In addition to this, recommendations to strengthen the wording of this Objective are outlined in Section 5.4.1 below. The wording of Objective LU 9 and the Development Management Guidance LU 2 outlined in Section 3.1.3 of the Plan will ensure that all lands occurring with Natura 2000 Sites are protected from potential direct impacts associated with development. This is achieved by restricting land use types within Environmental Management zonings. No land uses are defined within this zoning as Permissible in Principle, while only one land use type, Utilities Infrastructure and Public Service Installation, has been listed as Open for Consideration. Thus all potential future developments associated with this land use type will only be permitted where Galway County Council is satisfied that the development will be compatible with the policies and objectives for the zone, will not conflict with permitted uses and conforms to the proper planning and sustainable development of the area, including the policies and objectives set out in the Local Area Plan. All other land use types have been classed as Not Normally Permitted within the Environmental Management Zoning.

This precautionary approach to development within this zoning in conjunction with the mitigatory objectives of the Plan will ensure that likely significant effects arising from development within this zoning are avoided.

Furthermore the Plan has been directly informed by the planning history of the Plan area. Areas of the LAP where concerns over impacts to Natura 2000 Sites have resulted in the refusal of planning applications in the past have not been zoned for future development. Instead these areas are zoned in the Plan as Environmental Management Areas and Agriculture. This approach will ensure that potential impacts to Natura 2000 Sites that could arise as a result of new developments in such area are avoided.

Appendix Two of this NIR presents all the Policies and Objectives contained in the Plan and assesses their potential impact on Natura 2000 sites. A summary list of all Policies and Objectives affording protection to Natura 2000 Sites is provided in Section 5.4.1: Table 5.1 below and where necessary recommendations for the strengthening of these Policies and Objectives are outlined.

#### **5.4.1 Mitigatory Policies and Objectives in the Plan**

The existing mitigatory Policies and Objectives of the Plan are outlined in Table 5.1 below. An assessment of how these Policies and Objectives will ensure the protection of Natura 2000 Sites is provided and where necessary additional recommendations to strengthen these measures to further protect the integrity of Natura 2000 Sites are also outlined. In addition to the mitigatory Policies and Objectives outlined in Table 5.1 recommendations to reword a number of specific Policies/Objectives with the potential to result in negative impacts are provided in Table 5.2 below. The rewording of these Policies/Objectives seeks to specifically target and annul their potential negative environmental implications. It is noted that only a selection of the potentially negative Policies/Objectives associated with the Plan are included in Table 5.2. A full list of all potentially negative Policies/Objectives is contained within Appendix 2. The majority of these potentially negative Policies/Objectives have not been included in Table 5.2 for specific recommendations as the mitigatory measures outlined in Table 5.1 are deemed sufficient to ensure potential likely significant effects associated with this Policies/Objective are avoided.



**Table 5-1: Mitigatory Policies and Objectives outlined in the Oranmore LAP**

<b>Mitigation Policy/Objective</b> <b>Original Policy or Objective in LAP</b>	<b>Description of how Mitigatory Policy/Objective will Protect N2K Sites</b>	<b>Recommended Changes to Policies/Objectives</b>	<b>Accepted Wording of Mitigatory Policy/Objective in the Adopted Plan</b>
<p><b>Policy DS 1 – Development Strategy</b></p> <p>It is the overarching policy of Galway County Council to support and facilitate the sustainable development of the Plan Area in line with the preferred development strategy option, <b>Option 3 - A Combination of a Future Strategic Development Area with Consolidation of the Town Centre and Surrounding Areas, Informed by Environmental Assessments</b>, which allows Oranmore to develop in a manner, that maintains and enhances the quality of life of local communities, promotes opportunities for economic development, sustainable transport options and social integration, protects the cultural, built, natural heritage and environment and complies with relevant statutory requirements.</p>	<p>It is the overarching policy of the Council to support and facilitate the sustainable development of the Plan Area which furthers the development of Oranmore in a manner that maintains and enhances and protects the natural heritage and environment and complies with relevant statutory requirements.</p>	<p>No recommended changes to this Policy</p>	<p>As Original Policy</p>
<p><b>Objective DS 3 – Natura 2000 Network and Habitats Directive Assessment</b></p> <p>Protect Natura 2000 sites, including Special Protection Areas and Special Areas of Conservation, in accordance with the requirements in the EU <i>Habitats Directive 1992</i></p>	<p>This Objective directs the Development Strategy for the Oranmore LAP to ensure that the conservation management objectives, conservation status and integrity of</p>	<p><b>Insert an additional Point 3 to this Objective as follows:</b></p> <p><i>The plan or project will adversely affect the</i></p>	<p><b>Objective DS 3 – Natura 2000 Network and Habitats Directive Assessment</b></p> <p>Protect European sites that form part of the Natura 2000 network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive</p>



<p>(92/43/EEC), EU Birds Directive 1979 (79/409/EEC), the European Communities (Natural Habitats) Regulations 1997 (S.I. No 94 of 1997), the Planning and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (and any subsequent amendments or updated legislation) and having due regard to the guidance in the <i>Appropriate Assessment Guidelines 2010</i> (and any subsequent or updated guidance). A plan or project (e.g. proposed development) within the Plan Area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific knowledge and a Habitats Directive Assessment where necessary, that:</p> <ol style="list-style-type: none"> <li>1. The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 site (either individually or in combination with other plans or projects); or</li> <li>2. The plan or project will adversely affect the integrity of any Natura 2000 site but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to undertake all compensatory measures necessary to ensure the protection</li> </ol>	<p>Natura 2000 Sites will not be negatively impacted by elements of the LAP</p>	<p><i>integrity of a priority qualifying habitat or species any Natura 2000 site but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest relating to human health or public safety, or where the proposed plan or project is of beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.</i></p>	<p>(92/43/EEC), EU Birds Directive (2009/147/EC), the Planning and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) (and any subsequent amendments or updated legislation) and having due regard to the guidance in the <i>Appropriate Assessment Guidelines 2010</i> (and any updated/superseding guidance). A plan or project (e.g. proposed development) within the Plan Area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific evidence and a Habitats Directive Assessment where necessary, that:</p> <ol style="list-style-type: none"> <li>1. The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 site (either individually or in combination with other plans or projects); or</li> <li>2. The plan or project will adversely affect the integrity of any Natura 2000 site (that does not host a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura</li> </ol>
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<p>of the overall coherence of Natura 2000.</p>			<p>2000; or</p> <p>3. The plan or project will adversely affect the integrity of any Natura 2000 site (that hosts a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.</p>
<p><b>Objective DS 5 – Service Led Development</b></p> <p>Development under the Plan shall be preceded by sufficient capacity in the public waste water infrastructure.</p>	<p>This Objective will ensure that adequate wastewater services are in place prior to permitting new development. This approach will avoid a potential scenario where wastewater treatment services cannot adequately treat the hydraulic loads being received, resulting in the discharge of polluting</p>	<p><b>Insert the words <i>and potable water infrastructure after infrastructure in the original objective.</i></b></p>	<p><b>Objective DS 5 – Service Led Development</b></p> <p>Development under the Plan shall be preceded by sufficient capacity in the public waste water infrastructure <i>and potable water infrastructure.</i></p>

	wastewater to Galway Bay and potential impacts to water quality and qualifying habitats of Galway Bay cSAC and SPA.		
<p><b>Policy LU 1 – Land Use Management</b></p> <p>It is the policy of Galway County Council to provide a land use zoning framework for the Plan Area, to direct the type, density and location of development, in a manner that contributes to the consolidation of the town centre, and is in compliance with the statutory requirements of the Planning and Development Acts 2000 (as amended).</p> <p>This framework shall allow for the orderly and sequential development of the town, is supported by a phased development framework, shall safeguard a Strategic Reserve Area in proximity to the new Oranmore Railway Station, while protecting and enhancing the existing landscape setting, environmental quality, character and unique identity of the town. The optimum utilisation of existing and planned infrastructure is a key consideration in the development of this land use framework.</p>	<p>The Policy sets out an approach to land use management which will in itself have a neutral effect on Natura 2000 Sites.</p> <p>The measures within this Policy to protect and enhance the existing landscape setting and environmental quality of the Plan area will have a positive effect for Natura 2000 Sites.</p>	No changes required or proposed	As Original Policy
<p><b>Objective LU 9 – Environmental Management Area (EM)</b></p> <p>Promote the sustainable use and management of lands with high biodiversity value and/or</p>	The aim of this land use zoning is to support the protection of the conservation status and integrity of Natura 2000	<p><b>Change Objective to read as follows:</b></p> <p><b>Protect lands with high biodiversity value</b></p>	<p><b>Objective LU 9 – Environmental Management Area (EM)</b></p> <p><b>Protect lands and sites with high biodiversity value and/or environmental sensitivity and</b></p>

<p>environmental sensitivity, including flood risk and those with natural heritage designations such as Special Protection Areas and Special Areas of Conservation.</p>	<p>Sites.</p>	<p>and/or environmental sensitivity, including those with natural heritage designations such as Special Protection Areas and Special Areas of Conservation, and promote their sustainable management and use and support the conservation management objectives of natural heritage designations such as Special Protection Areas and Special Areas of Conservation.</p>	<p>promote their sustainable management and use. This will include the protection of the integrity of European sites that form part of the Natura 2000 network, in particular Special Protection Areas and Special Areas of Conservation, in accordance with the conservation management objectives of/for(?) these sites and the requirements of the EU Habitats Directive (92/43/EEC).</p>
<p>Objective LU 15 – Residential Densities</p> <p>Promote a range of residential densities within the Plan Area appropriate to the prevailing development pattern, supporting infrastructure, urban character and heritage resources in accordance with the guidance in <i>‘Sustainable Residential Development in Urban Areas Guidelines 2009’</i> (or as updated within the lifetime of this plan). Higher residential densities should be encouraged at locations where it is appropriate to the existing context and density of the Plan</p>		<p>Insert the words “or impact adversely on the integrity of Natura 2000 sites” after “.....unduly impact on built or natural heritage”.</p>	<p><b>Objective LU 15 – Residential Densities</b></p> <p>Promote a range of residential densities within the Plan Area appropriate to the prevailing development pattern, supporting infrastructure, urban character and heritage resources in accordance with the guidance in <i>‘Sustainable Residential Development in Urban Areas Guidelines 2009’</i> (or as updated within the lifetime of this plan). Higher residential densities should be encouraged at locations where it is appropriate to the existing context and density of the Plan Area,</p>

<p>Area, for example around the town centre and within convenient walking distance of public transport facilities, and where it will not unduly impact on built or natural heritage. The density of residential developments will generally be in accordance with the guidance set out under DM Guideline LU1, although the Planning Authority may consider higher residential densities where this is considered appropriate to the context and necessary to secure the urban design or other objectives of the Plan. Development will only be permitted where there is capacity and/or adequate services can be made available.</p>			<p>for example around the town centre and within convenient walking distance of public transport facilities, and where it will not unduly impact on built or natural heritage <b>or impact adversely on the integrity of Natura 2000 sites</b>. The density of residential developments will generally be in accordance with the guidance set out under DM Guideline LU1, although the Planning Authority may consider higher residential densities where this is considered appropriate to the context and necessary to secure the urban design or other objectives of the Plan. Development will only be permitted where there is capacity and/or adequate services can be made available.</p>
<p><b>Policy RD 2 – Phased Development on Residential Zoned Lands</b></p> <p>It is the policy of Galway County Council to encourage orderly, sequential and phased residential development in accordance with the Preferred Development Strategy and the land use management and zoning provisions set out in this Local Area Plan. This shall include a positive presumption in favour of the sequential development of suitably serviced Residential (Phase 1) lands in order to align the Local Area Plan with the Core Strategy/Settlement Strategy in the current Galway County Development Plan, subject to compliance with the policies and objectives in this Local Area Plan and the principles of proper planning and sustainable development. There will be a general presumption</p>	<p>The phasing of residential development which will ensure development is prioritised in suitably serviced lands will reduce the likelihood for potential indirect impacts (as outlined for Objective LU3 above) associated with residential development from occurring.</p>		<p>No changes required or proposed</p>

<p>against residential development on lands zoned Residential (Phase 2) within the lifetime of the Local Area Plan, subject to the exceptions provided for under the Residential Development Objective RD1.</p>			
<p><b>Objective TI 22 – Noise</b></p> <p>All new proposed development, within 300m of roadways with traffic volumes greater than 8220AADT, major railways which have more than 60,000 passengers per year and major airports, shall include a noise assessment and mitigation measures if necessary with the planning application documentation.</p>	<p>This will ensure that proposed new developments do not result in significant increases to baseline noise levels. This will ensure that potential disturbance to qualifying species associated with Natura 2000 Sites is avoided or minimised.</p>		<p>No changes required or proposed</p>
<p><b>Policy UI 1 – Water Supply, Wastewater And Surface Water Infrastructure</b></p> <p>It is the policy of Galway County Council to support the provision and maintenance of adequate wastewater disposal, water supply and surface water drainage infrastructure, in accordance with EU Directives, to service the development of Oranmore. This will include adequate capacity for public wastewater and storm-water sewers as appropriate, an adequate quantity and quality of water supply and the promotion of Sustainable Drainage System approaches and techniques within the Plan Area.</p>	<p>The aim of this policy is to ensure adequate wastewater treatment and surface water drainage infrastructure are available to meet the need of new development within the lifetime of the Plan. The provision of adequate infrastructure will ensure adverse impacts to surface water resulting from inadequate wastewater treatment or surface water drainage are</p>	<p>No changes are proposed for this Policy.</p>	<p><b>Policy UI 1 – Water Supply, Wastewater And Surface Water Infrastructure</b></p> <p>It is the policy of Galway County Council to support the provision and maintenance of adequate wastewater disposal, water supply and surface water drainage infrastructure, in accordance with EU Directives, to service the development of Oranmore. This will include adequate capacity for public wastewater and storm-water sewers as appropriate, an adequate quantity and quality of water supply and the promotion of Sustainable Drainage System approaches and techniques within the Plan Area.</p>

	<p>avoided.</p> <p>The provision of adequate water supply infrastructure will also have a positive effect in terms of water conservation by reducing water loss.</p>		
<p><b>Objective UI 1 – Water Supply &amp; Water Conservation</b></p> <p>Ensure that new developments are adequately serviced with a suitable quantity and quality of drinking water supply, promote water conservation to reduce the overall level of water loss in the public supply and require that new domestic developments provide for water supply metering.</p>	<p>See Objective UI 1 above regarding water supply infrastructure.</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Objective UI 2 – Galway Main Drainage Scheme</b></p> <p>Continue to support the delivery of the Galway Main Drainage Scheme in relation to the Oranmore Local Area Plan area.</p>	<p>Positive - the continued implementation of the Galway Main Drainage scheme in Oranmore will ensure wastewater effluent is contained and treated to a suitable standard prior to discharge to Galway Bay. The implementation of this scheme in Oranmore will facilitate the maintenance/</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>

	achievement of good water quality in the surrounding Bay area.		
<p><b>Objective UI 3 – Wastewater Disposal.</b></p> <p>New developments shall only be permitted where it can be clearly demonstrated that they can be serviced and that there is adequate capacity in the wastewater disposal infrastructure in accordance with applicable requirements and standards, including urban wastewater treatment disposal standards, in order to protect the Galway Bay Complex and its qualifying interests.</p>	<p>Positive - This approach which is consistent with the approach to new development outlined in the Galway County Development Plan will ensure wastewater generated during the construction and operation of new developments will not result in a deterioration of water quality within Galway Bay, those ensuring impacts to associated Natura 2000 Sites are avoided.</p>	<p>Change wording so that the final line of this objective reads “....., in order to protect the Galway Bay <b>Natura 2000 Sites and their respective Qualifying Interests.</b>”</p>	<p><b>Objective UI 3 – Wastewater Disposal.</b></p> <p>New developments shall only be permitted where it can be clearly demonstrated that they can be serviced and that there is adequate capacity in the wastewater disposal infrastructure in accordance with applicable requirements and standards, including urban wastewater treatment disposal standards, in order to protect the Galway Bay <b>Natura 2000 Sites and their respective Qualifying Interests.</b></p>
<p><b>Objective UI 4 – Development Not Connecting to Public Sewer</b></p> <p>Restrict development that does not connect to the public sewer and discourage the proliferation of individual septic tanks and treatment plants, in order to protect groundwaters, consolidate the town structure and control ribbon development along approach roads into Oranmore.</p>	<p>See Objective UI 3</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Objective UI 5 – Surface Water Drainage and</b></p>	<p>See Objective UI 2 above.</p>	<p>No changes are proposed for this</p>	<p>No changes required or proposed</p>



<p><b>Sustainable Drainage Systems</b></p> <p>Maintain, and enhance as appropriate, the existing surface water drainage system throughout the Plan Area and ensure that new developments are adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems in new developments. Surface water runoff from development sites will be limited to pre-development levels and planning applications for new developments will be required to provide details of surface water drainage and Sustainable Drainage Systems proposals.</p>		Objective.	
<p><b>Policy UI 2 – Water Quality</b></p> <p>It is the policy of Galway County Council to protect and improve water quality in all waters, in conjunction with other agencies and stakeholders in accordance with the EU Water Framework Directive (2006/60/EC and other relevant EU Directives, including associated national legislation and policy guidance, (including any superseding versions of same), and to support the implementation of the Western River Basin District Management Plan and consider the above when assessing new development proposals.</p>	The implementation of this Policy will facilitate the improvement/maintenance of good water quality and good ecological status within Galway Bay and the Plan area.	No changes are proposed for this Policy.	No changes required or proposed
<p><b>Objective UI 7 – Western River Basin District Management Plan and Protection of Waters</b></p> <p>Support the implementation of the relevant recommendations and measures as outlined in the</p>	Supporting the recommendations and measures of the Western River Basin District	No changes are proposed for this Objective.	No changes required or proposed

<p>Western River Basin Management Plan 2009-2015 or any other plan that may supersede same during the lifetime of this Local Area Plan. Development shall only be permitted where it can be clearly demonstrated that the proposal would not have an unacceptable impact on the water environment, including surface water, groundwater quality and quantity, river corridors and associated wetlands, estuarine waters and coastal waters.</p>	<p>Management Plan and associated management plans such as the Transitional and Coastal Waters Action Programme, the Clarin/Kilcolgan and Corrib Water Management Unit Action Plan will ensure that the good water quality and ecological status of Galway Bay is improved maintained over the lifetime of the Plan.</p>		
<p><b>Objective UI 8 – Groundwater &amp; Aquifer</b></p> <p>Support the protection of groundwater resources and dependent wildlife/habitats in accordance with the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010) or any updates. Protect the regionally important aquifer that under lays the Plan Area from risk of environmental pollution and have regard to any groundwater protection schemes and groundwater source protection zones where data has been made available by the Geological Survey of Ireland.</p>	<p>Implementing this Objective will support the protection of groundwater and associated groundwater influenced habitats that form qualifying features for the Galway Bay Complex cSAC. In particular this Objective will support the protection of springs and alkaline fen habitats occurring within and adjacent to the Plan area.</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Policy UI 3 – Climate Change &amp; Air Quality</b></p> <p>It is the policy of Galway County Council to support and promote, in conjunction with other</p>	<p>Implementing this Objective will support a reduction in greenhouse</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>

<p>agencies, local, national and international initiatives for limiting emissions of greenhouse gases and encouraging the development of renewable energy sources in accordance with The 'National Climate Change Strategy 2007-2012' (or any superseding document).</p>	<p>gas emission and encourage the development of renewable energy.</p>		
<p><b>Objective UI 9 – Climate Change &amp; Air Quality</b></p> <p>Continue to implement Galway County Council's <i>Energy Action Plan</i> regarding energy efficiency and conservation in existing and future buildings, in energy use and procurement activities and in raising awareness and stimulating action within local communities. Promote the preservation of best ambient air quality compatible with sustainable development throughout the Plan Area by seeking to protect and maintain the regulatory standards contained with the EPA's <i>Air Quality in Ireland 2009 Key Indicators of Ambient Air Quality</i> (Environmental Protection Agency 2010, or any superseding document).</p>	<p>See Policy UI 3 above.</p>	<p><b>Insert additional sentence to the end of the original objective as follows:</b></p> <p><i>“and ensure that all air emissions associated with new developments are within Environmental Quality Standards as set out in statutory regulations namely SI 180/2011 Air Quality Standards 2011.”</i></p>	<p><b>Objective UI 9 – Climate Change &amp; Air Quality</b></p> <p>Continue to implement Galway County Council's <i>Energy Action Plan</i> regarding energy efficiency and conservation in existing and future buildings, in energy use and procurement activities and in raising awareness and stimulating action within local communities. Promote the preservation of best ambient air quality compatible with sustainable development throughout the Plan Area by seeking to protect and maintain the regulatory standards contained with the EPA's <i>Air Quality in Ireland 2009 Key Indicators of Ambient Air Quality</i> (Environmental Protection Agency 2010, or any superseding document) <i>and ensure that all air emissions associated with new developments are within Environmental Quality Standards as set out in statutory regulations namely SI 180/2011 Air Quality Standards 2011.</i></p>
<p><b>Objective UI 10 – Air Purification</b></p> <p>Encourage landscaping and deciduous tree planting in an environmentally sensitive manner within the Plan Area as a means of air purification,</p>	<p>The planting of deciduous trees and associated landscaping will have the potential to provide habitat for a range of</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>

<p>the filtering of suspended particles and the improvement of Oranmore’s micro- climate.</p>	<p>fauna as well as functioning as an air purifiers in the Plan area.</p>		
<p><b>Objective UI 13 – Flood Zones and Appropriate Land Uses (Refer to Map 3A/3B (of the LAP)</b></p> <p>Protect Flood Zone A and Flood Zone B from inappropriate development and direct developments/land uses into the appropriate Flood Zone in accordance with <i>The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009</i> (or any superseding document) and the guidance contained in <b>DM Guidance UI1 – Flood Zones and Appropriate Land Uses</b>. Where a development/land use is proposed that is inappropriate within the Flood Zone, then the development proposal will need to be accompanied by a Development Management Justification Test and Site-Specific Flood Risk Assessment in accordance with the criteria set out under <i>The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009</i>.</p>	<p>The restriction of inappropriate development in flood risk areas will ensure no artificial impermeable surfaces installed in such areas. This will ensure natural surface runoff characteristics are maintained along watercourses draining into Galway Bay.</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Objective UI 14 – Coastal Flooding</b></p> <p>Ensure that any development proposals within/near areas at risk of coastal flooding assess the implications of predicted sea level rise, and prohibit development that would be at unacceptable risk from coastal erosion or inundation, or that may result in an increased risk</p>	<p>The implication of this Objective, by restricting development in coastal areas vulnerable to flooding or sea level rise, will ensure negative impacts associated with developments in such area</p>	<p>Insert the following paragraph after the original objective:</p> <p><b>Adherence to the following will be a requirement:</b></p> <ul style="list-style-type: none"> <li>• <b>The Planning</b></li> </ul>	<p><b>Objective UI 14 – Coastal Flooding</b></p> <p>Ensure that any development proposals within/near areas at risk of coastal flooding, assess the implications of predicted sea level rise, and prohibit development that would be at unacceptable risk from coastal erosion or inundation, or that may result in an increased risk</p>

<p>in coastal erosion or inundation elsewhere.</p>	<p>are avoided.</p>	<p><i>System and Flood Risk Management Guidelines 2009 (or any superseding document)</i></p> <ul style="list-style-type: none"> <li>• <i>Habitats Directive</i></li> <li>• <i>Water Framework Directive.</i></li> </ul>	<p>in coastal erosion or inundation elsewhere.</p> <p><i>Adherence to the following will be a requirement:</i></p> <ul style="list-style-type: none"> <li>• <i>Planning Guidelines for Flood Risk Management</i></li> <li>• <i>Habitats Directive</i></li> <li>• <i>Water Framework Directive</i></li> </ul>
<p><b>Objective UI 15 – Waterbodies and Watercourses</b></p> <p>Protect waterbodies and watercourses within the Plan Area from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include a 10 metre protection buffer from rivers within the plan area, measured from the near river bank. Promote the sustainable management and uses of waterbodies and avoid culverting or realignment of these features.</p>	<p>The implementation of this buffer area will protect the water quality of rivers and streams and minimise disturbance to fauna (including Qualifying Species of the Galway Bay Complex cSAC and Inner Galway Bay SPA supporting by watercourses within the Plan area.</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Policy UI 5 – Waste Management</b></p> <p>It is the policy of the Council to support waste reduction and sustainable waste management through prevention, reduction and recycling.</p>	<p>This Policy will have a positive impact for the environment.</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>

<p><b>Objective UI 17 – Waste Prevention, Reduction &amp; Recycling</b></p> <p>Promote the prevention, reduction and recycling of waste in new developments, new development proposals shall be required to submit proposals demonstrating how this is to be achieved.</p>	<p>See Policy UI 5 above</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Objective UI 21 – Energy Conservation &amp; Efficiency</b></p> <p>New buildings shall be sustainable in their siting, orientation, design and construction. Passive solar design techniques, high energy efficiency, low impact construction methods and the use of local building materials shall be encouraged to ensure that new developments minimise their environmental impacts and long term costs.</p>	<p>This Objective will have a positive impact for the environment.</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Objective UI 23 – Seveso Site</b></p> <p>Galway County Council shall consult with the Health and Safety Authority when assessing any proposed relevant developments in or in the vicinity of sites identified under the Control of Major Accident Hazards Directive (Seveso II Directive), in order to prevent major accidents involving dangerous substances and to limit their consequences to the environment and community.</p>	<p>This Objective applies a precautionary approach to ensuring accidents at or in the vicinity of Seveso Sites are avoided.</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>
<p><b>Policy NH 1 – Natural Heritage, Landscape and Environment</b></p> <p>It is the policy of Galway County Council, to</p>	<p>This Policy aims to support the protection of the conservation status and</p>	<p>No changes are proposed for this Objective.</p>	<p>No changes required or proposed</p>

<p>support the conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of Natura 2000 sites, the protection of Natural Heritage Areas and proposed Natural Heritage Areas and the promotion of the development of a green/ecological network within the Plan Area, in order to support ecological functioning and connectivity, create opportunities in suitable locations for active and passive recreation and to structure and provide visual relief from the built environment. The protection of natural heritage and biodiversity, including Natura 2000 sites, will be implemented in accordance with relevant EU environmental directives and applicable national legislation, policies, plans and guidelines, including the following (and any updated/superseding documents):</p> <ul style="list-style-type: none"> <li>• EU Directives, including the <i>Habitats Directive</i> (92/43/EEC), the <i>Birds Directive</i> (2009/147/EC codified version of Directive), the <i>Environmental Impact Assessment Directive</i> (85/337/EEC), the <i>Water Framework Directive</i> (2000/60/EC) and the <i>Strategic Environmental Assessment Directive</i> (2001/42/EC).</li> <li>• National legislation, including the <i>Wildlife Act 1976</i>, the <i>European Communities (Environmental Impact Assessment) Regulations 1989</i> (SI No. 349 of 1989) (as amended), the <i>Wildlife (Amendment) Act 2000</i>, the <i>European Union (Water Policy)</i></li> </ul>	<p>integrity of Natura 2000 Sites.</p>		
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<p><i>Regulations 2003 (as amended), the Planning and Development (Amendment) Act 2010 and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011).</i></p> <ul style="list-style-type: none"> <li>• National policy guidelines, including the <i>Landscape and Landscape Assessment Draft Guidelines 2000</i>, the <i>Environmental Impact Assessment Sub-Threshold Development Guidelines 2003</i>, <i>Strategic Environmental Assessment Guidelines 2004</i> and the <i>Appropriate Assessment Guidelines 2010</i>.</li> <li>• Catchment and water resource management plans, including the <i>Western River Basin District Management Plan 2009-2015</i>.</li> <li>• Biodiversity plans and guidelines, including <i>Actions for Biodiversity 2011-2016: Ireland's National Biodiversity Plan</i>, the <i>Biodiversity Action Plan for County Galway 2008-2013</i> and the <i>Biodiversity Guidelines</i> produced by Galway County Council.</li> </ul>			
<p><b>Objective NH 1 – Natura 2000 Sites</b></p> <p>Protect Natura 2000 sites, including Special Protection Areas and Special Areas of Conservation, in accordance with the requirements in the EU <i>Habitats Directive 1992 (92/43/EEC)</i>, EU <i>Birds Directive 1979 (79/409/EEC)</i>, the <i>European Communities (Natural Habitats) Regulations 1997 (S.I. No 94 of 1997)</i>, the <i>Planning</i></p>	<p>This Objective directs the Development Strategy for the Oranmore LAP to ensure that the conservation management objectives, conservation status and integrity of Natura 2000 Sites will not be negatively impacted by</p>	<p><b>Insert an additional Point 3 to this Objective as follows:</b></p> <p><i>3.The plan or project will adversely affect the integrity of a priority qualifying habitat or</i></p>	<p><b>Objective NH 1 – Natura 2000 Sites</b></p> <p>Protect European sites that form part of the Natura 2000 network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU <i>Habitats Directive (92/43/EEC)</i>, EU <i>Birds Directive (2009/147/EC)</i>, the <i>Planning and Development (Amendment) Act 2010</i>, the <i>European Communities (Birds and Natural</i></p>



<p><i>and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (and any subsequent amendments or updated legislation) and having due regard to the guidance in the <i>Appropriate Assessment Guidelines 2010</i> (and any subsequent or updated guidance). A plan or project (e.g. proposed development) within the Plan Area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific knowledge and a Habitats Directive Assessment where necessary, that:</i></p> <p>1.The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 site (either individually or in combination with other plans or projects); or</p> <p>2.The plan or project will adversely affect the integrity of any Natura 2000 site but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.</p>	<p>elements of the LAP</p>	<p><i>species any Natura 2000 site but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest relating to human health or public safety, or where the proposed plan or project is of beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.</i></p>	<p><i>Habitats) Regulations 2011 (SI No. 477 of 2011)</i> (and any subsequent amendments or updated legislation) and having due regard to the guidance in the <i>Appropriate Assessment Guidelines 2010</i> (and any updated/superseding guidance). A plan or project (e.g. proposed development) within the Plan Area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific evidence and a Habitats Directive Assessment where necessary, that:</p> <ol style="list-style-type: none"> <li>1. The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 site (either individually or in combination with other plans or projects); or</li> <li>2. The plan or project will adversely affect the integrity of any Natura 2000 site (that does not host a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or</li> <li>3. <b>The plan or project will adversely affect the integrity</b> of any Natura 2000 site (that hosts a</li> </ol>
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			<p>priority natural habitat type and/or a priority species) <b>but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest</b>, restricted to reasons of <b>human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest</b>. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.</p> <p>3.</p>
<p><b>Objective NH 2 – Protected Habitats and Species</b></p> <p>Support the protection of protected habitats and species listed in the annexes to the EU <i>Habitats Directive 1992 (92/43/EEC)</i> and the <i>Birds Directive (2009/147/)</i>. This includes the protection of bats and their roosts, and the maintenance of woodland, hedgerows, treelines, ecological networks and corridors which serve as feeding areas, flight paths and community routes for bats.</p>	<p>See Policies DS 3, NH 1 above.</p>	<p>Insert additional reference to migratory birds and species protected under national legislation.</p>	<p>Objective NH 2 – Protected Habitats and Species</p> <p>Support the protection of protected habitats and species listed in the annexes to the EU <i>Habitats Directive 1992 (92/43/EEC)</i> and the <i>Birds Directive (2009/147/EC)</i> and regularly occurring-migratory birds and their habitats, and species protected under the Wildlife Acts. This includes the protection of bats and their roosts, and the maintenance of woodland, hedgerows, treelines, ecological networks and corridors which serve as feeding areas, flight paths and community routes for bats.</p>
<p><b>Objective NH 3 –Natural Heritage Areas and</b></p>	<p>This objective provides</p>	<p>No changes are proposed for this</p>	<p>No changes required or proposed</p>

<p><b>Proposed Natural Heritage Areas</b></p> <p>Protect Natural Heritage Areas and proposed Natural Heritage Areas in accordance with the requirements of the <i>Wildlife Act 1976</i>, the <i>Wildlife (Amendment) Act 2000</i> and the <i>Planning and Development Act 2000</i> (as amended). Where a proposed development within the Plan Area may give rise to likely significant effects on any Natural Heritage Area or proposed Natural Heritage Area an Ecological Impact Assessment or an Environmental Impact Assessment, as appropriate, may be required.</p>	<p>protection for pNHAs</p>	<p>Objective.</p>	
<p><b>Objective NH 4 – Impact Assessments</b></p> <p>Planning Applications for proposed developments within the Plan Area that may give rise to likely significant effects on the environment may be need to be accompanied by an Environmental Impact Statement, an Ecological Impact Assessment Report, an Appropriate Assessment Screening Report or a Natura Impact Statement, as appropriate.</p>	<p>These measures will ensure all proposed developments with the potential to result in likely significant effects to the environment and/or natural heritage will be identified, assessed and mitigated where necessary</p>	<p>Provide details of the legislation under which impact assessments are to be undertaken and give examples of the manner in which these assessment may be required to be presented as part of a planning application.</p>	<p><b>Objective NH 4 – Impact Assessments</b></p> <p>Ensure full compliance with the requirements of the EU Habitats Directive (92/43/EEC), SEA Directive (2001/42/EC) and EIA Directive 2011/92/EU and associated legislation/regulations, including the associated European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011), European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004-2011, Planning and Development (Strategic Environmental Assessment) Regulations 2004-2011 and the European Communities (Environmental Impact Assessment) Regulations 1989-2011 (or any updated/superseding legislation). Planning applications for proposed developments within the Plan Area that may give rise to likely significant effects on the environment may be need to be accompanied by one or more of the following: an</p>

			Environmental Impact Statement, an Ecological Impact Assessment Report, a Habitats Directive Assessment Screening Report or a Natura Impact Statement, as appropriate. Ensure that Natura Impact Statements and any other environmental or ecological impact assessments submitted in support of proposals for development are carried out according to best practice methodologies and contain all necessary baseline assessments.
<p><b>Objective NH 5 – Biodiversity &amp; Ecological Networks</b></p> <p>Support the protection of biodiversity and ecological connectivity within the Plan area including woodlands, trees, hedgerows, rivers, streams, natural springs, wetlands, stonewalls, fens, salt marshes, geological and geomorphological systems, other landscape features and associated wildlife, where these form part of the ecological network. Seek to retain and incorporate these natural features into developments, in order to avoid ecological fragmentation and maintain ecological corridors.</p>	See Policy NH1 above.	No changes are proposed for this Objective.	No change required or proposed
<p><b>Objective NH 6 – Water Resources</b></p> <p>Protect all water resources in the Plan Area, including rivers, streams, springs, surface waters, coastal waters, estuarine waters and groundwater quality, in accordance with the requirements and guidance in the EU <i>Water Framework Directive</i></p>	See Policy UI 2 and Objective UI 8 and UI 9 above.	Insert reference to designated shellfish waters and any other relevant EU or National legislation pertaining to the protection of water	<p><b>Objective NH 6 – Water Resources</b></p> <p>Protect all water resources in the Plan Area, including rivers, streams, springs, surface waters, coastal waters, designated shellfish waters, estuarine waters and groundwater quality, in accordance with the requirements and guidance in</p>

<p>2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended) and the Western River Basin Management Plan 2009-2015 (including any superseding versions of same). Support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development in the Plan Area.</p>		<p>resources.</p>	<p>the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the Western River Basin Management Plan 2009-2015, and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). Support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development in the Plan Area.</p>
<p><b>Objective NH 7 – Wetlands, Springs, Rivers and Streams</b></p> <p>Seek to preserve the wetlands of Oranmore, identify and protect natural springs, streams/rivers, where possible.</p>	<p>This Objective will promote the preservation of these important hydrological features.</p> <p>The recommended rewording will also ensure that informed decisions regarding plans or projects with the potential to impact these features can be made.</p>	<p>Insert the following sentence:</p> <p><b>and ensure that any plans/projects with the potential to adversely affect groundwater, springs, streams or rivers, identify the presence of these features and adequately assess the impacts to them. Protect springs identified on Ordnance Survey mapping or any springs newly identified during project development assessments so that</b></p>	<p><b>Objective NH 7 – Wetlands, Springs, Rivers and Streams</b></p> <p>Seek to preserve the wetlands of Oranmore, identify and protect natural springs, streams/rivers, where possible <b>and ensure that any plans/projects with the potential to adversely affect groundwater, springs, streams or rivers, identify the presence of these features and adequately assess the impacts to them. Protect springs identified on Ordnance Survey mapping or any springs newly identified during project development assessments so that they are not impeded.</b></p>

		<b>they are not impeded.</b>	
<p><b>Objective NH 8 – Frenchfort Stream Ecological Corridor</b></p> <p>Protect land for an Ecological Corridor linking two disjoint parts of the Galway Bay Complex cSpecial Area of Conservation and proposed Natural Heritage Area, along Frenchfort Stream (and require a Screening for Appropriate Assessment and/or Natura Impact Statement and an Ecological Management Plan to be produced for any new development along this area).</p>		<p>Insert the following sentence:</p> <p><b>The Ecological Management Plan will ensure no disruption to the conservation management objectives of the Natura 2000 sites and pNHAs.</b></p>	<p><b>Objective NH 8 – Frenchfort Stream Ecological Corridor</b></p> <p>Protect land for an Ecological Corridor linking two disjoint parts of the Galway Bay Complex cSpecial Area of Conservation and proposed Natural Heritage Area, along Frenchfort Stream (and require a Screening for Appropriate Assessment and/or Natura Impact Statement and an Ecological Management Plan to be produced for any new development along this area).</p> <p><b>The Ecological Management Plan will ensure no disruption to the conservation management objectives of the Natura 2000 sites and pNHAs.</b></p>
<p><b>Objective NH 9 – Trees and Hedgerows</b></p> <p>Protect important tree clusters and hedgerow in the plan area including those at Bluebell Woods and ensure that development proposals take cognisance of significant trees/tree stands and seek to retain natural boundaries including stonewall, hedgerow and tree boundaries, where possible.</p>		<p>No changes are proposed for this Objective.</p>	<p>No change required or proposed</p>
<b>Additional Recommended Mitigation Measure</b>			

		<p><b>Objective NH 10</b></p> <p>ensure that any plan or project affecting karst formations are adequately assessed with regard to their potential geophysical, hydrological, hydrogeological or ecological impacts on the environment</p>	<p><b>Objective NH 9 – Geological and Geomorphological Systems</b></p> <p>Protect and conserve geological and geomorphological systems, sites and features from inappropriate development that would detract from their heritage value and interpretation and ensure that any plan or project affecting karst formations are adequately assessed with regard to their potential geophysical, hydrological or ecological impacts on the environment</p>
		<p><b>Objective NH 11 – Summer Botanical Survey for Lands at Moneyduff</b></p> <p>Ensure that a Summer Botanical Survey is undertaken and submitted as part of any planning application for development of lands beside the cSAC/pNHA designated site in Moneyduff.</p>	<p><b>Objective NH 11 – Summer Botanical Survey for Lands at Moneyduff</b></p> <p>Ensure that a Summer Botanical Survey is undertaken and submitted as part of any planning application for development of lands beside the cSAC/pNHA designated site in Moneyduff.</p>
<p><b>Objective NH 12 – Control of Invasive and Alien Invasive Species</b></p> <p>Seek to prevent and promote measures to prevent the spread of invasive and alien species. Require a landscaping plan to be produced for developments near water bodies and ensure that</p>	<p>Certain alien invasive species will have the potential to negatively affects the conservation status of qualifying Annex II species occurring within and adjacent to the LAP. This measure will help to</p>	<p>No changes are proposed for this Objective.</p>	<p>No change required or proposed</p>

such plans do not include alien invasive species.	ensure potential pressures associated with alien invasive species are minimised and or avoided in the plan area.		
		<p><b>Objective NH 13 – Consultation with Environmental Authorities</b></p> <p><b>Galway County Council will consult with the relevant Environmental Authorities when considering plans and projects which are likely to affect Natura 2000 sites.</b></p>	<p><b>Objective NH 13 – Consultation with Environmental Authorities</b></p> <p>Ensure that all development proposals are screened to determine whether they are likely to have a significant direct, indirect or cumulative effect on the integrity or conservation objectives of any Natura 2000 site and, where significant effects are likely or uncertain, there will be a requirement for consultation with the relevant environmental authorities as part of any Habitats Directive Assessment that may be required.</p>

**Table 5-2: Specific Mitigatory Recommendations for Potentially Negative Policies/Objectives within the Plan**

<b>Current Policy</b>	<b>Recommended Change</b>	<b>Reason</b>	<b>Accepted in LAP</b>
<p><b>Objective DS 7 – Strategic Reserve</b></p> <p>Protect and safeguard the lands within the designated Strategic Reserve Area from any development</p>	<p>Protect and safeguard the lands within the designated Strategic Reserve Area from any development that would prejudice their potential as a reserve for the future, longer</p>	<p>The inclusion of this additional text for this Objective will ensure that all future developments in the Strategic Reserve area with the potential to result in likely significant effects,</p>	<p>Protect and safeguard the lands within the designated Strategic Reserve Area from any development that would prejudice their potential as a reserve for the future, longer</p>



<p>that would prejudice their potential as a reserve for the future, longer term strategic growth of Oranmore.</p>	<p>term strategic growth of Oranmore.</p> <p><b>Ensure that any future proposals within the Strategic Reserve that have the potential to result in likely significant effects to the environment and/or Natura 2000 Sites are identified and undergo environmental and/or Habitats Directive assessments. Cumulative/in combination effects of such future developments should be evaluated as part of such assessments.</b></p>	<p>alone or in combination with other plans or projects, to the environment and Natura 2000 will undergo appropriate environmental assessments.</p>	<p>term strategic growth of Oranmore, the County and the Region. <b>Ensure that any future plan or project within the Strategic Reserve that has the potential to result in likely significant effects to the environment and/or Natura 2000 Sites are identified and undergo environmental and/or Habitats Directive assessments, including the evaluation of cumulative/in combination effects. Any future plan or project within the Strategic Reserve Area will be subject to the requirements of The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009, as appropriate.</b></p>
<p><b>Objective CF 9 – Riverside Networks</b></p> <p>Encourage and support the development of riverside walkways and cycleways throughout the plan area where feasible and ensure that such proposals are considered or incorporated into the development of adjacent lands, as appropriate. <b>Refer to Map 2 - Specific Objectives.</b></p>	<p><b>Objective CF 9 – Riverside Networks</b></p> <p>Encourage and support the development of riverside walkways and cycleways throughout the plan area where feasible and ensure that such proposals are considered or incorporated into the development of adjacent lands, as appropriate. <b>Impacts on natural heritage and designated conservation area arising from recreational activities will be</b></p>	<p>Potential disturbance to bird and mammal species may arise along riverside habitats so requirement to highlight this as a potential consideration.</p>	<p><b>Objective CF 9 – Riverside Networks</b></p> <p>Encourage and support the development of riverside walkways and cycleways throughout the plan area where feasible and ensure that such proposals are considered or incorporated into the development of adjacent lands, as appropriate. <b>Impacts on natural heritage and designated conservation areas arising from recreational activities will be considered as part of any</b></p>

	<i>considered as part of any proposals.</i>		<b>proposal.</b>
<p><b>Objective CF 10 – Coastal Park</b></p> <p>Encourage and support the development of a coastal park in Oranmore for the purpose of passive and active recreation, having regard to flood risk.</p>	<p><b>Objective CF 10 – Coastal Park</b></p> <p>Encourage and support the development of a coastal park in Oranmore for the purpose of passive and active recreation, having regard to flood <i>risk and requirements under the Habitats Directive. Such developments will be encouraged and supported by the Plan where they will not result in likely significant effects to the integrity of Galway Bay cSAC and SPA</i></p>	<p>The suggested wording strengthens the commitment of the Plan only to facilitate such developments where it can be demonstrated scientifically that they will not result in likely significant effects to Natura 2000 Sites.</p>	<p><b>Objective CF 10 – Coastal Park</b></p> <p>Encourage and support the development of a coastal park in Oranmore for the purpose of passive and active recreation, having regard to flood risk <b>and requirements under the Habitats Directive. Such developments will be encouraged and facilitated where they will not result in likely significant effects to the integrity of Galway Bay cSAC and SPA.</b></p>
<p><b>Objective CF 11 – Coastal Walkway/Cycleway</b></p> <p>Facilitate the development of a coastal amenity walkway/cycle route and ancillary development along Galway Bay (or in close proximity to the coast) towards Galway City. This walk/cycle way will link to the town centre and other recreation/amenity/community facilities, and shall be carried out in an environmentally sensitive manner, in consultation with all relevant stakeholders.</p>	<p><b>Objective CF 11 – Coastal Walkway/Cycleway</b></p> <p>Facilitate the development of a coastal amenity walkway/cycle route and ancillary development along Galway Bay (or in close proximity to the coast) towards Galway City. This walk/cycle way will link to the town centre and other recreation/amenity/community facilities, and shall be carried out in an environmentally sensitive manner in consultation with all relevant stakeholders. <i>Such developments will only be facilitated where they will</i></p>	<p>The suggested wording strengthens the commitment of the Plan only to facilitate such developments where it can be demonstrated scientifically that they will not result in likely significant effects to Natura 2000 Sites.</p>	<p><b>Objective CF 11 – Coastal Walkway/Cycleway</b></p> <p>Facilitate the development of a coastal amenity walkway/cycle route and ancillary development along Galway Bay (or in close proximity to the coast) towards Galway City. This walk/cycle way will link to the town centre and other recreation/amenity/community facilities, and shall be carried out in an environmentally sensitive manner, in consultation with all relevant stakeholders. <b>Such developments will only be facilitated where they</b></p>

	<i>not result in likely significant effects to the integrity of the Galway Bay cSAC and SPA.</i>		<b>will not result in likely significant effects to the integrity of Galway Bay cSAC and SPA.</b>
<p><b>Objective TI 32– Access Road to Rail Station</b></p> <p>Provide for a new access road with pedestrian and cycling facilities, from the R338 Coast Road to serve the rail stop, which makes provision to pass/cross the rail line and which continues north to the R446 linking to the proposed road interchange on the R446. Route considerations will be informed by ecological impact assessment/ habitats directive assessment as appropriate</p>	<p><b>Objective TI 32– Access Road to Rail Station</b></p> <p>Provide for a new access road with pedestrian and cycling facilities, from the R338 Coast Road to serve the rail stop, which makes provision to pass/cross the rail line and which continues north to the R446 linking to the proposed road interchange on the R446. <i>Route considerations will be informed by ecological impact assessment/ habitats directive assessment as appropriate</i></p>	<p>The suggested wording strengthens the commitment of the Plan only to facilitate such developments where it can be demonstrated scientifically that they will not result in likely significant effects to Natura 2000 Sites.</p>	<p><b>Objective TI 32– Access Road to Rail Station</b></p> <p>Provide for a new access road with pedestrian and cycling facilities, from the R338 Coast Road to serve the rail stop, which makes provision to pass/cross the rail line and which continues north to the R446 linking to the proposed road interchange on the R446. <b>An ecological impact assessment or Habitats Directive Assessment shall inform route considerations, as appropriate.</b></p>

#### 5.4.2 Additional Mitigation Measures

A precautionary approach to developments relating to particular land use zonings (i.e. residential or business and technology developments) or Specific Objectives of the Plan has been promoted by the Plan. Any new plans or projects occurring in development land use zonings adjacent to sensitive qualifying fen habitats or in areas with karst formations will require detailed hydrological and hydrogeological assessments to establish the nature of groundwater flows and their vulnerability to potential development impacts. These assessments will also establish how groundwater pathways occurring within proposed development sites influence groundwater dependent habitats such as fens. The inclusion of the recommended Objective NH4 and NH10 will ensure that this approach is adopted within the Plan.

Any proposed developments in karst formations will be accompanied by detailed geophysical investigations to determine the integrity of the bedrock within the proposed development site prior to construction. Recommended Objective NH4 and NH10 will ensure that any potential impacts to karst formations and their resultant direct or indirect impacts to the environment in general and Natura 2000 Sites will be identified in advance of the commencement of new developments.

Any proposed development with the potential to result in adverse impacts to Natura 2000 Sites will be required to undertake an appropriate level of baseline investigations to establish how Natura 2000 Sites and their qualifying interests could be affected. This recommended approach is in line with the new recommended Objective labelled NH 10 in Table 5.1 above. Baseline investigations may include (but are not necessarily limited to):

- Hydrological, hydrogeological and geophysical assessments (as outlined above);
- Noise assessments (to determine the effects of noise disturbance (should this occur) to qualifying species);
- Visual assessments (to determine the effects of visual intrusions (should they occur) on qualifying species);
- Air quality assessments (to determine the effects of air emissions (should they occur) on qualifying habitats); and
- Ecological assessments, which may include botanical surveys and surveys for qualifying species likely to be impacted by a proposed plan or project.

The Objectives CF 10 and 11 are examples of potential developments that will be required to undergo some or all of the above assessments. Currently the Plan seeks to encourage the development of such facilities but it recognises the potential implications such developments will have to the conservation status of Natura 2000 sites. Hence the Plans commitment to only encourage such developments where it can be shown, upon assessment of a detailed development design, that no negative implications will arise to Natura 2000 Sites or the environment in general.

This is the approach that will be adopted for any new development within the Plan area with the potential to result in negative impacts to Natura 2000 Sites. Furthermore any such developments will be required to be assessed for its potential to result in cumulative impacts in combination with other existing or proposed developments. This approach is line with Policy DS3 and Objective NH 1 of the Plan.

Mitigatory Policies and Objectives of the Plan in combinations with the recommended policies and objectives outlined in this NIR will ensure the implementation of the Plan will avoid likely significant effects to Natura 2000 Sites.

## **6 Natura Impact Report Conclusion**

This NIR has reviewed the impacts arising from the Plan and found following a Stage 1 Screening Assessment that, without the implementation of mitigation measures, significant effects will have the potential to impact upon the integrity of three Natura 2000 Sites, namely the Galway Bay Complex cSAC; the Inner Galway Bay SPA: the Cregganna Marsh SPA and associated effects to the Rahasane Turlough SPA.

These potential impacts have been outlined in detail in Stage 2 of this NIR along with the commitments within the Plan that aim to ensure these potential impacts are avoided.

The requirement of the Plan to ensure Habitats Directive Screening and where necessary Appropriate Assessment of any future Plans or Projects which, alone or in combinations with other plans and project, are likely to have a significant direct or indirect impact on any Natura 2000 Sites will protect these Sites from potential adverse impacts.

Other measures within the Plan such as the zoning of Natura 2000 Sites as Environmental Management Areas with the objective to support the conservation management objectives of Natura 2000 Sites are examples of additional commitments to ensure the provisions of the Habitats Directives are fully implemented during the lifetime of the Plan.

The measures and the requirements for all new developments with the potential to adversely affect Natura 2000 Sites to undertake thorough assessments to inform the conclusions of Habitats Directive Assessment will ensure adverse impacts to the integrity of these Sites will be identified in advance of receiving planning permission. Such developments will only be permitted where it can be shown that such adverse impacts can be mitigated or minimised so that likely significant effects will be avoided.

In summary and in light of the:

- Original approach of the LAP and the zoning of all Natura 2000 Sites as Environmental Management Areas (EMA);
- Requirement as set out in Objectives DS 3 and NH 1 to undertake project-level HDA wherever the possibility of likely significant effects cannot be excluded; and

- Plan-level mitigation measures as outlined in Table 5.1 of this NIR and incorporated into the LAP;

It is considered that the adoption of the LAP will not result in likely significant effects to the conservation management or integrity of Natura 2000 Sites, either individually or in combination with other plans or projects.

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## 7 References

- Department of the Environment Heritage and Local Government (DEHLG) (2010). *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. Second Edition, February, 2010.
- English Nature (1999). Habitat Regulations Guidance Note No. 3.
- Environmental Protection Agency (2010). Water Quality in Ireland 2007 – 2009.
- European commission (2000). Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats directive 92/43/EEC. Luxembourg.
- European Commission (2002). *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*. Luxembourg.
- European Commission (2006). *Explanatory Notes and Guidelines for the Assessment, Monitoring and Reporting under Article 17 of the Habitats Directive*. Luxembourg.
- Fossitt J. A. (2000). *A Guide to Habitats in Ireland*. Heritage Council.
- Fox, A.D., Norriss, D.W., Stroud, D.A. & Wilson, H.J. 1994. *Greenland White-fronted Geese in Ireland and Britain 1982/83-1993/94 - the first twelve years of international conservation monitoring*. Greenland White-fronted Goose Study Research Report No. 8. GWGS, Aberystwyth & National Parks and Wildlife Service, Dublin. 55 pp.
- Heritage Council (2002). *Habitat Survey Guidelines*. Heritage Council.
- Keville O’Sullivan (2008). Ecological Report for Galway County Council Planning Reference 08/2739
- McCarthy Keville O’Sullivan (2009). Flora and Fauna Assessment for Galway County Council Planning Reference 09/1925.
- McCorry, M (2007). Saltmarsh Monitoring Programme - A Report for Research Branch, National Parks and Wildlife Service: Volume 3.
- Norriss, D.W. & Wilson, H.J. 1988. Disturbance and flock size changes in Greenland White-fronted Geese wintering in Ireland. *Wildfowl* 39: 63-70. O’Boyle et al, 2009
- Norriss, D.W. & Wilson, H.J. 1993. Seasonal and long-term changes in habitat selection by Greenland White-fronted Geese *Anser albifrons flavirostris* in Ireland. *Wildfowl* 44: 7-18.
- O’Boyle, S., McDermott, G. & Wilkes, R. (2009). *Dissolved oxygen levels in estuarine and coastal waters around Ireland*. Marine Pollution 58: 1657 – 1663.

Ruttledge, R.F. & Ogilvie, M.A. 1979. The past and current status of the Greenland White-fronted Goose in Ireland and Britain. *Irish Birds* 1: 293-363.

Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants & Land Use Consultants (2006). *Appropriate Assessment of Plans*.

Stroud, D.A., Fox, A.D., Urquhart, C., & Francis, I. (2011). International Single Species Action Plan for the Conservation of the Greenland White-fronted Goose.

Warren, S.M., Fox, A.D., Walsh, A. & O'Sullivan, P. 1992. Age of first pairing and breeding amongst Greenland White-fronted Geese. *Condor* 94: 791-793.

Wilson, H.J., Norriss, D.W., Walsh, A., Fox, A.D. & Stroud, D.A. 1991. Winter site fidelity in Greenland White-fronted Geese: implications for conservation and management. *Ardea* 79(2): 287-294.