PROPOSED KENURE - RUSH LOCAL AREA PLAN

APPROPRIATE ASSESSMENT
Under the EU Habitats Directive, Article 6(3)

FINAL REPORT

November 2008

South beach, Rush

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1. INTRODUCTION

Natura Environmental Consultants were commissioned by Fingal County Council to undertake an Appropriate Assessment of the proposed Kenure-Rush Local Area Plan and its potential impacts on the integrity of Natura 2000 sites. Natura sites are conservation areas which are designated under the EU Habitats Directive. This Assessment is also mindful of the future proposed Rush Local Area Plan -a proposed Town Plan yet to be prepared. Rogerstown Estuary is the nearest designated conservation area that could be impacted by potential impacts from the proposed LAP.

2. LEGAL BACKGROUND

The legal background to the requirements for Appropriate Assessments is found in Article 6 (3) of the EU Habitats Directive 92/43/EEC which states:

> *Any plan or project not directly connected with or necessary to the management of a Natura 2000 site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to Appropriate Assessment of its implications for the site in view of its conservation objectives.*
>
> *In the light of the conclusions of the assessment of the implications for the site, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned.*

An Appropriate Assessment is comprised of 4 Stages as outlined in the European Commission Guidance document (2001):

Stage 1 Screening: This stage examines the likely effects of a project either alone or in combination with other projects upon a Natura 2000 site and considers whether it can be objectively concluded that these effects will not be significant.

Stage 2 Appropriate Assessment: In this stage, the impact of the project is considered on the integrity of the Natura 2000 site with respect to the conservation objectives of the site and to its structure and function.

Stage 3 Assessment of Alternative Solutions: This stage examines alternative ways of implementing the project that, where possible, avoid any adverse impacts on the integrity of the Natura 2000 site.

Stage 4 Assessment where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the Natura site will be necessary.

- This report only covers Stage 1 and Stage 2.
- A summary of Stage 1: the Screening Matrix is given in Appendix 2 of this report. This is a stand-alone document.
- A summary of Stage 2: Appropriate Assessment is given in Appendix 3 of this report.
- This is a stand-alone document.

** The EU Habitats Directive 92/45/EEC, Article 3.1 states “A Coherent European ecological network of Special Areas of Conservation and Special Protection Areas pursuant to Directive 79/409/EEC shall be set up under the title Natura 2000”
Rogerstown Estuary is one such Natura 2000 site.

3. METHODOLOGY

The appropriate assessment of potential impacts on the integrity of Natura 2000 sites is based on; a review of existing documented information about the Natura sites and the proposed project and consultations with relevant statutory bodies. A field visit was made to the area as described below.

3.1. Desk Review

A desk study was carried out to collate the available information on the local ecological environment.

3.2. Consultation

BirdWatch Ireland (including the local Fingal Branch) was consulted in relation to the proposed development and potential impacts on protected bird species in the area. The National Parks and Wildlife Service (NPWS) was consulted in relation to designated areas and records of protected species within the study area and also in relation to the proposed extension of the Rogerstown Estuary (SPA) boundary which is currently under review (NPWS development applications unit, 2008).

The Parks Department, Planning Department, Water Services Department and Heritage Officer of Fingal County Council were also consulted as part of this study.

3.3. Field Visit

The study area was visited on 30th May and 11th July, 2008 in order to gain familiarisation with Rush LAP lands and habitats along the northern side of Rogerstown Estuary SPA/cSAC which is the part that could be potentially impacted by the proposed LAP.

3.4. Reporting

This report describes the existing area of Rush Village and the potential ecological impacts on Rogerstown Estuary Natura 2000 site. The findings of the Appropriate Assessment are summarised in Appendix 1 (Screening Matrix) and Appendix 2 (Appropriate Assessment).

4. DESCRIPTION OF PROPOSED LOCAL AREA PLAN

Rush is a rural coastal town located c. 22km north of Dublin City in north County Dublin. Its southern boundary is immediately adjacent to Rogerstown Estuary designated a candidate Special Area of Conservation (cSAC) and Special Protection Area (SPA) for birds. Two Local Area Plans are proposed for the Rush area.

1. The Kenure-Rush LAP. This relates to a residential development plan for the Kenure area located on the north western side of Rush.

2. An overall Rush Town Plan (LAP) relating to the overall Rush Town boundary, including the Urban Centre Strategy study area as defined in the Fingal County Development Plan 2005 – 2011. This LAP has yet to be prepared. This proposed Rush Town LAP will set out a co-ordinated framework for the long-term development of the town. The proposed LAPs will be prepared in two phases.

Phase 1 focuses on the development of 1,000 housing units in Kenure within an area of 31ha of residentially zoned lands located east and west of Park Road to the north of the town centre. The lands are bounded to the south by Brook Lane, to the north by Palmer Road and to the east by the Skerries Road. The southern boundary of this LAP is 900m north of Rogerstown Estuary cSAC boundary (See Figure 1). Rogerstown Estuary SPA/cSAC is an internationally important site for birds and has multiple conservation designations (See Section 5.1). This will expand the population of Rush from 8,000 to 11,000. It will also include the Rush Relief Road, located to the west of the town.

Phase II will include further development in the greater Rush area which has yet to be decided, ultimately to accommodate a population of up to 15,000.

This Appropriate Assessment will focus largely on Phase 1 for which there is the most information but will bear in mind the potential developments of Phase 2, the cumulative effects of which are noted in Section 6.4. The boundaries of the Kenure LAP and the overall Rush LAP are shown on Figure 1.

The land use within the Kenure LAP is currently under intensive agricultural use, managed mainly for horticultural cultivation including extensive areas of glasshouses. There is a long history of market gardening in this area due to its fertile sandy soils. Other aspects of the plan with potential significance to the ecology of the area include:

- The proposed Rush Relief Road running from the R128, north of Rush Demesne to rejoin the R128 in Rush village.
- The creation of a coastal walkway running from Rush Strand south along the coast and dune system and crossing the Natura 2000 site via a causeway to the south side of the estuary.

5. DESCRIPTION OF NATURA 2000 SITE

5.1. General description

Rogerstown Estuary is the nearest Natura 2000 site that could potentially be impacted by the proposed development. It is located less than 1km south of the Kenure –Rush LAP. Rogerstown Estuary is covered by a number of national and international conservation designations due to the important habitats, species of birds, animals and plants that occur within the site. Primarily it is a Special Protection Area (SPA) for birds and a candidate Special Area of Conservation (cSAC).

Other Natura 2000 sites in the vicinity include Malahide Estuary (cSAC) and Broadmeadow/Swords Estuary (SPA) which occupy a similar area. Both are situated 1.5km south of the study area. Broadmeadow (Malahide) Estuary is also an important bird site providing both feeding and roosting areas for a range of wintering waterfowl. The estuary holds an internationally important population of light-bellied brent geese and black-tailed godwit, and nationally important populations of a further twelve species. Baldoyle Bay (SPA) and Dublin Bay (SPA) are also important sites for waterfowl. Many of the wetland bird species found at Rogerstown Estuary commute between these four estuaries. This shows that birds can move to an alternative estuarine site if there is disturbance in one of the above, however, the habitat quality and carrying capacity of each estuary must be protected to maintain the overall population of bird species that rely in these sites for feeding, roosting and breeding. This report only focuses on potential impacts on Rogerstown Estuary as impacts on the other two estuaries are unlikely.

5.2. Legislation

Natura 2000 sites make up the coherent European ecological network (as described in the Habitats Directive (92/43/EEC) Article 3 (1) and are comprised of candidate Special Areas of Conservation (cSAC) designated under the EU Habitats Directive and Special Protection Areas (SPA's) designated under the EU Birds Directive (79/409/EEC). The primary objective of the cSAC is to maintain or enhance the favourable conservation status of the habitats and species for which the cSAC has been designated and similarly for SPAs, the objective is to maintain or enhance the favourable conservation status of the birds for which it has been designated.

The statutory agency responsible for these designated areas is the National Parks & Wildlife Service of the Department of Environment, Heritage and Local Government. Rogerstown Estuary is also covered by a number of other conservation designations as listed in Table 1. The main designated areas can be seen on Figure 2.

Table 1. Rogerstown Estuary Designated Nature Conservation Areas

Designated Areas	***Basis***
Special Protection Area	EU Birds Directive (79/409/EEC)
Candidate Special Area of Conservation	EU Habitats Directive (92/43/EEC)
Proposed Natural Heritage Area	Wildlife (Amendment) Act, 2000
Statutory Nature Reserve	Wildlife Acts, 1976 and 2000
Ramsar site	Ramsar Convention

5.3. Qualifying Interests

The EU Habitats Directive contains lists of habitats (Annex I) and species (Annex II) for which Special Areas of Conservation must be established by Member States. These are referred to as "Qualifying Interests". Similarly, the EU Birds Directive contains lists of important bird species (Annex I) and other migratory bird species for which Special Protection Areas must be established. These qualifying interests are listed in Tables 2, 3 and 4 below.

Table 2. Annex I habitat types (Qualifying interests) occurring in Rogerstown Estuary Natura 2000 site

Habitat types (as in Annex I of the Habitats Directive)	***Habitat Code****
Estuaries	1130
Mudflats and sandflats not covered by seawater at low tide	1140
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	1330
Salicornia and other annuals colonizing mud and sand	*1310*
Spartina swards (*Spartinion maritimae*)	1320
Mediterranean salt meadows (*Juncetalia maritimi*)	1410
Fixed coastal dunes with herbaceous vegetation (grey dunes)	2130
Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)	2120

* Habitat codes as used in the EU Habitats Directive

Table 3. Bird and plant species (Qualifying interests) listed in the Rogerstown Estuary Natura 2000 form

Species type	***Species name***
Bird species listed in Annex I of EU Birds Directive	Golden plover
	Little tern
Other migratory bird species covered by EU Birds Directive	19 species (see Table 4 below)
Other important species of flora and fauna listed in Natura 2000 form	Hairy violet *(Viola hirta)*
	Green-winged orchid *(Orchis morio)*
	Meadow barley (*Hordeum secalinum)*

The integrity of a Natura 2000 site referred to Article 6.3 of the EU Habitats Directive is determined based on the conservation status of the qualifying interests of the SAC/SPA.

5.4. Habitats

A review of the documented literature on habitats and species within the Rogerstown Estuary Natura 2000 site, closest to the proposed Kenure-Rush LAP was undertaken for this Assessment to determine the ecological value, potential use by the wetland birds and potential impacts from the proposed LAP. The habitats within the Natura site closest to the proposed Rush LAP can be divided into the intertidal habitats located in the outer Rogerstown Estuary and the coastal dune habitats along South Rush beach. The habitat classification follows Fossitt (2000), a brief description of the habitats in the study area is given below. The habitats are shown on Figure 3.

Littoral habitats (L)

There are a number of intertidal habitats in the outer estuary between the causeway and Rogerstown harbour, which are inundated regularly by the tide and are important for wetland birds feeding and roosting. These include muddy sand shores (LS3) and mixed substrate shores (LR4). There is some salt marsh formation on these shores.

Salt Marsh (CM)

There is an extensive area of salt marsh on the northern shore of the outer estuary located east of the causeway. This area is subject to regular inundation by the tidal estuarine waters. The vegetation contains large stands of cord grass (*Spartina* sp.). Other typical salt marsh species occurring include sea purslane *(Atriplex portulacoides*), salt marsh grass (*Puccinellia maritima*), scurvey grass (*Cochlearia officinalis*), sea aster (*Aster tripolium*) and sea plantain (*Plantago maritima*).

Sand dune habitats (CD)

The south beach at Rush is backed by a sand dune system. On the beach side it is comprised of young embryonic dunes (CD1) and behind, are larger dunes colonised by marram grass. These give way to more mature dunes with fixed dune vegetation (CD3) dominated by red fescue grass (*Festuca rubra*) and a range of small herbs including lady's bedstraw (*Galium verum*), birds-foot trefoil (*Lotus corniculatus*), kidney vetch (*Anthyllus vulneraria*), yarrow (*Achillea millefolium*), hawkbits (*Leontodon spp*.) wild thyme (*Thymus praecox*) and a number of other species including some rare and scarce species. Sea buckthorn (a shrub that was introduced to stabilise dunes) has colonised the dunes in Rush and is forming localised large patches of scrub to the exclusion of the herbaceous vegetation. Much of the fixed dune habitat is being managed as a golf course.

5.4.1. Habitat evaluation

All the above habitats have links with Annex I habitats under the EU Habitats Directive (See Table 2). The intertidal and saltmarsh habitats are particularly important as feeding and roosting areas for a number of wading birds. The beach is also important for roosting of some bird species. The dune habitats contain a rich diversity of flora including some rare and scarce species (DNFC 1998). These habitats are listed in the qualifying interests of the cSAC (See Table 1) and are of international ecological importance. Significant damage to these habitats will impact negatively on the integrity of the Natura 2000 site.

5.5. Species

5.5.1. Birds

The wintering bird populations of Rogerstown Estuary have been well monitored, mainly by teams of volunteer ornithologists as part of the Irish Wetland Bird Survey (IWeBS). These counts are undertaken on a monthly basis from September to March each winter and are ongoing from year to year. The normal method of summarising the populations present is to present an average of the peak annual count for each species during five consecutive winters. This smoothes out the effects of any extreme weather events in a particular year. While monitoring is on-going, the most recent five-year period for which published data are available is the period 1996/97 to 2000/01. The figures given by Crowe (2005) are summarised in Table 4.

The figures presented in Table 4 can be compared with the thresholds for nationally and internationally important concentrations. Rogerstown Estuary is internationally important for light-bellied brent goose and has nationally important numbers of a further sixteen species.

Table 4. Most recent available five-year mean annual peak of wintering water birds in Rogerstown Estuary (Crowe, 2005).

Species	***Rogerstown Estuary***	***National (Nat) or International (Int) Importance****
Light-bellied brent goose	1,194	Int
Greylag goose	87	Nat
Shelduck	781	Nat
Pintail	6	--
Shoveler	72	Nat
Oystercatcher	1,794	Nat
Ringed plover	187	Nat
Golden plover	348	--
Grey plover	343	Nat
Lapwing	2,166	Nat
Knot	2,159	Nat
Sanderling	89	Nat
Dunlin	3,128	Nat
Black-tailed godwit	212	Nat
Redshank	674	Nat
Greenshank	26	Nat
Turnstone	188	Nat
Black-headed gull	1,293	Nat
Herring gull	3,374	Nat

* A site is classified as internationally important if it regularly supports in excess of 20,000 waterbirds and/or if it supports at least 1% of the flyway population of any waterbird species. A site is deemed nationally important if it supports 1% of the all-Ireland population (Crowe, 2005).

Most species commute on a daily basis between the inner and outer estuaries, usually in response to tidal state or disturbance. Generally the inner estuary supports the largest roosts, particularly at high tide, and regularly includes internationally important numbers of light-bellied brent goose and nationally important numbers of greylag goose, shoveler, black-tailed godwit, redshank and greenshank. These either rest in the salt marsh, in rafts on the water or around pools in the fields on the northwest side of the estuary. With the exception of shelduck, all wildfowl species tend to concentrate more in the inner estuary (Crowe, 2005).

The EU Birds Directive provides protection beyond the limit of the SPA boundary for bird species listed on Annex I of the Birds Directive. The Directive requires that sufficient habitat is protected to ensure the survival of all endangered and threatened species (Annex 1 species) and of all migratory species.

5.5.2. Plants

There are a number of rare and uncommon species known to occur in the Rogerstown Estuary cSAC and listed in Table 3. Meadow barley (*Hordeum secalinum*) is legally protected under the Flora Protection Order (1999) of the Wildlife Act (1976) and is known to occur in rough pasture above the salt marsh at Balleally, Green winged orchid (*Orchis morio*), although not legally protected, it is another rare species known to occur in the Rush dunes. Other notable species found in the Rush dunes include: Frog orchid (*Coeloglossum viride)* and Dune fescue (*Vulpia fasiculata)* as listed in Coastal Habitats Survey of Fingal Co. Co. (2004).

6. DESCRIPTION OF LIKELY SIGNIFICANT IMPACTS - PHASE 1 KENURE –RUSH LAP

The proposed Kenure-Rush LAP will not directly impact the Natura 2000 site. This LAP area is located just under 1km to the north of the cSAC boundary.

There is the potential for indirect impacts on Rogerstown Estuary cSAC or SPA due to the fact that the increase in population will bring more people towards the Natura 2000 site for a number of reasons, mainly amenity and recreation. This may result in the following:

1. Potential degradation of protected (Annex I) habitats on the Rush south beach and dunes resulting from increased use of the area as public open space and amenity area.
2. Potential disturbance to birds in Rogerstown Estuary.
3. Cumulative impacts from other expected developments in the vicinity (Lusk, Portrane, Donabate and Swords).

6.1. Impacts on habitats

The proposed increase in population of Rush by up to 3,000 people will potentially put more pressure on the sensitive habitats and species of Rogerstown Estuary Natura 2000 site as follows:

Dune and beach habitats

The South beach at Rush is already experiencing some habitat degradation due to:

- Car parking on the beach,
- Current management of fixed dunes for amenity use including golf course,
- Some dune erosion,
- Invasion of sea buckthorn on the dunes
- Elements of anti-social behaviour.

An increase in the number of visitors may exacerbate the above situation.

The proposed coastal path would be located between Rush golf course and the beach (See Fig. 3). This will attract more visitors into the area and may have a potential negative impact on dune habitats which are sensitive to over-trampling and erosion. This could have a particularly severe impact where rare species are known to occur.

Estuarine habitats

The proposed coastal path continues westwards from Rogerstown harbour to Ballealy on the landward side of the estuary before crossing it at the causeway. It is unlikely to have a direct impact on the estuarine habitats. There is more of a risk of potential disturbance impacts to birds that use these habitats (See 6.2.1).

There has been ongoing dumping of agricultural and garden waste on the muddy sandy shores on the north side of Rogerstown estuary. This poses a threat to the underlying vegetation of the intertidal and saltmarsh habitats and reduces the feeding and roosting habitat for the waders.

6.2. Impacts on Birds

In order to review the potential for disturbance to birds in Rogerstown estuary resulting from the proposed development of a coastal path from Rush to Lusk, an analysis was carried out on bird population data collected as part of the Irish Wetland Bird Survey (IWeBS), administered by BirdWatch Ireland. The peak numbers of the species of wintering birds recorded from each of the IWebs subsites fringing the outer northern shore of the estuary are presented in Table 5 and shown on Figure 4. The data are from the five winters 2002/03 to 2006/07 inclusive.

The data in Table 5 shows that 21 species range over the majority of the area (in at least 4 of the 7 subsites) while a further 27 species are more restricted (being recorded in three of the subsites or less). Most of the large flocks of waders were recorded in the outer part of the estuary (subsite 19: Rogerstown Pier to Rush Harbour). The inner shoreline from the Viaduct to Rogerstown Pier (subsite 10-17) holds significant numbers of ducks and geese, especially brent goose, shelduck, wigeon and teal. Most species commute on a daily basis between the inner and outer estuary (divided by the railway viaduct) in response to tidal state or disturbance (Crowe 2005).

The subsites fringing the northern shore of the outer estuary regularly hold internationally important concentrations of light-bellied brent goose and nationally important numbers of shelduck. These species are liable to disturbance when feeding at low tide and are especially vulnerable when pedestrians and dogs leave the pathways and cross the intertidal mudflats or sandflats (Phalan and Nairn 2007). The outer estuary is also important for feeding waders which are widely distributed at low tide. The main high tide wader roosts occur on the outer Portrane beach on the south side of the estuary (McManus et al 1991) so these would not be affected by increased usage of the northern shore of the estuary between Rush and Lusk.

It can be concluded that the development of a coastal path between Rush and Lusk, which would be used by significant numbers of pedestrians, has the potential to cause increased disturbance to water birds at low tide in the north-eastern sectors of Rogerstown Estuary, thereby impacting on the integrity of the Natura 2000 site. However, if the path is fenced on the seaward side to prevent pedestrians and dogs from accessing the beach and mudflats at low tide, the impacts will not be significant.

Table 1: Peak numbers of wintering bird species recorded from each of the IWebs subsites* fringing the northern shore of outer Rogerstown Estuary over the period 2002/03 to 2006/07 (data from IWeBS courtesy of BirdWatch Ireland).

IWebs subsite Number	10	9	8	11	14	17	19
Species							
Great Northern Diver							1
Red-throated Diver							2
Little Grebe	9	5	10	1			
Great Crested Grebe	2			1			2
Cormorant	1	2		4	8		6
Shag							6
Little Egret	1				1		
Grey Heron	2		2	13	12	1	2
Mute Swan							2
Greylag Goose	1				26		
Light-bellied Brent Goose	169	187	500	98	84	450	88
Shelduck	60	250	270	29	2	2	
Wigeon	30	124	179	27	50	56	
American Wigeon						1	
Teal	50	32	527	2	12	25	
Mallard	17	10	10		40	23	
Pintail			36				
Shoveler		11	30	6			
Goldeneye	1			1			
Red-breasted Merganser	8	2		9	5	2	
Goosander						3	
Oystercatcher	30	30	11	45		26	670
Ringed Plover			5				144
Golden Plover							205
Grey Plover		1	2		15	1	250
Lapwing	10		120	177	90	40	82
Knot	15	15	105			6	320
Purple Sandpiper			20				23
Sanderling				1			45
Dunlin	160		70	23	10		2300
Jack Snipe					2	1	
Snipe	2		7			1	
Black-tailed Godwit	70	4	16				1
Bar-tailed Godwit	4		12	90	4		23
Whimbrel			1				
Curlew	12	76	270	397	5	1	12
Redshank	600	177	248	85	225	31	75
Greenshank	2	3	17	34	20	1	4
Turnstone	2	25	76	25		6	253
Black-headed Gull							230
Common Gull							17
Herring Gull							44
Great Black-backed Gull							84
Sandwich Tern							21
Roseate Tern							62
Common Tern							42
Kingfisher					1		

* See Figure 4 for location of subsites in Rogerstown Estuary

6.3. Pollution impacts

The surface water drainage system of the proposed LAP will ensure that there are no additional negative impacts on Rogerstown estuary,

Currently Rush discharges its untreated wastewater effluent to the sea at an outfall located at Hands Point which is located to the east of Rush. There are no wastewater discharges currently to Rogerstown estuary. The wastewater from the LAP will link into the upgraded WWTP in Portrane and the treated effluent will be discharged to the estuary. However provided the water quality of the treated effluent meets the required standards of the waste water discharge license it will not have any significant impact on the Natura 2000 Site.

6.4. Cumulative Impacts

The Appropriate Assessment requires an assessment of the impacts of the proposed development in conjunction with the cumulative impacts of other developments within a 5km radius of Rush. Some existing and proposed developments that have cumulative impacts on Rogerstown Estuary Natura site include the following.

Greater Rush Area LAP

A further LAP for the greater Rush area (Rush Town Plan LAP) is planned within the town boundary shown on Figure 1. This LAP will accommodate a further increase in population of 4,000 people resulting in a total increase in population in Rush from 8,000 to 15,000 people. The impacts will essentially be the same as those outlined in this report for the Kenure LAP only more so.

In addition there are potential impacts on some rare plants. There are a number of rare and uncommon species associated with arable fields on sandy soil located between Rush and Rogerstown Harbour. (DNFC 1998).

Balleally Landfill:

Balleally landfill is located on the northern banks of Rogerstown Estuary. Its active use is likely to close early 2010, clay waste will still be accepted after that date to make the final contours.

Leachate from the landfill is currently being tankered to Swords Sewage Treatment Plant. A Leachate Treatment Plant is being commissioned at the Landfill with a view to discharging treated leachate to the Rogerstown Estuary. The commissioning works have identified a difficulty in compliance with the COD (Chemical Oxygen Demand) emission limit value (ELV) as set out in the Waste Licence issued by the EPA for the Landfill. Fingal County Council has engaged consultants to prepare the “Rogerstown Estuary Treated Leachate Modelling Report”. In summary the findings of the report indicate that discharging treated leachate at up to 8 times the current loading rates are tolerable with no noticeable impact on the water quality in the estuary. The Council has sought a limited review of the Waste Licence issued by the EPA setting out proposed objective ELVs and proposed compliance limits for the discharge parameters as stipulated in the Waste Licence.

Lusk Local Area Plan*:*

The current population of Lusk is c.5,500. Under the Lusk LAP it is expected to grow to c.10,000 population.

Donabate Local Area Plan (2005)

This plan proposes to provide residential development and associated utilities for an estimated 13,000 increase in population around Donabate. This is located on the south side of Rogerstown Estuary.

Swords Town Plans
Fingal Co. Co. is preparing new town plans for Swords as an emerging city with a population of 100,000, arising from the arrival of Metro North in 2013 which will terminate at Swords. Although it is located 10km south west of Rush and is more likely to impact on Malahide Estuary, there will be likely to be some knock-on effects on Rogerstown Estuary, given the large scale of the plan.

Portrane WWTP
The proposed Portrane upgrade Waste Water Treatment Plant will be operational in 2012. It will also service Rush and Lusk and will accommodate the projected population increases. A pipeline to link Rush with the treatment plant in Portrane will traverse Rogerstown Estuary. The impact of this was addressed in a separate report (Natura 2008). The pipeline will be buried and will run from Whitestown pumping station 500m west of Rogerstown Pier to the southern tip of Portrane peninsula. It will then be buried along the western side of Portrane peninsula and traverse saltmarsh at the southern end before reaching the mainland at the southern side of Rogerstown Estuary. There are no records of rare and protected plant species along the line of the proposed route. A construction method statement will be agreed with NPWS to ensure minimum damage to the habitat during construction and restoration of habitats that are disturbed. Ultimately, this will have a positive impact on the water quality in Rogerstown estuary.

Rogerstown harbour:
The Council has no current plans for redevelopment of the Harbour at Rogerstown, however, they recently received a preliminary proposal from a private developer. The proposal is for a marina facility to accommodate 350 boats, training, sales area and offices, park and launch facility for up to 75 craft with service and storage areas and car parking for 150 cars. Apart from planning permission, this proposal also requires a lease from the Council and a foreshore license for the extension of the foreshore to allow additional land use and to facilitate the construction of the marina. At the moment this is only a preliminary proposal and has no status. Any project proposal would be subject to an Appropriate Assessment under Article 6.3 of the Habitats Directive.

To make a quantitative assessment of the combined significance of the cumulative impacts is difficult without further analyses of projected numbers of people and activities impacting on the Natura site and the sensitivity of the habitats and species likely to be impacted.

6.5. Impacts on the Integrity of the Natura Site

A key aspect of the Appropriate Assessment is to determine if the project will have an adverse impact on the integrity of the Natura site as stated in Article 6(3) of the Habitats Directive. Integrity is defined by the conservation objectives and status of the site. For Rogerstown estuary the conservation objectives are outlined in the cSAC Management Plan:

Objective 1: To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status.

Objective 2: To maintain the extent, species richness and biodiversity of the entire site.

Objective 3: To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Both Phase 1- Kenure-Rush LAP and the subsequent Rush Town Plan LAP have the potential to negatively impact on Objectives 1 and 2. However, good planning and the implementation of effective mitigation measures will avoid such potential impacts on the integrity of the Natura site.

7. MITIGATION MEASURES

As this Kenure-Rush LAP is a plan and not working project, only the principles of the mitigation are outlined below. The details of the mitigation required will be covered in separate projects such as the Portrane WWTP. Any project which could impact on Rogerstown Estuary Natura 2000 site will also require an Appropriate Assessment.

For the purpose of this LAP, a commitment is made to address the issues relating to potential impacts on the Rogerstown Estuary Natura 2000 site and ensure the mitigation will reduce the existing pressures on the site and avoid significant impacts on the qualifying interests of the Natura 2000 site. The following mitigation measures are proposed:

7.1. Management Plan for the Outer Rogerstown Estuary cSAC

As the potential impacts on the Rogerstown Estuary will come from a number of sources, not only Rush, but also Lusk, Donnabate, Portrane and Swords all of which have projected population increases. Fingal Co. Co. propose to develop a Management Plan for the Outer Rogerstown Estuary that will address all the existing and potential threats on the habitats and species of conservation concern in Rogerstown Estuary. This plan will link in to the existing integrated Master plan completed by Fingal Co. Co. in 2008 that includes nature conservation, amenity, agriculture and education for the Inner Estuary. This plan will address specific issues raised in this report as follows:

7.1.1. *Mitigation for impacts on Rush South Beach*

A management plan is required for Rush South beach and dunes that will ensure the protection of the Annex I habitats within the designated conservation area, while at the same time facilitating its use as an important local public amenity area. The management plan will address the current issues impacting on the habitats, notably;

- Car parking on the beach,
- Dune erosion
- Sea buckthorn invasion
- Anti social behaviour in the dunes

Many of the issues have already been addressed in the Dune Protection Plan for the Fingal Coast (2007) and mitigation measures recommended for Rush in the report will provide guidelines for a future Management Plan for Rush South beach.

Coastal walkway

Fingal Co. Co. has plans to install a coastal walkway along the Fingal coastline. Part of the walkway would run from the north beach in Rush, around the headland, along the back of Rush South beach, along the edge of Rogerstown estuary from Rogerstown harbour to the Iarnrod Eireann causeway crossing the estuary.

The installation of such a coastal walkway (if sensitively located) could be incorporated into an overall management plan for the coastal lands in Rush. The exact location of the pathway will be based on detailed survey of habitats and species on this coastal dune system and it will be sited to avoid impacts to sensitive habitats and species.

Screening in the form of planting or fencing may be required along certain parts of the route to avoid disturbance to wetland birds roosting or feeding in the vicinity. Car parking will be banned on the south Rush beach and appropriately placed signage will direct cars to an alternative car park area.

The ban on dumping on intertidal habitats will be enforced. Information on the natural heritage of the area should easily accessed by the public by including it on local authority web sites and on clearly visible signs in the area. A suitably qualified coastal warden is advised for the coastal area to ensure ongoing supervision and implementation of the mitigation measures.

7.1.2. Mitigation for Impacts on birds and estuarine habitats

The proposed walkway along the edge of the north shore of Rogerstown estuary has the potential to impact on nearby roosting/feeding birds on the intertidal habitats. The walkway should be located as far back as possible from the shore, ideally in the adjoining fields. It should be screened at sensitive locations by fencing, berms and/or appropriate planting. This would be based on further survey of habitats and bird usage in this part of the estuary. The proposed walkway is to cross the causeway by constructing a path/track onto the western side, to link to the southern side of the estuary. Further survey will be required to assess potential impacts on birds as only a structure that has no significant impact on birds will be permitted.

Dumping of agricultural and garden waste along the north shore of Rogerstown Estuary will be prohibited. This will require signage and enforcement of a deterrent (eg. fine)

The cessation of the Balleally landfill, planned for 2010 and treatment of leachate will significantly reduce impacts on the estuary.

The proposed upgraded WWTP plant in Portrane (due to be operational in 2012).will service both the Kenure-Rush LAP and the subsequent proposed Rush LAP for the greater Rush area.. Currently Urban wastewater from Rush is discharged from an outfall east of Hands Point. The upgraded WWTP will improve the water quality of the waste water effluent arising from Rush. This can be viewed as a positive impact.

7.2. Alternative amenity locations

The conservation of other open spaces with semi-natural habitats within the Rush Town LAP and environs, will enhance the overall biodiversity of Rush and will take some of the visitor pressure off the Rogerstown Estuary Natura 2000 site as an area for amenity use. There are a number of areas of local ecological value that serve also as amenity areas in and around Rush that could be enhanced to provide better access and facilities for visitors such as;

- North beach in Rush.
- Lands (grassland and cultivated) on the headland and cliffs near the Martello tower east of Rush town.
- Kenure Park parkland and trees.
- A loop walk from Kenure Park to North beach via Brook stream.
- Open space areas currently in agricultural use west of Kenure to be developed for amenity use.
- Better links to wider amenity areas such as Newbridge House and Ardgillen.

The above areas will not be built upon, They will be used in such a way that their ecological value is maintained. Some of these sites are amenity sites already used by the people of Rush notably Rush north beach and to a less extent Kenure Park. Providing alternative amenity areas for the people of Rush will help to reduce visitor pressure on Rush south beach and this will give added indirect protection to the qualifying interests of the Rogerstown Estuary Natura 2000 site.

8. CONCLUSIONS

Rogerstown Estuary is a designated Special Protection Area (SPA) and candidate Special Area of Conservation (cSAC) that is of international importance for birds. These two conservation designations make up the Natura (2000) site under the EU Habitats Directive. The proposed Kenure-Rush LAP will be located, 900m north of Rogerstown Estuary Natura 2000 site. The projected population increase is from 8,000 to 11,000. An Appropriate Assessment was undertaken at the request of Fingal Co. Co. to determine if there would be a likely significant adverse impact of the proposed LAP on the integrity of the adjoining Rogerstown Estuary SPA/cSAC. Stages 1 and 2 of the Appropriate Assessment process were completed.

Stage 1, Screening: to determine if there is likely to be a potential adverse impact on the Natura 2000 site. The Screening matrix concluded, that based on the available information, there was a potential significant negative impact on the Natura 2000 site and an Appropriate Assessment was required.

Stage 2 An Appropriate Assessment was undertaken which included research of existing relevant information, field survey of the LAP lands, adjoining Rogerstown Estuary SPA/cSAC and consultations with relevant statutory bodies and NGO's. This report concluded that there are existing pressures and impacts on the habitats and species of the Natura site. There is the potential for the LAP to exacerbate these impacts on the Natura site due to disturbance effects of the projected increased number of people using the dunes as an amenity area or on the birds which are sensitive to disturbance by people and dogs walking. Cumulative impacts from other proposed plans within a 5km radius (including a further LAP for the greater Rush area) are likely to put additional pressure on maintaining the conservation status of the habitats and species for which the Natura site is designated.

As the potential impacts on the Rogerstown Estuary will come from a number of sources, not only Rush. Fingal Co. Co. proposes to develop a Management Plan for the Outer Rogerstown Estuary that will address all the existing and potential threats on the habitats and species of conservation concern in Rogerstown Estuary. This plan will link in to the existing integrated Master plan completed by Fingal Co. Co. in 2006.

A number of mitigation measures will be considered, that will reduce the existing and potential future negative impacts on the coastal dune systems and potential increased disturbance impacts on birds in the estuary such as a Management plan for the Rush coastal lands (including Rush North Beach, Rush south beach and dunes, Rogerstown Estuary), a coastal walkway and the enhancement of alternative amenity areas in and around Rush. The details of appropriate mitigation measures will be the subject of a separate project for which an Appropriate Assessment will be required.

At this stage it can be conclusively stated that there is a commitment by Fingal Co. Co. as part of this LAP to address the ongoing and future issues that are impacting on the Natura site and to propose appropriate mitigation measures to minimise the impacts. Provided the measures are implemented, there will be no significant negative impact on the integrity of the Natura 2000 site. The mitigation measures will be developed in consultation with NPWS. There is a commitment by Fingal Co. Co. to implement whatever mitigation measures are agreed upon.

The National Parks and Wildlife Service have been consulted during the preparation of the Appropriate Assessment process but will need to comment on this report before the process is complete.

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10. APPENDIX 1. SCREENING MATRIX

Stage 1: SCREENING MATRIX FOR THE PROPOSED KENURE-RUSH LOCAL AREA PLAN WITH REGARD TO POTENTIAL IMPACTS ON ROGERSTOWN ESTUARY NATURA SITE 2000 (which includes the Special Protection Area *(SPA) for birds and candidate Special Conservation Area ** (cSAC).

(Following Article 6 (3) of the European Union Habitats Directive (92/43/EEC)

****Assessment of the effects of the proposed Kenure-Rush Local Area Plan on the integrity of Rogerstown Estuary Special Protection Area (Site Code 004015) and candidate Special Area of Conservation (Site Code 000208).*	
Description of the project or plan	
Location	The proposed Kenure-Rush Local Area Plan (LAP) relates to the Kenure area on the north-west side of Rush. Rush is a rural coastal town located c. 22km north of Dublin City in north County Dublin.
Distance from designated site	The Kenure-Rush LAP is located 900m north of Rogerstown Estuary Natura 2000 site.
Brief Description of the project or plan	The proposed Kenure-Rush LAP is the first part of a co-ordinated framework for the long-term development of the town. This LAP focuses on the development of c. 1,000 housing units in Kenure within an area of 31 ha with associated physical and social infrastructure. This will expand the population from 8,000 to 11,000. It will also include the Rush Relief Road, located to the west of the town and a proposed coastal walkway from Rush to Rogerstown estuary
Is the plan directly connected with or necessary to the Natura 2000 site management for nature conservation?	No

* A Special Protection Area (SPA) is a designated under the EU Birds Directive (79/209/EEC) for the protection of named bird species
** A candidate Special Area of Conservation is designated under the EU Habitats Directive (92/43/EEC) for the protection of certain habitats and species as listed in the Directive.

*** Prepared in accordance with documents: European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC and European Commission (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/49/EEC; clarification of the concepts of: Alternative solutions, Imperative reasons of overriding public interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.

<table>
<tr><th colspan="2">2. Brief Description of the Natura 2000 site</th></tr>
<tr><td>Name</td><td>Rogerstown Estuary</td></tr>
<tr><td>Site designation status</td><td>
<table>
<tr><th>Designation</th><th>Basis</th></tr>
<tr><td>Special Protection Area. (Site code 004015)</td><td>EU Birds Directive (79/409/EEC)</td></tr>
<tr><td>Candidate Special Area of Conservation (Site Code 000208)</td><td>EU Habitats Directive (92/43/EEC)</td></tr>
<tr><td>Proposed Natural Heritage Area (Site Code 000208).</td><td>Wildlife (Amendment) Act, 2000</td></tr>
<tr><td>Statutory Nature Reserve (S.I. No. 71/1988)</td><td>Wildlife Acts, 1976 and 2000</td></tr>
<tr><td>BirdWatch Ireland Reserve</td><td>Lands owned by voluntary body</td></tr>
<tr><td>Ramsar site</td><td>Ramsar Convention</td></tr>
</table>
</td></tr>
<tr><td>Natura 2000 Site description</td><td>Rogerstown Estuary is a relatively small narrow estuary situated south of Rush and c. 2km north of Donabate. It is a good example of an estuarine system with a range of typical habitats represented. Rogerstown Estuary is an important winter waterfowl site and supports a population of Pale-bellied Brent Goose of international importance. A further 16 species have populations of national importance listed in Table 4 of the Appropriate Assessment Report. The site includes a coastal dune system along Rush South beach.</td></tr>
<tr><td>Qualifying species</td><td>
<table>
<tr><th>species</th><th>Basis</th></tr>
<tr><td>Golden plover</td><td rowspan="2">EU Birds Directive</td></tr>
<tr><td>Little tern</td></tr>
<tr><td>22 species (see Table 4 Appropriate Assessment Report)</td><td>Other migratory bird species covered by EU Birds Directive</td></tr>
</table>
</td></tr>
<tr><td>Qualifying habitats</td><td>
<table>
<tr><th>Habitat types (as in Annex I of the Habitats Directive), (Codes)</th></tr>
<tr><td>Estuaries (1130)</td></tr>
<tr><td>Mudflats and sandflats not covered by seawater at low tide (1140)</td></tr>
<tr><td>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) (1330)</td></tr>
<tr><td>Salicornia and other annuals colonizing mud and sand (1310)</td></tr>
<tr><td>Spartina swards (Spartinion maritimae) (1320)</td></tr>
<tr><td>Mediterranean salt meadows (Juncetalia maritimi) (1410)</td></tr>
<tr><td>Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130)</td></tr>
<tr><td>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) (2120)</td></tr>
</table>
</td></tr>
<tr><td>Non-qualifying habitats or species of interest</td><td>Short-eared owl (Annex I, Birds Directive)
Yellow hammer (Red listed species of Conservation Concern)
Otter (Annex II, Habitats Directive)
Bats (Annex IV, Habitats Directive)</td></tr>
</table>

	Meadow Barley (*Hordeum secalinum*) (Flora Protection Order, 1999) Hairy Violet (*Viola hirta*) (Flora Protection Order, 1999) Green-winged Orchid *(Orchis morio)* Red Data Book Species
Unit size	586 ha
Condition	The current condition is not exactly known. However, the quality is variable owing to pollution from a number of sources, especially a large landfill site at Ballealy which was built on the mudflats of the north shore. The landfill site is also a source of pollution to the estuary. There is a stormwater discharge pipe from the landfill to the estuary. The salt marshes which fringe the estuary are of ecological significance due to their importance for the wildfowl and the scarcity of this habitat on the east coast. The saltmarsh includes both Atlantic and Mediterannean salt meadows, as well as Salicornia flats. The population of Brent Goose in the estuary is nevertheless of international importance and a further 16 species are of national importance. The dune habitats on Rush South beach are Annex I habitats. They are partly degraded due to current management regimes and invasion of sea buckthorn.
Assessment Criteria	
3. 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 sites.	4. Proximity of Kenure-Rush LAP development to the Rogerstown Estuary Natura 2000 site. 5. Potential degradation of dune and beach habitat resulting from increased use of the area as public open space and amenity area. 6. Potential disturbance to wetland birds and estuarine habitats of Rogerstown Estuary caused by an increased numbers of walkers and dogs 7. Cumulative impacts from other expected developments in the vicinity (Lusk, Portraine, Donabate and Swords).
4. 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 site by virtue of: ▪ Size and scale; ▪ Land-take; ▪ Distance from Natura 2000 site or key features of the site; ▪ Resource requirements; ▪ Emissions; ▪ Excavation requirements; ▪ Transportation requirements; ▪ Duration of construction, operation etc.; ▪ Others.	1. The increase in population will bring more visitors to the beach and amenity areas around Rogerstown Estuary Natura site. This could potentially result in impacts on protected Annex I habitats on Rush beach and dunes or indirect impacts on birds within the estuary due to disturbance from people and dogs walking close to bird roosting and feeding areas. 2. The Kenure housing development will utilize existing arable lands which have traditionally been under intensive horticultural cultivation. There are a number of scarce and rare species which are known from this area which may be impacted. (Further survey would be required). 3. A proposed Rush Relief road will carry traffic around the western side of the town. This will not have a direct impact on the cSAC/SPA 4. Dumping on intertidal habitats in Rogerstown estuary and anti social activities which are already an issue in the Natura site are likely to increase. 5. Waste water from the LAP will be pumped to the new WWTP plant in Portrane which will be in use in 2012. Waste water is currently being discharged to the sea 2km north of the Natura site. This will be a positive

	impact. 6. Cumulative impacts from other expected developments including Local Area Plans proposed for towns within 5km radius such as Lusk and Donabate. An extensive strategic plan is also being developed for Swords, located 10km to south west in conjunction with the arrival of the Metro North line to Swords. It is difficult to quantify the significance of the combined cumulative impacts. 7. . Further development is planned in the greater Rush in the future. This will aim to accommodate a further population increase of 4,000 with a total population of up to 15,000 8. Construction of the Kenure Rush LAP will not commence before the upgrade of the waste water treatment plant (which will also service Rush) is complete in 2012. Completion of the whole Rush LAP is not known.
5. Describe any likely changes to the site arising as a result of: ▪ Reduction of habitat area; ▪ Disturbance of key species; ▪ Habitat or species fragmentation; ▪ Reduction in species density; ▪ Changes in key indicators of conservation value; ▪ Climate change.	It is not possible to state from this LAP if there will be a likely impact on the rare and protected species within the Natura 2000 site. It can be stated that any reduction in the area of Annex I habitat in the Natura site, may have a knock on impact on birds dependent on the habitat for feeding or roosting. If there is significant disturbance to birds species such as brent goose or Annex I habitats such as the dune or intertidal habitats, this constitutes a negative impact on one of the qualifying interests of the Natura site. Loss of habitat may include loss of rare plant species that occur in the habitat. Habitat fragmentation caused by trampling, dumping or erosion will diminish the habitat area and quality and impact on the integrity of the Natura site. Climate change. It is generally accepted that global warming will result in rise in sea level. By how much is not known. Estimates 0.15m/100years! This will have the effect extending tidal inundation across the low-lying land adjacent to the estuary and a potential increase in erosion of coastal habitats. Hence any impacts will become more pronounced with climate change.
6. Describe any likely impacts on the Natura 2000 site as a whole in terms of: ▪ Interference with the key relationships that define the structure of the site; ▪ Interference with key relationships that define the function of the site.	There is a risk of further degradation to the beach and dune habitats if the likely increase in visitor use and potential anti social behaviour is not properly managed. The existing spread of sea buckthorn is an ongoing threat to Annex I fixed dune habitat. This could be reduced if a controlled sea buckthorn eradication programme is incorporated into an overall beach/dune management plan. Disturbance to birds in the outer estuary caused by an increase in people accessing the area along the proposed coastal walkway could have a negative impact on these birds causing them to move. This depends on the location of the walkway, the numbers of people accessing the area and screening of disturbance effects such as planting, berm construction. Ongoing dumping of agricultural and gardening waste on the intertidal habitats could have a negative impact on the habitats used by birds.

7. Describe from the above those 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.	On the basis of the information available for the Kenure-Rush LAP, from field survey and consultation with relevant statutory and non-statutory agencies, it has been concluded that significant effects cannot be ruled out as a result of the elements of the proposed Rush LAP and therefore an Appropriate Assessment is required to determine the level of significance of the potential impacts from the Kenure-Rush LAP.

11. APPENDIX 2. APPROPRIATE ASSESSMENT

Stage 2: APPROPRIATE ASSESSMENT FOR THE PROPOSED KENURE-RUSH LOCAL AREA PLAN, WITH REGARD TO POTENTIAL IMPACTS ON ROGERSTOWN ESTUARY NATURA SITE 2000

*(Following Article 6 (3) of the European Union Habitats Directive (92/43/EEC)

***Assessment of the effects of the proposed Kenure-Rush Local Area Plan on the integrity of the Rogerstown Estuary Natura 2000 site (code 000208). This includes the designations Special Protection Area (site code 004015) and Special Area of Conservation (000208)**	
Describe the elements of the plan that are likely to give rise to significant effects on the site	The increase in population by 3000 arising from the Kenure-Rush LAP at Kenure has the potential to increase existing impacts on the habitats and species of Rogerstown Estuary Natura 2000 Site. The creation of a coastal walkway from Rush north beach to the southern side of Rogerstown Estuary. The exact location of the proposed walkway is yet to be decided, but it will be located near the edge of the Natura site (See Figures 2 and 3 of AA report). It will traverse the Natura site along the existing causeway to reach the southern side of the estuary and link into the longer Fingal Coastal Walkway. Depending on its location, the walkway could give rise to potential significant impacts due to disturbance to wetland birds in the estuary and Annex 1 habitats in dunes and intertidal areas. The cumulative impact of other planned developments such as Local area plans for Lusk, Donabate and town plans for Swords is potentially the most significant and the most difficult to quantify.

*Prepared in accordance with documents: European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC and European Commission (2007)Guidance document on Article 6(4) of the 'Habitats Directive' 92/49/EEC; clarification of the concepts of: Alternative solutions, Imperative reasons of overriding public interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.

<table>
<tr>
<td>Set out the conservation objectives of the site</td>
<td>
The conservation objectives are set out in the National Parks and Wildlife Service Management Plan for the cSAC and SPA and the birds are listed on the Natura 2000 form as follows:.

Objective 1: To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status: Estuaries; Mudflats and sandflats not covered by seawater at low tide; Salicornia and other annuals colonizing mud and sand; Atlantic salt meadows (Glauco-Puccinellietalia maritimae); Mediterranean salt meadows (Juncetalia maritimi); Shifting
dunes along the shoreline with Ammophila arenaria (white dunes); Fixed coastal dunes with herbaceous vegetation (grey dunes).

Objective 2: To maintain the extent, species richness and biodiversity of the entire site.

The bird species of special conservation interest in the SPA are listed below:

<table>
<tr><td>Light-bellied brent goose
Greylag goose
Shelduck
Pintail
Shoveler
Goldeneye
Red-breasted merganser
Oystercatcher
Ringed plover
Golden plover
Grey plover
Lapwing</td><td>Knot
Sanderling
Dunlin
Black-tailed godwit
Bar-tailed godwit
Redshank
Greenshank
Turnstone
Black-headed gull
Herring gull</td></tr>
</table>

Objective 3: To establish effective liaison and co-operation with landowners, legal
users and relevant authorities.

It should be noted that the current SPA boundary is under review by the NPWS and is likely to be extended at least to be coincident with the cSAC boundary.
</td>
</tr>
<tr>
<td>Describe how the plan will affect key species and key habitats</td>
<td>
Species
The wetland birds that are listed above in objective 2 are sensitive to varying degrees of disturbance by human activities. Significant numbers of birds notably light bellied brent goose roost and feed on intertidal habitats in the outer Rogerstown estuary. See Section of AA report. The general increase in population from the LAP and the coastal walkway will bring greater numbers of people to the edge of
</td>
</tr>
</table>

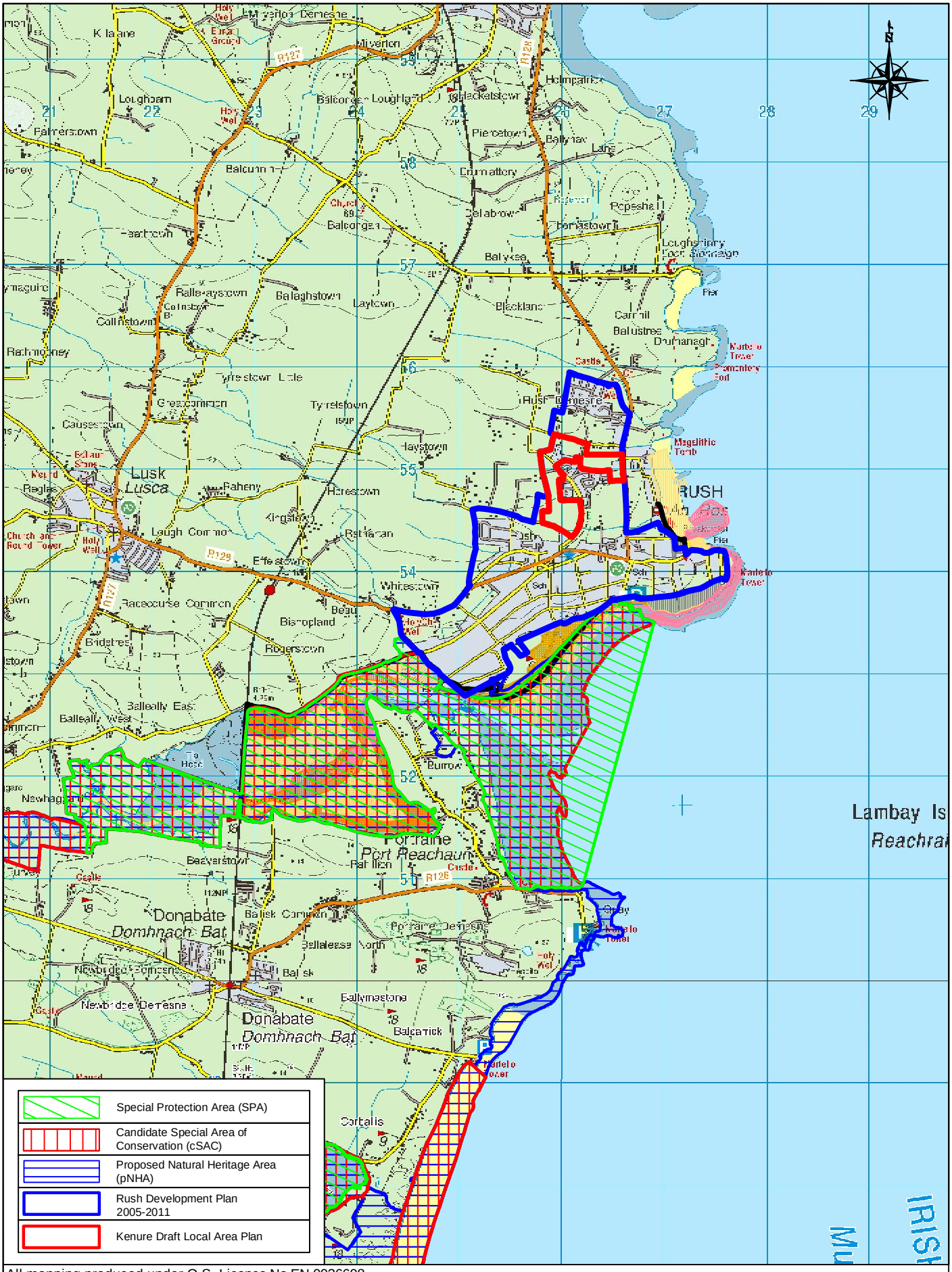
	the estuary where the birds congregate. Depending on the numbers and level of activity, this may impact the birds enough to cause them to move. It may reduce the area of effective roosting/feeding habitat for them and ultimately their population density. However, mitigation should avoid or significantly reduce the potential disturbance impacts. **Habitats** The habitats of the coastal dune system along Rush south beach are Annex I under the EU Habitats Directive and are part of the qualifying interest of the site as listed above in Objective 1. The proposed increase in population of Rush by up to 3,000 people after the LAP is completed will put more pressure on the south beach at Rush which is already experiencing some habitat degradation due to: Car parking on the beach, Current management of fixed dunes for amenity use including golf course, Some dune erosion, Invasion of sea buckthorn on the dunes Elements of anti-social behaviour. The proposed coastal path would be located between Rush golf course and the beach (See Fig. 3). This would attract more visitors into the area and may have a potential negative or positive impact on dune habitats and species which are sensitive to over-trampling and erosion, depending on the actual location. . The proposed coastal path then continues westwards on the landward side of the estuary before crossing it at the causeway. It is unlikely to have a direct impact on the estuarine habitats. There is more of a risk of disturbance impacts to birds that use these habitats (See 6.2.1).
Describe how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project or plan (e.g. loss of habitat, disturbance, disruption, chemical changes, hydrological changes etc).	Integrity is defined by the conservation objectives and status of the site. For Rogerstown estuary the conservation objectives are outlined in the cSAC Management Plan: **Objective 1:** To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status. The dune habitats are particularly at risk from trampling, erosion and invasive species. The increase in population from the LAP is likely to put increasing pressure on these habitats. The hydrology of estuarine habitats is not likely to be severely impacted. Waste water discharges to the estuary will reduce over time with the closure of Balleally landfill and the upgrading of the WWTP system in Portrane. However, any loss or significant degradation of any of the Annex 1 habitats within the Natura site could undermine the integrity of the site.

	Objective 2: To maintain the extent, species richness and biodiversity of the entire site. The development of a coastal path between Rush and Lusk, which would be used by significant numbers of pedestrians, has the potential to cause increased disturbance to water birds at low tide in the north-eastern sectors of Rogerstown Estuary, thereby impacting on the integrity of the Natura 2000 site. However, if the path is appropriately screened on the seaward side to prevent pedestrians and dogs from accessing the beach and mudflats at low tide, the impacts are unlikely to be significant. **Objective 3:** To establish effective liaison and co-operation with landowners, legal users and relevant authorities. The Kenure-Rush LAP has the potential to negatively impact on Objectives 1 and 2. However, good planning and the implementation of effective mitigation measures may be able to avoid or minimise such potential impacts on the integrity of the Natura site.
Describe mitigation measures that are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the site	As this is LAP is a plan and not a project, only the principles of the mitigation are outlined below. The details of the mitigation will be covered in separate projects Any project which could impact on Rogerstown Estuary Natura 2000 site will require an AA also. As the potential impacts on the Rogerstown Estuary will come from a number of sources, not only Rush, but also Lusk, Donabate, Portrane and Swords all of which have projected population increases, Fingal Co. Co. propose to develop a Management Plan for the Outer Rogerstown Estuary that will address all the existing and potential threats on the habitats and species of conservation concern in Rogerstown Estuary. This plan will link in to the existing integrated Master plan completed by Fingal Co. Co. in 2006 that includes nature conservation, amenity, agriculture and education for the Inner Estuary. This plan will address specific issues raised in this report including. (See Sectoin 7 of main report for a bit more detail): ***Management Plan for Rush coastal habitats*** A management plan is required for Rush south beach and dunes and estuarine habitats that will ensure the protection of the Annex I habitats and protected wetland birds within the Rogerstown estuary Natura 2000 site, while at the same time facilitate its use as an important local public amenity area. The management plan will address the ongoing issues impacting the habitats and species notably; Car parking on the beach, Dune erosion Sea buckthorn invasion Anti social behaviour in the dunes

	Dumping in the estuary ***Coastal walkway*** Fingal Co. Co. has plans to install a coastal walkway along the Fingal coastline. Part of the walkway would run from the north beach in Rush, around the headland, along the back of Rush south beach, along the edge of Rogerstown estuary from Rogerstown harbour to the Iarnrod Eireann causeway crossing the estuary. The installation of such a coastal walkway (if sensitively located) could be incorporated into an overall management plan for the coastal lands in Rush. The exact location and screening of the pathway will be based on detailed survey of habitats and species along the route. The proposed walkway would continue along the edge of the north shore of Rogerstown estuary has the potential to impact on nearby roosting/feeding birds on the intertidal habitats. The walkway should be located as far back as possible from the shore, ideally in the adjoining fields. It should be screened at sensitive locations by fencing, berms and/or appropriate planting. This would be based on further survey of habitats and bird usage in this part of the estuary. The proposed walkway is to cross the causeway by constructing a path/track onto the western side, to link to the southern side of the estuary. Further survey will be required to assess potential impacts on birds as only a structure that has no significant impact on birds will be permitted ***Alternative amenity locations*** The conservation of other open spaces with semi-natural habitats within the Rush LAP and environs, will enhance the overall biodiversity of Rush and will take some of the visitor pressure off the Rogerstown Estuary Natura 2000 site as a site for amenity use. There are a number of areas of local ecological value that serve also as amenity areas in and around Rush that could be enhanced to provide better access and facilities for visitors such as • North beach in Rush. • Lands (grassland and cultivated) on the headland and cliffs near the Martello tower east of Rush town. • Kenure Park parkland and trees. • A loop walk from Kenure Park to north beach via Brook stream • Open space areas currently in agricultural use west of Kenure to be developed for amenity use • Better links to wider amenity areas such as Newbridge House and Ardgillen.

	The details of how these areas will be enhanced in terms of their local biodiversity and amenity value is the subject of a separate project. Providing alternative amenity areas for the people of Rush will help to reduce visitor pressure on Rush south beach and this will give added indirect protection to the qualifying interests of the Rogerstown Estuary Natura 2000 site. ***Better treatment of Waste water discharges to Rogrestown Estuary*** The proposed upgraded WWTP plant in Portrane (due to be operational in 2012) will service the Rush LAP. Currently Urban wastewater from Rush is discharged from an outfall east of Hands Point. The upgraded WWTP will improve the water quality of the treated waste water effluent arising from Rush. This can be viewed as a positive impact. The cessation of the Balleally landfill, planned for 2010 and treatment of leachate will significantly reduce impacts on the estuary.
Results of consultation	
Name of agencies consulted As part of the preparation of this Appropriate Assessment	*Summary of response*
National Parks and Wildlife Service (NPWS) of the Department of Environment, Heritage and Local Government	The NPWS (Eastern Region) Divisional ecologist (Dr. Linda Patton) was consulted by letter and phone calls in relation to guidance on the level of detail to be contained in the Appropriate Assessment and to potential impacts of the proposed LAP. The NPWS are in the process of drafting guidelines for Appropriate Assessments in Ireland due by end of 2008. In the meantime reference was made to the relevant Eu Guidance documents A meeting was held on October 8th at National Parks and Wildlife Service (Ely Place) with Dr. Linda Patton and Dr. Karen Gaynor. Also attending were members of Fingal Co. Co. Ms. Patricia Conlon, Dr. Gerry Clabby, Mr Hans Vissar, Ms. Patricia Cadogan, Mr. Emer Mc Nerny, Mr P. Mc Loughlin and from Natura Environmental Consultants; Katharine Duff. The Draft LAP was discussed. The main outcome of the meeting was an agreement that the existing and future impacts on Rogerstown Estuary Natura 2000 site will come from a wide range of sources due to the projected population increase of over 100,000 within a vicinity of 10km. The best way of protecting the conservation interests of the estuary should be based on the management of the estuary as a whole. Fingal Co.

	Co. will develop a Management Plan for the Outer Rogerstown Estuary in consultation with the NPWS. It will detail mitigation to minimise impacts on sensitive habitats and species (qualifying interests of the cSAC). It will have links with the Management Plan for the Inner Rogerstown Estuary (Nature on Display).
BirdWatch Ireland, Fingal Branch	There were several consultations with Birdwatch Ireland and the Fingal Branch. The Senior Conservation Officer (Siobhain Egan) responded with a letter dated July 15, 2008. The main points are summarised: Birdwatch would like to comment on the LAP but said that it was not possible to assess all their concerns without having more detail particularly in relation to the exact location of the coastal walkway. The LAP should address enhancement of the Natura site including appropriate buffering areas as well as habitat creation. They look forward to seeing the AA report and LAP before commenting on it.



Rush LAP - Appropriate Assessment

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Figure 1: Location map on Discovery Series

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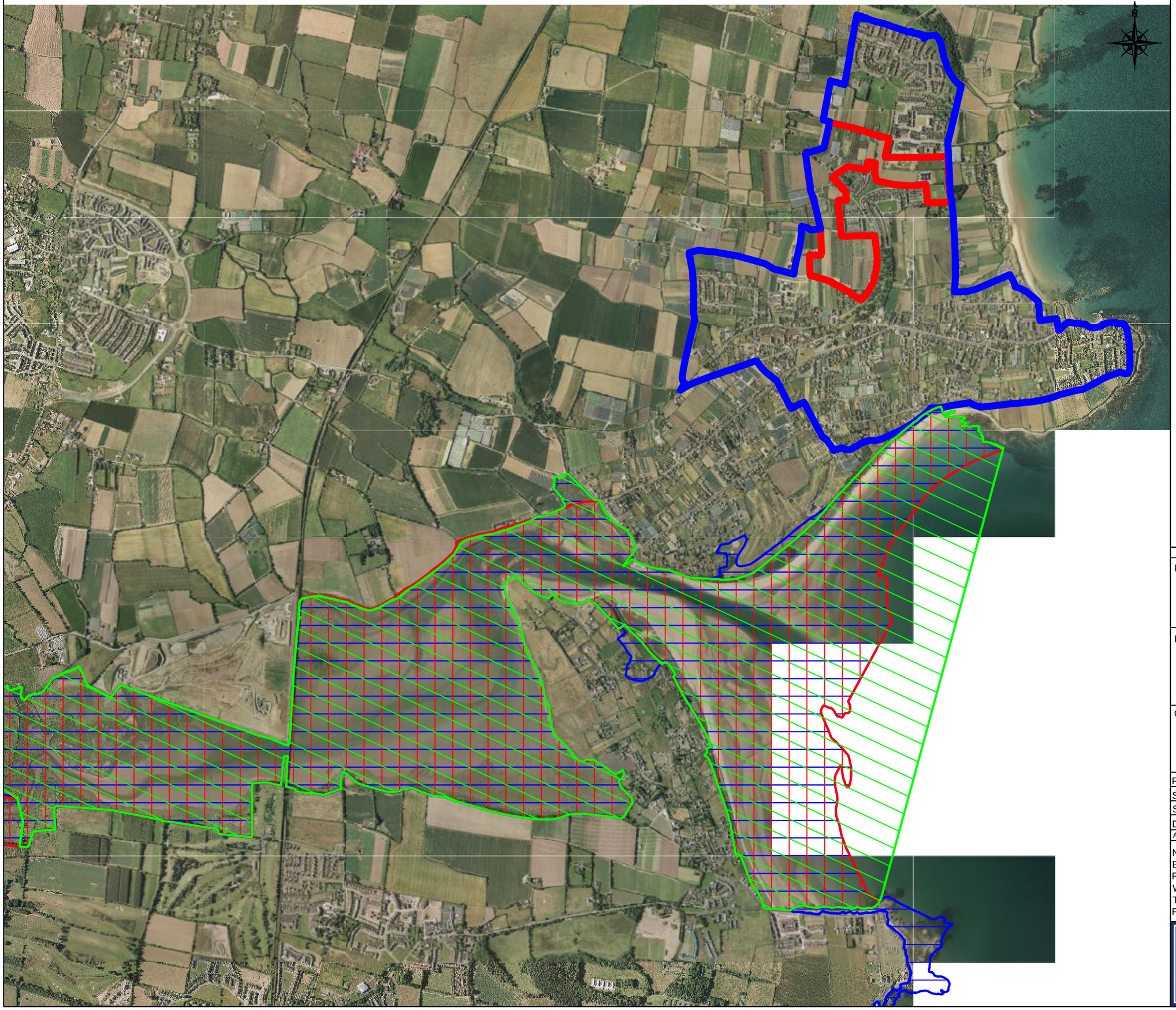
Sheet no: 1 of 1	Revision: 1	Date: 24.11.2008



Special Protection Area (SPA)

Candidate Special Area of Conservation (cSAC)

Proposed Natural Heritage Area (pNHA)

Rush Development Plan 2005-2011

Kenure Draft Local Area Plan

Project:

Rush Local Area Plan

Appropriate Assessment

Drawing title:

Figure 2: Site Locations & Designated Areas

Client:

Fingal County Council

Project no: 15087		Status:
Scale: 1: 20000@A3		Date: 07.08.2008
Sheet no:1 of 1		Revision: 1
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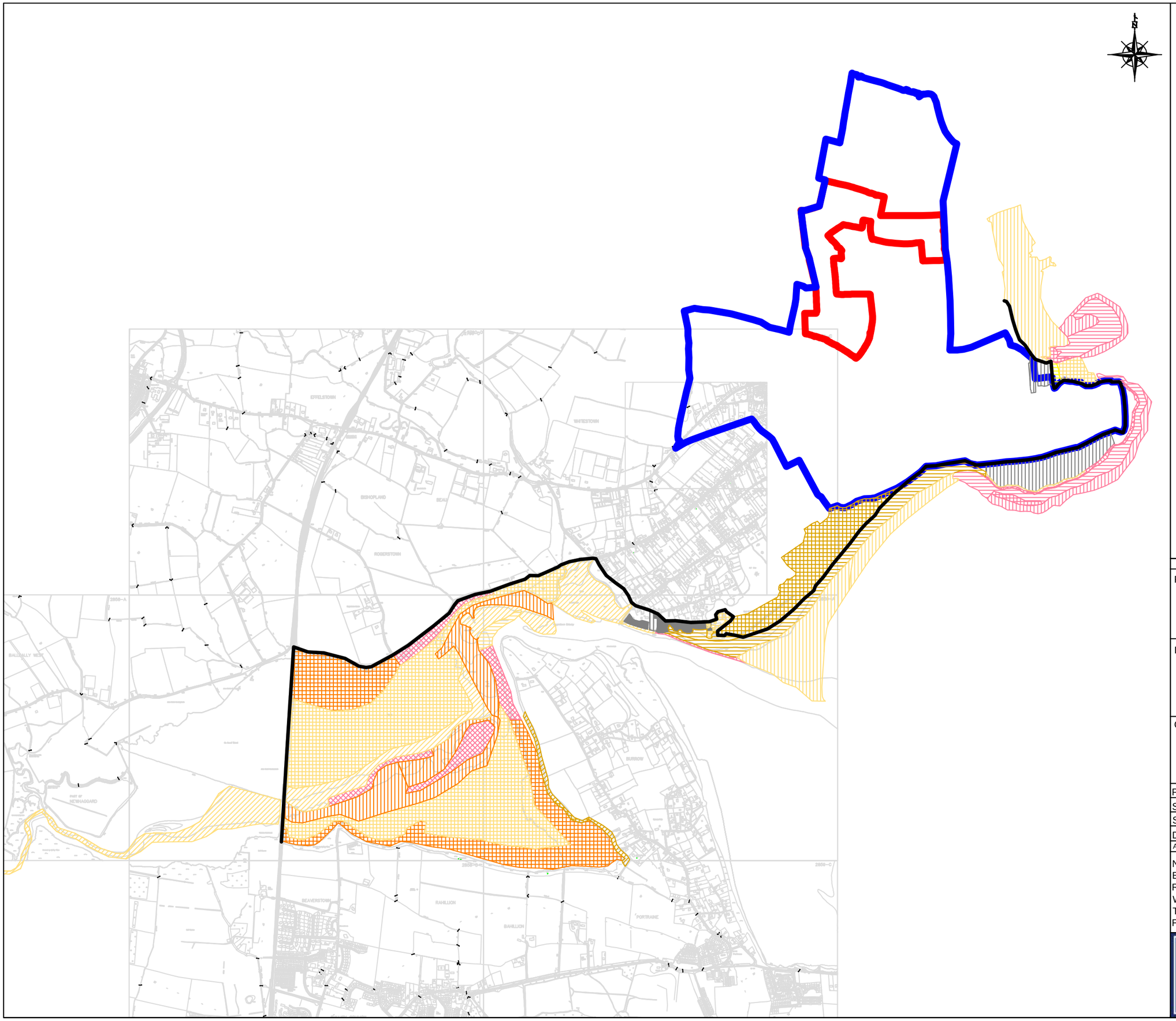

- Rush Development Plan 2005-2011
- Kenure Draft Local Area Plan
- Coastal Walkway
- BC2 Horticultural land
- BL3 Buildings and artificial surfaces
- CD1 Embryonic dunes
- CD3 Fixed dunes
- CD4 Dune scrub and woodland
- CM1 Lower saltmarsh
- CW2 Tidal rivers
- GA2 Amenity Grassland (improved)
- LR1 Exposed rocky shores
- LR2 Moderately exposed rocky shores
- LR3 Sheltered rocky shores
- LR4 Mixed substrata shores
- LS1 Shingle and gravel shores
- LS2 Sand Shores
- LS3 Muddy sand shores
- LS4 Mud shores
- LS5 Mixed sediment shores

Project:
Rush Local Area Plan
Appropriate Assessment

Drawing title:
Figure 3: Habitat Map & Proposed Coastal Walkway

Client:
Fingal County Council

Project no: 15087		Status:
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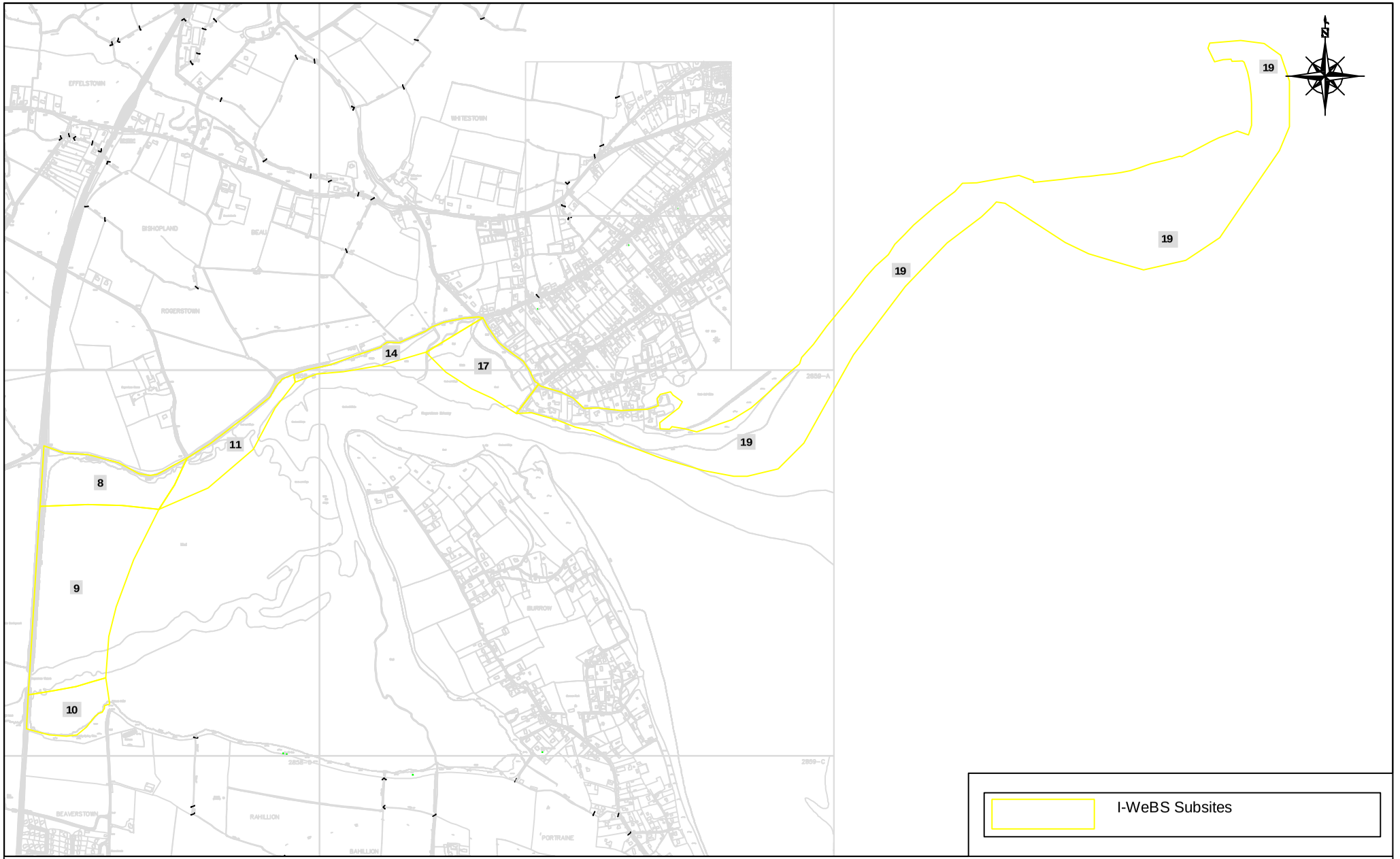

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Rush Local Area Plan

Appropriate Assessment

Figure 4: I-WeBS Subsites

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