River Ilen (Skibbereen) Drainage Scheme

Appropriate Assessment Screening Report

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1. INTRODUCTION

Cork County Council and the OPW have recognised the significant flood risk that exists in Skibbereen, as evidenced by the flooding of the town in November and December 2009.

To address the flooding problems, a project is underway to assess and develop a drainage scheme and other measures to manage the existing flood risk in Skibbereen Town, and also the potential for significant increases in this risk due to climate change, ongoing development and other pressures that may arise in the future. The project comprises five stages as follows:-

Stage I: Feasibility Study and Preparation of a Draft Flood Risk Management Plan;

Stage II: Outline Design and Planning Appropriate Assessment (AA) & Environmental Impact Statement (EIS) and Final Flood Risk Management Plan;

Stage III: Detailed Design, and Tender;

Stage IV: Construction; and

Stage V: Handover of Works.

This Appropriate Assessment Screening Report was prepared as part of Stage II of this process.

2. APPROPRIATE ASSESSMENT METHODOLOGY

2.1 Requirements of the Habitats Directive

The requirement for Appropriate Assessment (AA) (also known as 'Habitats Directive Assessment') of plans or projects originates from Article 6 (3) and (4) of *European Union (EU) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora*, commonly known as the 'Habitats Directive', which is implemented in Ireland through the European Communities (Natural Habitats) Regulations of 1997. The wording of Article 6 (3) of the Directive is as follows:-

> '*Any plan or project not directly connected with or necessary to the management of the 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 the site's conservation objectives. In the light of the conclusions of the assessment of the implications 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 adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public*.'

The wording of Article 6 (4) of the Directive is as follows:-

> '*If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*'

Appropriate Assessment Guidelines for Planning Authorities were published by the Department of the Environment Heritage and Local Government in February 2010 (DoEHLG, 2010). The AA process in the Republic of Ireland should be conducted in full consultation with the National Parks and Wildlife Service (NPWS). In addition to the advice available from NPWS, the EU has published a number of documents which provide guidance on the requirements of Appropriate Assessment, including, *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*, (EC, 2002), which sets out the principles of how to approach decision making during the process and these have been followed as closely as possible.

The assessment is prepared with reference to the following additional guidelines:-

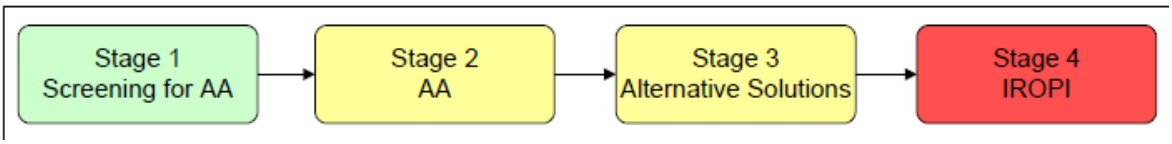
- Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (EC, 2000);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission; (EC, 2007a);
- European Communities (Environmental Impact Assessment) (Amendment) Regulations, 1989 – 2001; and
- Interpretation Manual of European Union Habitats. Version EUR 27. European Commission 2007 (EC, 2007b).

2.2 Methodology

The Department of the Environment Heritage and Local Government guidelines (DoEHLG, 2010) outlines the European Commission's methodological guidance (EC, 2002) promoting a four-stage process to complete the AA, and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages of Appropriate Assessment are summarised diagrammatically below. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

The Four Stages of Appropriate Assessment



STAGE 1: SCREENING FOR APPROPRIATE ASSESSMENT

This stage of the AA process involves establishing whether or not the plan or project requires Stage 2 Appropriate Assessment. This is determined by examining if it will have a significant effect on the conservation objectives of any Natura 2000 site. If significant effects cannot be excluded, on the basis of objective information, then the site in question is 'screened-in' and Stage 2 assessment is undertaken. The Screening process requires an initial review of the project to identify any elements of either construction, operation or decommissioning that might potentially have impacts upon Natura 2000 sites; and a review of the 'Qualifying Features' and 'Conservation Objectives' of all Natura 2000 sites that could potentially be subject to the impacts that have been identified. Whether or not impacts are likely to be of significance is then determined.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the Screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the Screening process is repeated on the altered plan or project. The greatest level of evidence and justification will be needed in circumstances when the process ends at the Screening Stage on grounds of no impact. This report fulfils the information necessary to enable the appropriate authority to screen the proposed flood relief works for the requirement to prepare an Appropriate Assessment.

CONSULTATION

As the statutory bodies responsible for ecology respectively, the NPWS were consulted as detailed below in **Table 1.**

Table 1. Consultation with NPWS.

Consultee	Date	Summary of response
National Parks and Wildlife Service (NPWS);	Phone call Declan O' Donnell (District Conservation Officer) 13/6/2011 and 17/9/2012	Otters, bat species and kingfisher are known to utilise the Ilen catchment. Primary concern is that potential impacts on designated sites are effectively dealt with.

NATURA 2000 SITES INCLUDED IN THE SCREENING ASSESSMENT

Clearly a key variable that will determine whether or not a particular Natura 2000 site is likely to be affected by the proposed Drainage Scheme is its physical distance from the project site, and it will generally, but not necessarily, be the case that the greater the distance the lower the possibility of impacts. The *Guidelines for Planning Authorities* (DoEHLG, 2010) state that the AA process should include the following Natura 2000 sites:-

1. *Any Natura 2000 sites within or adjacent to the plan or project area.*

No Natura 2000 sites are located within the immediate vicinity of Skibbereen, the closest 'as the crow flies' being *Lough Hyne Nature Reserve and Environs* cSAC and *Sheep's Head to Toe Head* SPA, both of which are located on the south coast approximately 4km to the south of the town (see **Table 2.1**). Hence, on the basis of very close proximity, no **Natura 2000 sites are included in the Screening.**

2. *Any Natura 2000 sites within the likely zone of impact of the plan or project. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et. al., 2006). For projects, the distance could be much less than 15km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects.*

A total of five Natura 2000 sites are located within 15 km of Skibbereen (see **Table 2.1**). These are located between 4 km and 7.5 km from the town. The boundary of *Roaringwater Bay and Islands* cSAC lies approximately 7.5 km downstream of the town, and given that the proposed works involve flood prevention measures, it is possible that impacts on the River Ilen (such as changes to water quality or to flow rates in the river) then this site must be considered to be in the 'likely zone of influence' of the proposed works.

None of the remaining sites are located within the catchment of the River Ilen, and none are in locations where works in Skibbereen could potentially have indirect effects (none, for example are located adjacent to major roads that are connected to the town). No surface or ground water pathways have been identified which would allow the proposed works to impact on Natura 2000 sites other than the *Roaringwater Bay and Islands* cSAC. Hence, it is not considered that any pathways exist by which flood relief works on the River Ilen in and around Skibbereen could have impacts at these sites.

3. Natura 2000 sites that are more than 15 km from the plan or project area depending on the likely impacts of the plan or project, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the case of sites with water dependent habitats or species, and a plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment.

As with the sites other than *Roaringwater Bay and Islands* cSAC that are located within 15 km of Skibbereen (see above), there are no other Natura 2000 sites located within the catchment of the River Ilen. There are no Natura 2000 Sites elsewhere in West Cork in locations where works in Skibbereen could potentially have indirect effects (none, for example are located adjacent to major roads that are connected to the town). Hence, it is considered pathways do not exist by which flood relief works on the River Ilen, in and around Skibbereen, could have impacts at other, more remote, Natura 2000 sites.

Table 2.1: Natura 2000 Sites Within 15km of Skibbereen

Site Name	Designation Type	Site Code	Approximate Location (at nearest point) Relative to Skibbereen
Lough Hyne Nature Reserve and Environs	cSAC	000097	4 km to the south-southwest
Sheep's Head to Toe Head	SPA	004156	4 km to the south
Castletownsend	cSAC	001547	6 km to the east-southeast
Roaringwater Bay and Islands	cSAC	000101	7.5 km to the southwest
Myross Wood	cSAC	001070	8.5 km to the east

Hence, in summary, it is considered that one site:

> ***Roaringwater Bay and Islands*** **candidate Special Area of Conservation (site code 000101)**,

is potentially located within the 'zone of influence' of flood relief works on the River Ilen, in and around Skibbereen Town, and therefore requires Screening for Appropriate Assessment. It is considered that no pathways exist by which flood relief works on the River Ilen, in and around Skibbereen Town, could impact on any other Natura 2000 sites.

3. DESCRIPTION OF THE PROPOSED WORKS

This Section presents a summary of the proposed works. The proposed works are not "directly connected with or necessary for the management of" any Natura 2000 site, and are not therefore exempt from Appropriate Assessment under the Article 6(3) of the Habitats Directive (see **Section 2.1** of this Report).

3.1 Description of the Proposed Works

The Preferred Option is based on the Primary Measures which are illustrated in **Figure 1** and includes the following key measures. It is noted that further information on the measures to be employed are detailed in **Chapter 2, 7, 8** and **13** of the **EIS** prepared for this development which cover project description, aquatic ecology, terrestrial ecology and soils, hydrology and hydrogeology respectively.

River Ilen

- Embankments & flood walls.
- Sealing of existing opes.
- Localised channel widening upstream of John F. Kennedy Bridge.
- Localised regrading works at John F. Kennedy Bridge.
- Works at Mill Race upstream of Showgrounds Stream.

Caol Stream

- Hard Defences including Flood Walls and U-box channel (circa 340 m) (downstream of Baltimore Road) - It should be noted that instream works will be required to facilitate works within the Caol stream which will be addressed.
- Embankments / walls upstream of Baltimore Road.
- Non-return valves on existing culvert crossings of Castletownsend Road.
- Grouting/strengthening works to masonry arch structures.
- Non return valve on existing uncontrolled storm drainage discharging into stream.
- Pumping stations as required.

Assolas Stream

- Hard defences comprising embankments / walls.

Glencurragh Stream

- Pumping station (circa 1 m^3/s capacity).
- Non return valve at crossing of Schull Road.

Showgrounds Stream

- Hard defences comprising embankments and flood walls
- Two no. culverts under embankments.

Local Drainage

- Stormwater / road drainage.
- Upgrade of road drainage on Ilen Street.
- Sealing of opes from historic redundant culverts.

- Localised pumping or sealing of storm system, if necessary, to manage road drainage at Cork Road and Marsh Road.
- In addition, the following Secondary Measures are recommended as part of the Flood Risk Management Strategy:

    - Public awareness campaign;
    - Proactive and planned maintenance programme;
    - Planning & development controls; and
    - Management of lands with flood plain.

3.2 Mitigation proposed as part of the Project Design

As part of the project design a number of specific and general mitigation measures are proposed. These include the following:

Fisheries and Hydrology

- Instream works associated with the Drainage Scheme will be carried out under the supervision of a suitably qualified and experienced ecologist.

- Where possible, it is expected that the Contractor will primarily gain access from the river banks; however temporary working areas within the river channel may be required for certain works. Works such as masonry facing to proposed floodwalls may be carried out from a temporary working platform on the riverside of the works. It is expected that access to construct the proposed flood defences which are located away from the river's edge will be from the landward side in order to avoid any impact to the river, e.g. embankments. Where in-stream works are proposed, the Contractor will be required to enter the watercourse, e.g. regrading of the riverbed and structural works to piers at John F. Kennedy Bridge etc. During such works, machine movements in the river will be minimised. Where feasible works should be carried out from the river bank or platforms constructed for this purpose.

- Where access to the river channel is required, detailed method statements will be drawn up which deal specifically with the different works proposed. The method statements will be drawn up in consultation with the supervising ecologist and agreed with the NPWS and Inland Fisheries Ireland (IFI) prior to the commencement of works.

- Detailed silt control methods will be required for all in-stream works. Although Atlantic salmon move through the Ilen system throughout the year movements are lowest in the period from January to March. Ideally works within the main channel of the Ilen should be carried out during this period. It is noted however that weather conditions may preclude works during this time window. Any works will require effective control of silt and it is expected that a variety of methods may be required i.e. silt curtains, coffer dams, dewatering, silt sumps etc.

- It is noted that due to tidal flooding use of silt curtains may be problematic and detailed measures for control of silt will need to designed and agreed with the IFI. A flexible, adaptable approach will be required to control silt levels and some restrictions on the timing of works (e.g. restricting works to an outgoing tide with silt curtains downstream of site works) may be required due to tidal factors if alternative silt control measures prove ineffective.

- The level of suspended solids within the Ilen will naturally vary depending on seasonality, river flows and tidal influence and greater fluctuations would be expected compared with an equivalent freshwater ecosystem. It is recommended therefore that baseline data be obtained on suspended solid levels and nutrient levels within the

works area of the Caol Stream and River Ilen in the period prior to the commencement of site works. This data should be obtained from a minimum of twenty samples over the full range of the tidal cycle. Based on this data specific limits can be reached for levels of suspended solids and nutrients in the mixing zone downstream of site works which take account of baseline tidal fluctuations. These limits will be agreed with IFI and NPWS and incorporated into the detailed method statement for site works. Ongoing monitoring will also be agreed to ensure that site works do not elevate levels of suspended solids and nutrients above the set limits.

- All concrete works will be carried out in dry conditions with no in-stream pouring of concrete. It may be necessary therefore to effectively sheet-pile or cofferdam sections of the river and pump out the river water during the construction of the proposed works. If required fish populations which become isolated, will be salvaged via electrofishing under licence from the Department of Communications, Energy & Natural Resources and in consultation with Inland Fisheries Ireland.

- It is expected that most of the equipment used will be standard construction plant for a project of this nature, e.g. mechanical excavators, dump trucks, dewatering pumps, ready mix concrete lorries, pile drivers, rock breakers etc. All machinery should be maintained in good condition to prevent leakage of hydrocarbons. Fuelling and lubrication of equipment must not be carried out within 30 m of any watercourse.

- All contractors, sub-contractors and in particular machinery operators will be made aware of the provisions for protecting water quality as outlined in the method statements.

- Where possible excavated material should not be stockpiled long-term within 10 m of a watercourse. Where this measure is not implementable then specific silt control measures should be planned as part of the detailed method statement for site works in each specific area. Precautions will be taken to minimise the run off of soil into watercourses.

- All culverts and walls must be designed to minimise impacts on fish and macro-invertebrate populations. Ideally gravel substrates and as a natural a flow pattern as possible under low water/ low tide conditions will be provided in channels affected by site works. The structure and flow pattern with culverts on minor streams will be designed to allow fish to move through them. The slope of culverts will follow the existing gradient and trash screens are not envisaged. No significant drops in level at the outflows from culverts are proposed. It is noted that as these minor streams are tidal, free movement of fish through culverts at high tide is expected to occur.

- Although local information suggests that there were angling areas within the study area in the past, angling is now largely confined to the freshwater section of the River Ilen upstream of the hospital. The loss of angling areas within the town may be due to poor water quality which prevents fish from holding in these areas. (Steve Rourke River Ilen Anglers Association pers. comm.) It is noted that water quality in the River Ilen is improving due to improvements to the wastewater treatment collection and treatment system. It is likely therefore that increased salmon usage of pools within the study area could occur in the future and thus the works should ensure that these pools are retained in the Ilen once works are complete and that the River Ilen is returned as close to its pre-works structure as possible.

- Input from a qualified fisheries/aquatic engineering specialist with experience in the design of instream structures is required into the design of culverts and the post-works flow patterns and channel structure. Such supervision is particularly important for works on the Ilen and Caol Rivers. The specialist in conjunction with the supervising ecologist will be required to visit the watercourses prior to the commencement of site works to assess the existing channel structure, fish holding features, substrate composition, flow patterns etc. Where feasible such structures will be incorporated into the channels following completion of work.

Hydrology and Hydrogeology

- Containment measures and emergency procedures to deal with accidental spillages of fuel and lubricants from site machinery will be outlined in the Construction Management Plan which will be developed by the contractor in advance of construction works taking place on site.

- The potential pollution of surface water will be mitigated through the development of containment measures and emergency procedures to deal with accidental spillages in the Construction Management Plan. Fuel will be stored within containment bunds within the site to prevent release of contaminants into the ground. Where it is necessary to refuel machinery on site this will be done in a carefully managed manner at a minimum distance of 25 m away from watercourses . An emergency plan to deal with accidental spillages will be drafted and kept on site during the construction period. The pollution control methods will be outlined within the Construction Management Plan.

- To minimise any impact on the underlying subsurface strata from material spillages all oils, solvents and paints used during construction will be stored within temporary bunded areas. The design (volume and construction) of all bunds will conform to standard bunding specifications. The retention capacity of bunded areas will be as follows: 110% of the capacity of the largest tank or drum to be stored within the bunded area: and 25% of the total volume of substance which could be stored within the bunded area. Spill kits / absorbent pads and boom should be used in the event of a spillage.

- Spill kits will be retained on site, in particular at refuelling areas and other high risk areas, to ensure that any spillages or leakages are dealt with immediately. All dispensing of fuels and hazardous materials will occur over areas of concrete hardstanding or other impermeable surface with drainage directed to an oil / water interceptor or a suitably constructed bund. No refuelling will be permitted in or near soil or rock cuttings.

- All associated waste residuals will also be stored within temporary bunded storage areas prior to removal by an appropriate waste disposal contractor for off-site treatment/recycling/disposal. Any other building waste will be disposed of to on site skips for removal by a licensed waste disposal contractor. An emergency plan to deal with accidental spillage will be drafted and kept on site during the construction period.

Invasive species

- The invasive alien species Himalayan balsam and Japanese knotweed were recorded within the proposed works areas and wider study area and these species could potentially be dispersed downstream by incorrect work practices. It is noted that the locations noted are indicative of the current distribution of the species within the works area but should not be considered definitive.

- Although there are mature stands of Japanese Knotweed (i.e. along the Mill Race) there are also young plants which indicate that the plant may be actively spreading. Works may require access to areas outside the immediate works area (i.e. stockpiling material, storage of machinery etc) and these areas could support this species. It is recommended therefore any area potentially affected by site works is checked for the presence of invasive species by the supervising ecologist prior to the commencement of site works.

- The Contractor shall also take every precaution to prevent the spread of invasive species (Japanese Knotweed in particular) encountered during the works by ensuring that all plant and equipment that comes in contact with these species (and soil

deemed contaminated with species) are regularly cleaned or disposed off in the appropriate manner. The contractor shall be obliged to comply with The European Communities (Birds and Natural Habitats) Regulations 2011 which contain important new provisions to address the problem of invasive species. Whilst Himalayan balsam can be treated relatively straight forwardly with herbicides treatment of Japanese Knotweed may involve burial, bunding, herbicides or a combination of methods. Relevant guidance documents include The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (2008), Kelly, J., Maguire, C.M. and Cosgrove, P.J. (2008). Best Practice Management Guidelines Japanese knotweed Fallopia japonica. Prepared for NIEA and NPWS as part of Invasive and. Managing Japanese knotweed on development sites - The Knotweed Code of Practice (2006) UK Environmental Agency.

Otters and grey seal

- Evidence of otters were recorded along the River Ilen, and Mill Race and in particular along the Caol Stream. Grey seal have been recorded in the Ilen within the study area. Although no breeding holts were recorded there is the potential for site works to cause disturbance to otters and given the 24 month duration of works a repeat survey of the Caol Stream and River Ilen is recommended prior to the commencement of works on these watercourses.

- The NRA publication Guidelines for the treatment of otters prior to the construction of national road schemes outlines the mitigation measures described below (NRA, 2005b). In line with the mitigation measures outlined in the NRA guidelines a preconstruction survey will be conducted no more than 10-12 months in advance of construction. The objective of the survey is to ensure that no new holts have been constructed since the previous survey and to specifically check for breeding holts. It is noted that no evidence of a breeding holt was detected, and no active holts were located in the area to be directly affected. However if active holts are detected in the area to be affected, specific measures will be required. Removal of otters or holts can only be carried out under a Section 25 derogation under the 1997 Habitats Regulations. In addition, derogations are also required for any works likely to cause significant disturbance i.e. blasting and piling when this occurs within 150 m of a breeding holt. Where works are proposed within 150 m of a breeding holt appropriate mitigation measures such as screening or reduced working hours may be required. It is noted that otters do not have a defined breeding season.

- There will be no blasting carried out as part of the proposed development in proximity to an otter holt. Other mitigation measures may include timing of works to avoid impact on breeding females or young cubs which can use a breeding holt for approximately 21 weeks. Exclusion of otters from holts and provision of alternative holts may also be required using similar methodologies to those employed for badgers. If such mitigation measures are required detailed methodologies will be agreed with the National Parks and Wildlife Service prior to commencement of works which could impact on otters. No specific measures are considered necessary in relation to grey seal as this species would be expected to move away from sources of disturbance and won't breed in proximity to site works.

Noise and vibration

- "Best Practice Means" will be employed to minimise construction impacts. These include the following:-

- Selection of plant machinery with low inherent potential for generation of noise and/or vibration. All construction plant and equipment to be used at the site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations.

- Regular maintenance of plant will be carried out in order to minimise noise produced by on-site operations. The regular and effective maintenance of plant can play an important role in reducing noise emissions. In particular, attention will be paid to the lubrication of bearings and the integrity of silencers. Silencers and engine covers will be maintained in good and effective working order.

- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the Contract.

- Any compressors used on-site will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.

- Machines, which are used intermittently, will be shut down or throttled back to a minimum during those periods when they are not in use.

- Any plant, such as generators or pumps, which are required to work outside of normal working hours, will be surrounded by an acoustic enclosure.

- Training of drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.

- A maximum speed limit of 40 km/hr will be imposed for HGV's and drivers will be instructed to maintain as far as possible the distances between vehicles.

4. DESCRIPTION OF ROARINGWATER BAY AND ISLANDS CSAC

Roaringwater Bay, Co. Cork, is a wide shallow bay and the site includes the immediate coastline on the mainland from Long Island to Baltimore together with the whole bay and most of the islands. It has been designated primarily for a range of aquatic habitats including

> '*Large shallow inlets and bays, Reefs and Submerged or partly submerged sea caves. This Natura 2000 site also supports the coastal habitat Vegetated sea cliffs of the Atlantic and Baltic coasts and good examples of European dry heath. Three mammal species are listed as qualifying interests for the site namely, Harbour porpoise, Grey seal and Otter.'*

Overall Roaringwater Bay and Islands is considered a site of exceptional conservation importance, which supports a diverse marine and terrestrial habitats including five species listed on Annex 1 of the Habitats Directive and three mammal species listed on Annex 2 of the Habitats Directive. The site also supports important bird colonies.

4.1 Conservation Objectives for Roaringwater Bay and Islands cSAC

Conservation objectives for Roaringwater Bay cSAC are provided in the NPWS document ***Conservation Objectives*** Roaringwater Bay and Islands SAC 000101 (NPWS, July 19,2011). These objectives can be summarised as follows:

- Maintain the favourable conservation status of the Qualifying Interests of the cSAC:-

  - *Large shallow inlets and bays (Habitat code 1160)*
  - *Reefs (1170)*
  - *Vegetated sea cliffs of the Atlantic and Baltic coasts (1230)*
  - *European dry heaths (4030)*
  - *Submerged or partly submerged sea caves (8330)*
  - *Harbour porpoise (Phocoena phocoena) (species code 1351)*
  - *Grey seal (Halichoerus grypus) (1364)*

- Restore the favourable conservation status of the Qualifying Interests of the cSAC:-
  - *Otter (Lutra lutra) (1355)*

Favourable conservation of a habitat is achieved when:-

- Its natural range, and area it covers within that range, is stable or increasing;
- The ecological factors that are necessary for its long term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable as defined below.

The favourable conservation status of a species is achieved when:-

- Population data on the species indicate that its maintaining itself;
- The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future; and
- There is, and will probable continue to be a sufficiently large habitat to maintain its populations on a long term basis.

At a national level the conservation status of qualifying interests for which the cSAC has been designated has been provided in the NPWS Conservation Status Report (2008) '*The status of EU Protected Habitats and Species in Ireland*'.

5. POSSIBLE EFFECTS OF THE PROPOSED WORKS ON NATURA 2000 SITES (ROARINGWATER BAY AND ISLANDS CSAC)

The purpose of this Section of the Screening Process is to establish whether or not it is possible that the proposed works, either individually or in combination with other plans and projects, may result in significance negative effects on the conservations objectives and the integrity of the Natura 2000 site discussed in Section 4; *Roaringwater Bay and Island* cSAC.

Two broad categories of potential impact are theoretically possible, as follows:-

- Impacts within the boundary of the cSAC resulting either from changes to the quantity or quality of water flowing from the River Ilen to the cSAC; and
- Impacts on Annex II species that are qualifying features of the cSAC that occur outside the boundary of the cSAC, but have effects on the populations of the species' populations, or on the dynamics of the broader ecosystems, inside the boundary of the cSAC.

5.1 Potential Impacts Within the Boundary of the cSAC

Roaringwater Bay and Islands cSAC consists largely of aquatic ecosystems and the River Ilen is one of the main freshwater inputs to the system. Pollution of this watercourse or changes to the quantities or rates of water that the river discharges to the bay could potentially result in changes to the flora and fauna populations of Roaringwater Bay. Hence, there is considered to be potential for works upstream of the site boundary to result in impacts on habitats and species within the boundaries of the sites. Possible indirect waterborne impacts include the following.

CHEMICAL AND PHYSICAL POLLUTANTS

The proposed works will include instream works and the use of motor vehicles and other petrol or diesel driven machinery. Hence, potentially toxic substances in the form of cement products and hydrocarbons may be used in close proximity to watercourses and could potentially enter the River Ilen as a result of, for example, accidental spillage. Similarly, in the absence of strict mitigation measures including sediment control, fines and sediments could be released to the river (and thence to the Natura 2000 sites), potentially impacting negatively upon aquatic organisms by smothering.

BIOTIC CONTAMINANTS

Annex 1 habitats within the Natura 2000 sites are at risk of being affected by invasive species and the possibility that this risk might be exacerbated by the proposed works must be considered. Invasive alien species such as Himalayan Balsam and Japanese Knotweed which are present within the proposed works areas and these species could potentially be dispersed downstream via the River Ilen into *Roaringwater Bay and Islands* cSAC as a consequence of the proposed works.

HYDROLOGICAL CHANGES

Whilst it is considered highly unlikely, there is a possibility that major changes to the temporal pattern of freshwater discharges or overall discharge volumes from the River Ilen to Roaringwater Bay, could potentially affect ecosystems within the bay system, and hence could constitute impacts on *Roaringwater Bay and Islands* cSAC.

5.2 Impacts on Annex II Species Outside the cSAC Boundary

Otter and Grey Seal, both of which are Annex II qualifying Features of the cSAC, are likely to move along the River Ilen between Roaringwater Bay and Skibbereen. Any impact on these species within the Ilen, as a result of the proposed works would therefore constitute an effect on the cSAC, whether it occurs inside or outside the boundary of the cSAC. Any significant impact on fish stocks could reduce prey availability for both of these species. Similarly, affects on other aspects of the ecology of the River Ilen could potentially result in knock-on effects on ecosystems within the cSAC.

5.3 Cumulative Impacts with Other Plans and Projects in the Area

As part of Stage 1 Screening, in addition to the proposed project, other relevant projects and plans in the relevant region must also be considered. This step aims to identify at this early stage any possible significant effects on the Natura 2000 sites of the proposed works in-combination or cumulative with other plans and projects. In this case, the relevant region is considered to be the catchment of the Roaringwater Bay, which includes the River Ilen, the Liamwaddia River, the Bawnaknockane River, the Rathruane River and the catchments of the various smaller watercourses that drain from the Mizen peninsular and from the islands (several of which are inhabited) to Roaringwater Bay.

For this Screening Assessment, the various development plans that relate to the area have been examined in order to identify any large-scale development or zoning proposals that may result in impacts on the cSAC in combination with proposed flood prevention works at Skibbereen.

Relevant plans have been examined as follows:-

- Cork County Development Plan 2009–2015;

- Skibbereen Electoral Area Local Area Plan (2011) incorporating a Habitats Directive Assessment Natura Impact Report; and
- Bantry Electoral Area Local Area Plan (2011) incorporating a Habitats Directive Assessment Natura Impact Report

CORK COUNTY DEVELOPMENT PLAN 2009–2015

Population Growth and Sewage Treatment

A number of Objectives of Cork County Development Plan aim to develop the position of Skibbereen as a 'county town' and increasing the size of the town substantially. Objective 'Set 3-20' states that: "*The objective of this Plan is to strengthen the role of Skibbereen as an important centre for population, employment, services and tourism, which would also serve a wider rural area, including the islands*."

The 2006 population of Skibbereen was 2,338 (in an estimated 823 households). The County Development Plan Target Population for 2020 is 1,335 (in an estimated 1,275 households) an increase of 43% over the 14 years. This is a substantial increase in population and a new waste water treatment plant has been provided to provide increased sewage treatment capacity for the town.

The potential for water quality deterioration resulting from the construction of flood prevention works in combination with possible water quality deterioration resulting from increased sewage discharges from Skibbereen Town to result in negative impacts on *Roaringwater Bay and Islands* cSAC is considered very low. No significant impact is predicted.

SKIBBEREEN ELECTORAL AREA LOCAL AREA PLAN 2011

The Draft Skibbereen Electoral Area Local Area Plan, 2010, *(Draft LAP)*, was published in November 2010. Amendments went out to consultation in April 2011 and the Skibbereen Electoral Area Local Area Plan (2011) incorporating a Habitats Directive Assessment Natura Impact Report was adopted in August 2011. The following is noted in relation to the Roaring Water Bay cSAC:

"Additional pressure on water quality in this SAC could arise from rural and urban settlement provided for in the Cork County Development Plan 2009 (unsewered properties account for 4% of nutrient inputs to water resources in this water management unit, with a high number of septic tanks located within the water management unit identified to be in areas of very high or extreme risk). Settlements in the Bantry EA (Schull and Ballydehob) also contribute to mpacts on water quality in this SAC, (Bantry EA Local Area Plan 2011).

Roaringwater Bay has been assigned moderate water quality status. Key pressures include point source waste water treatment plants as well as activities related to agriculture within the catchment. These are the primary source of nutrient enrichment to water bodies while a number of septic tanks located within the water management unit are in areas of very high or extreme risk (SWRBMP, 2010).

According to this LAP, the strategic aims for Skibbereen are for continued growth and development with Skibbereen acting as the primary urban centre for a large rural hinterland with key employment, educational, service and tourism functions. Set in the heart of West Cork, Skibbereen as a county town and growth/development centre performs an important employment, service and social function for an extensive rural hinterland.

Following the adoption of changes to policies, settlement boundaries and zonings arising out of the Appropriate Assessment for this plan process it was concluded by the Natura Impact Habitats Directive Assessment that the Skibbereen LAP will not give rise to impacts on the integrity of the Natura 2000 network. However it was considered that this considerable potential development in the town may put additional pressure on the treatment system and

could potentially contribute to in-combination adverse water quality effects in Roaringwater Bay. However it notes that a significant in-combination impact is unlikely.

BANTRY BANTRY ELECTORAL AREA LOCAL AREA PLAN 2011

The Bantry Electoral Area Local Area Plan (hereafter referred to as Bantry LAP) incorporating a Habitats Directive Assessment Natura Impact Report was adopted in August 2011. The following is noted in relation to the Roaring Water Bay SAC:

Roaringwater Bay has been assigned moderate water quality status in the SW Region River Basin Management Plan. Key pressures include point source waste watertreatment plants as well as activities related to agriculture within the catchment. These are the primary source of nutrient enrichment to water bodies while a number of septic tanks located within the water management unit are in areas of very high or extreme risk (Source – SW Region, River Basin Management Plan 2010). Additional pressure on water quality in this SAC could arise from rural and urban settlement provided for in Cork County Development Plan 2009 and the Skibbereen EA Local Area Plan 2011 (Baltimore and Oileain Chleire);

Roaringwater Bay has been assigned moderate water quality status. Key pressures include point source waste water treatment plants as well as activities related to agriculture within the catchment. These are the primary source of nutrient enrichment to water bodies while a number of septic tanks located within the water management unit are in areas of very high or extreme risk (SWRBMP, 2010).

Following the adoption of changes to policies, settlement boundaries and zonings arising out of the Appropriate Assessment process it was concluded by the Natura Impact Habitats Directive Assessment that the Skibbereen LAP will not give rise to impacts on the integrity of the Natura 2000 network. However it is considered that this considerable potential development in the town may put additional pressure on this treatment system and could potentially contribute to in-combination adverse water quality effects in Roaringwater Bay. However it notes that a significant in-combination impact is unlikely.

5.4 Summary of Possible Impacts on the Natura 2000 Sites

No direct impacts on *Roaringwater Bay and Island* cSAC or on any other Natura 2000 site will occur due to the distance of Skibbereen from any site.

Indirect construction stage impacts in the form of damage to habitats, flora and fauna may potentially occur by three possible pathways:-

1) As a result of the potential introduction into *Roaringwater Bay and Island* cSAC of waterborne contaminants, fines, sediments or undesirable biotic material (invasive species), via the River Ilen.

2) Potential changes to the hydrological regime of the River Ilen resulting in changes to discharge patterns to Roaringwater Bay and therefore to *Roaringwater Bay and Island* cSAC.

3) As a result of potential negative effects on Annex II species which occur outside the cSAC boundary but have effects on the populations of those species within the cSAC (i.e. Otter).

4) Potential impacts on fish stocks will impact on feeding success for piscivorous predators listed as qualifying interests for the *Roaringwater Bay and Island* cSAC.

5) In-combination impacts on water quality due to inadequate waster water treatment in towns within the Roaringwater Bay catchment as outlined in the Bantry and Skibbereen Electoral Area Local Area Plans.

6. SCREENING SUMMARY AND CONCLUSIONS

There will be no direct impacts on qualifying habitats and species within any Natura 2000 site.

From a hydrological viewpoint there will be no net reduction or increase in the volume of water or water borne nutrients reaching the Roaringwater Bay and Islands cSAC. It is noted that reduction of flooding within the town may have a net positive impact on aquatic ecology as high flood levels within an urban setting have the potential to introduce into the river a wide range of potentially toxic substance including sewage, hydrocarbons, household chemicals etc. Thus no impact on Natura 2000 sites arising from changes in hydrology have been identified.

Based on the proposed programme of works the introduction of waterborne contaminants is potentially possible. However a broad range of mitigation measures will be implemented to prevent contaminants including suspend solids from significantly impacting on watercourses. Such mitigation measures are implemented as standard for such construction projects with a high degree of success. It is also noted that the Roaringwater Bay and Islands cSAC is located 7.5 km away from the proposed works and in any event as a large marine site would provide very high levels of dilution which would significantly ameliorate any limited impacts from the works. Given the low magnitude of any impact from the proposed works no significant impacts on qualifying habitats (*Large shallow inlets and bays (Habitat code 1160), Reefs (1170), Vegetated sea cliffs of the Atlantic and Baltic coasts (1230), European dry heaths (4030) and Submerged or partly submerged sea caves (8330))* is predicted.

During the Appropriate Assessment process which was carried out for the Skibbereen and Bantry LAPs, inadequate waster water treatment was identified for a number of towns within the Roaringwater Bay catchment. However following the adoption of changes to policies, settlement boundaries and zonings arising out of the Appropriate Assessment process it was concluded by the Natura Impact Habitats Directive Assessment for both plans including the Skibbereen and Bantry EA LAPs will not give rise to impacts on the integrity of the Natura 2000 network. In this context and given the low risk of significant impacts arising from the River Ilen Drainage Scheme no significant in-combination impact on Natura 2000 sites has been identified.

Increased noise and disturbance during construction could impact on Otter and Grey Seal within the River Ilen although no impacts within the boundary of aSAC is predicted given its distance from the proposed works. Standard protection measures will be implemented with regard to otters and noise levels will be minimised for the duration of works. Although there may some short term disturbance of both species during works it is likely to be short-term and localised in nature and no long-term impacts on the populations of either species within or outside the cSAC boundary is predicted.

Instream works have the potential to impact on fish stocks on which Otter and Grey Seal feed. If there was to be catastrophic impacts on fish stocks due to works it could theoretically impact on these predatory species. However the works have been designed to minimise long term impacts on fish stocks and the impact on long-term fish stocks is predicted to be minor to moderate negative at a local level. In this context no significant risk to prey availability for otter or grey seal is predicted.

Overall there is no evidence to indicate that works will cause significant deterioration of the habitats of the qualifying species and species of special conservation interest or significant disturbance to these species thus ensuring the integrity of the site is maintained. No significant indirect nor direct impacts are envisaged. As this Stage 1 Screening Report did

not identify significant impacts on designated sites, a Stage 2 Appropriate Assessment is therefore not considered necessary.

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APPENDIX A

NPWS Site Synopsis for Roaringwater Bay and Islands cSAC

Roaringwater Bay, Co. Cork, is a wide shallow bay located on the southwest coast. The site includes the immediate coastline on the mainland from Long Island to Baltimore together with the whole bay and most of the islands. Bedrock is composed of a series of Devonian Old Red Sandstone reefs that run parallel to troughs of Devonian Carboniferous marine clastics in a north east/south west direction. These reefs emerge to form the islands on the south side of the bay and within the bay. Generally the coast is low-lying but the southern edge rises, in line with the hills behind Baltimore, to culminate in a summit of 160m on Cape Clear. The bay itself has a wide variety of reef and sediment habitats, subject to a range of wave exposures and tidal currents, and has been selected for three marine habitats listed under the EU Habitats Directive, i.e. large shallow inlets and bays, marine caves and reefs. The shores of the bay range from the exposed, rocky shores of South Sherkin Island, to the sheltered rock, sand and mud communities of the Inner Bay and estuarine communities where the rivers enter the bay. The shallow subtidal reefs have good examples of kelp forest community grazed by the sea urchin *Echinus esculentus.*

The animal dominated reefs include the feather star *Antedon bifida* community, the hydroid *Sertularia argentia* and *Hydralmania falcata* community, and sponge and ascidian communities some of which are species rich and in which two rare species occur; the sponge *Tethyspira spinosa* and the rare red alga *Phyllophora sicula*. The scarce hydroid *Tamarisca tamarisca* occurs at a number of sites within the bay. These communities are typical of very sheltered areas with some current present. The cave community on Sherkin Island is home to the rare filamentous red alga, *Pterosiphonia pennata*. The sedimentary communities in Roaringwater Bay are exceptional. Of particular interest is the extensive bed of the calcareous free living red alga *Lithophyllum dentatum*, (generally termed maerl but may be locally known as ‘coral’) which is the largest in the country for this species. This bed typically contains specimens that are very large and uniquely flattened in form with the rare filamentous red alga *Spyridia filimentosa. Lithophyllum dentatum,* which is only known from 2 other sites. There are also other maerl communities and several seagrass beds (*Zostera marina*) which may co-occur with a particularly good example in Horseshoe Bay, Sherkin Island.

The terrestrial habitats are also of conservation interest and include good examples of two habitats listed under the EU Habitats Directive, i.e. dry heath and sea cliffs. The coastal heath vegetation is typified by an abundance of Autumn Gorse (*Ulex gallii*),Heather (*Calluna vulgaris*) and Bell Heather (*Erica cinerea*). This is regularly burnt in most places so that there are clearings where grasses and herbs such as Wood Sage (*Teucrium scorodonia*), Common Violet (*Viola riviniana*) and Tormentil (*Potentilla erecta*) have a temporary rise to prominence before the shrubs grow again. Outcrops of rock bring variety into the heath and are the sites of the more interesting species. These include many southern plants, for example the rare Red Data Book species Hairy Birdsfoot Trefoil (*Lotus subbiflorus*), the Common Birdsfoot itself (*Ornithopusperpusillus*), Spotted Rockrose (*Tuberaria guttata*), Pale Heath Violet (*Viola lactea*) and Lanceolate Spleenwort (*Asplenium billotii*). In addition there is a small amount of Deptford Pink (*Dianthus armeria*), the only place it grows in Ireland though it was likely to have been introduced. Flushes and damp places through this vegetation support some interesting liverworts as well as Birdsfoot Clover (*Trifolium ornithopodioides*) and the special annual plants of the south-west, Chaffweed (*Anagallis minima*), Yellow Centaury (*Cicendia filiformis*) and Allseed (*Radiola linoides*). Chamomile (*Chamaemelum nobile*) is also common with Yellow Bartsia (*Parentucellia viscosa*) somewhat less so.

High rocky sea cliffs are confined to the southern and south-eastern sides of Clear Island and Sherkin Island. The steep areas of rocky cliffs are generally between 30 and 60 m in height, but more sloping ground with a heath covering extends to 120 m on Clear Island and to 100 m on Sherkin Island. Low, gently sloping cliffs occur elsewhere on some of the islands and on coastal sections of the mainland (mostly less than 30 m). The cliffs have typical maritime vegetation, with Sea Pink (*Armeria maritima*), Scurvy Grass (*Cochlearia* spp.), Red Fescue (*Festuca rubra*), Sea Campion (*Silene maritima*), Plantains (*Plantago maritima*, *P. coronopus*), Sea Samphire (*Crithmum maritimum*), Tree Mallow (*Lavatera arborea*) and, locally, Dotted Sedge (*Carex punctata*) and the Slender Spikerush (*Eleocharis uniglumis*). Two other Red Data Book plants, Little Robin (*Geranium purpureum*) and Sea Pea (*Lathyrus*

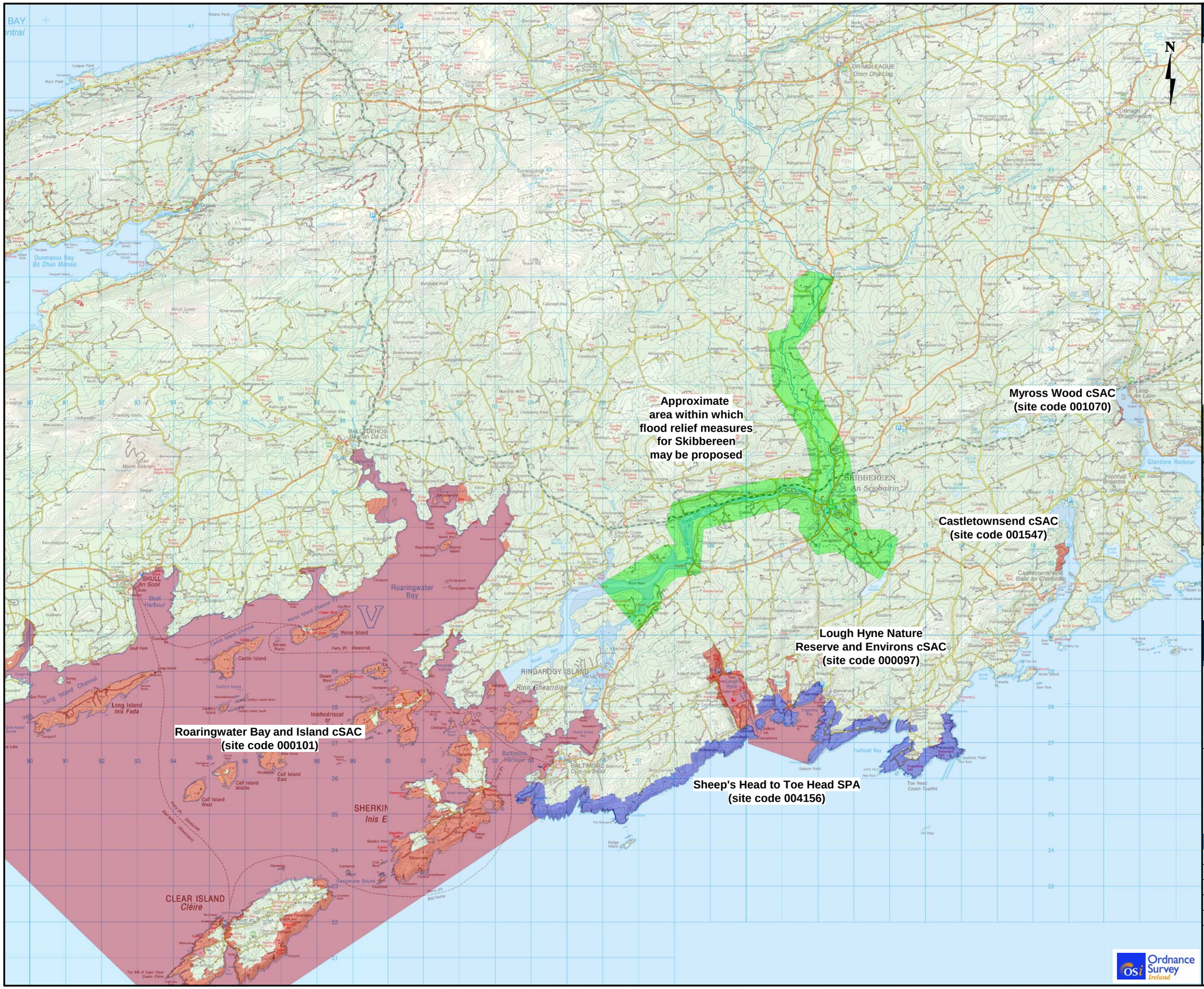
japonicus) occur rarely on shingle beaches while Ray's Knotgrass (*Polygonum raii*) is more widespread. Several streams have been ponded by such beaches to create marshes of Reed (*Phragmites australis*) where Marsh Pennywort (*Hydrocotyle vulgaris*), Marsh Cinquefoil (*Potentilla palustris*) and Marsh Orchids (*Dactylorhiza majalis*, *D. incarnata*) are frequent together with some Creeping Willow (*Salix repens*) and Gypsywort (*Lycopus europaeus*). On Clear Island a similar marsh has developed into a bog with abundant bog mosses (*Sphagnum* spp.), Bogbean (*Menyanthes trifoliata*) and St John's Wort (*Hypericum elodes*). Sand is a notable feature of Sherkin Island and occurs to a small extent elsewhere. Wild Radish (*Raphanus raphanistrum*), Crested Hairgrass (*Koeleria macrantha*) and Sea Storksbill (*Erodium maritimum*) grow in this habitat with a little Haresfoot Clover (*Trifolium arvense*), Knotted Clover (*T. striatum*) and the Red Data Book Lesser Centaury (*Centaurium pulchellum*).

Otter and Grey seal, two mammal species listed on Annex II of the EU Habitats Directive, occur within the site. Seabirds breed on some of the islands in the bay. A survey on Clear Island in 1995 reported the following species: Fulmar 716 pairs, Shag 59 pairs, Lesser Black-backed Gull 160 pairs, Herring Gull 51 pairs, Great Blackbacked Gull 50 pairs, Guillemot 42 individuals and Razorbill 31 individuals. Cormorants breed on Calf Island, Carrigmore and The Catalogues (c. 100 pairs in mid 1980s), and there is a scattering of gulls on several other islands. Roaringwater Bay has a nationally important population of Black Guillemot, with 198 individuals counted in 1999. Terns (Arctic/Common) bred within the site in the 1980s, with a large colony of 122 pairs on Carrigviglash Rock in 1984. Such large numbers, however, have not been seen since and there have been no records of breeding in the last 10 years. The site holds a very important concentration of Choughs (33 pairs in 1992), as well as several pairs of Peregrine Falcons. Both of these species are listed on Annex I of the EU Birds Directive. Clear Island has Ireland’s only manned bird observatory (established in 1959) and there is a marine research station on Sherkin Island.

In conclusion, Roaringwater Bay and Islands is a site of exceptional conservation importance, supporting diverse marine and terrestrial habitats, five of which are listed under the EU Habitats Directive. The site is also notable for the presence of Otter and Grey Seal plus a number of rare species and also supports important sea bird colonies.

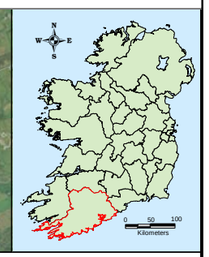
APPENDIX B

Figure 1: Location of Skibbereen and Natura 2000 Sites



Legend

- Special Protection Areas (SPAs)
- Candidate Special Areas of Conservation (cSACs)
- Study Area



Client

Cork County Council

Project

River Ilen (Skibbereen) Drainage Scheme

Title

Location of Study Area and Natura 2000 Sites

Figure 1.0

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Notes

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