

Smooth Point Pier Extension Killybegs Fishery Harbour Centre (F.H.C) Killybegs, Co. Donegal Assessment of Impact on the Receiving Environment Non-Technical Summary



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EXECUTIVE SUMMARY

The proposed development comprises an extension to the pier at Killybegs Harbour and an Assessment of Impact on the Receiving Environment (AIRE)) has consequently been prepared in support of the accompanying application for planning permission being submitted to the planning authority, Donegal County Council.

This Non-Technical Summary provides a summary of the AIRE in non-technical language. Technical Appendices also accompany the AIRE along with a volume of Figures and Drawings.

The AIRE describes the environmental effects of the proposals, examines the nature and scale of these effects and recommends measures to manage and control adverse impacts (mitigation measures). Beneficial impacts are also considered if they have the potential to occur.

The environmental topics addressed as full chapters include: Water Environment, Ecology, Noise and Archaeology. The results of these studies are summarised in this document along with a description of the proposed development and the consultation exercise.

The document has been compiled by



In conjunction with the following companies



1 INTRODUCTION

1.1 Documents

This document, the “Non-Technical Summary” (NTS) is a “condensed” version of a much larger document called an Assessment of Impact on the Receiving Environment (AIRE) which has been prepared and assesses the environmental effects of this development option which involves the provision of approximately 120 metres of additional berthing space in the vicinity of Smooth Point at Killybegs Harbour, and to provide mooring dolphins to the western end of the pier to aid stern on mooring. The proposed development outlined in this document the option currently being considered by The Department of Agriculture Food and the Marine.

The NTS is set out in the same chapter number format as the AIRE, so that if anyone wants to know more about a particular topic, they can easily find the information in the corresponding chapter of the AIRE. The sections within this NTS are therefore as follows:

- | | |
|-----------------------|---------------------------|
| 1. Introduction | 5. Water Environment |
| 2. Project Background | 6. Ecology |
| 3. Scoping Outcome | 7. Noise; |
| 4. Planning Context | 8. Underwater Archaeology |
| | 9. Cumulative Effects |

The NTS summarises the key findings from the environmental assessment process. Where the assessment identifies potential negative effects on the environment, measures to address and control effects, known as mitigation measures are identified. The assessment then presents the overall effects remaining after mitigation has been applied; these are referred to as the residual effects.

The following four documents were prepared to accompany the planning application:

1. The Non-Technical Summary (NTS), *this document*;
2. The Assessment of Impact on the Receiving Environment (AIRE);
3. Figure and Drawings to Accompany the AIRE; and
4. Technical Annexes (Technical reports which inform the AIRE).

1.2 The Legislative Framework

The proposed development is subject to European and National legislation of which the following is of principal relevance to the proposed development:

- European Directive 2011/92/EU;
- The Planning and Development Act, 2000 (As Amended); and
- The Planning and Development (Amendment) Act 2010.

Topic specific regulation is cited within each of the AIRE chapters.

2 PROJECT BACKGROUND

2.1 Introduction

This section provides details of the proposed development option site and a description of the proposal. Killybegs, with geographical coordinates of 54.38 N and 08.26 W, is located in County Donegal, which occupies the most north westerly part of Ireland bordering the Atlantic. The port is designed to cater for vessels up to 300 metres in length, 40,000 tonnes dead weight tonnage (DWT) and with a maximum draft of 12 metres at low water berthed along the 300m long quay wall (southern quay wall) and a maximum draft of 9 metres along the remaining 150m quay wall (east quay wall) which extends to Smooth Point.

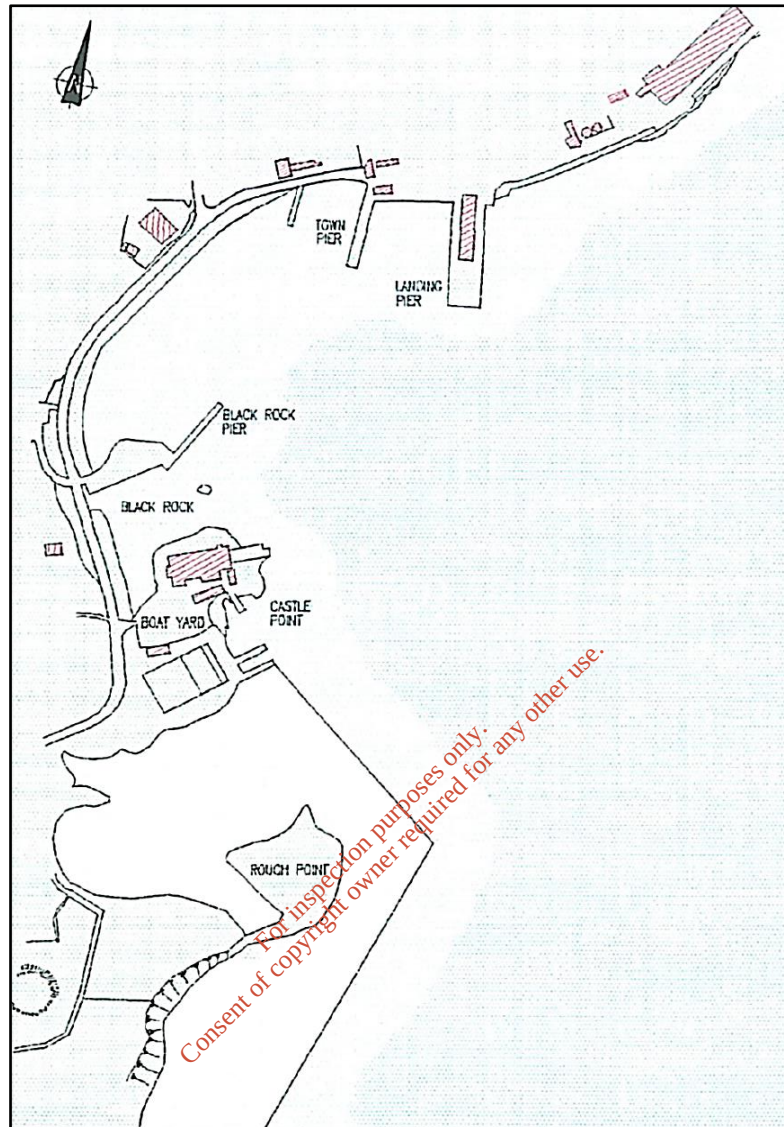
2.2 Site History and Current Site Conditions

The construction of the new harbour in 2004 provided facilities suitable for large deep sea trawlers, visiting cruise liners and other commercial cargo vessels (see Photograph 1). The older harbour consisted of the Landing Pier, the Town Pier, the slipway, the Blackrock Pier and the Department Shipyard (including a 600t vessel lift facility) (Figure 1). These facilities were very busy all year round and together with the new pier development, aimed to cater for the needs of medium to large vessels using the harbour. Most small vessels either berthed alongside large vessels at the piers or used the swing moorings located between the Blackrock Pier and the slipway.



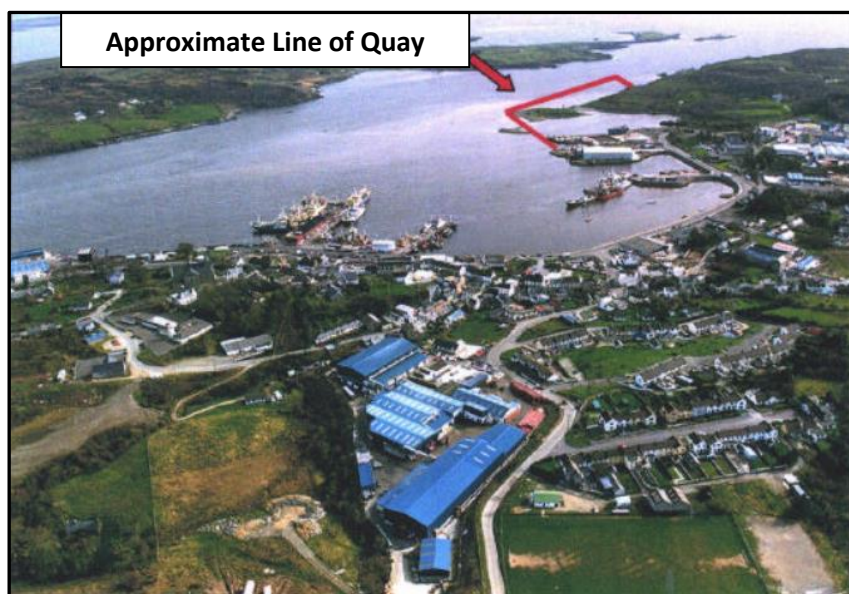
Photograph 1 – Aerial View of 2004 Harbour Development (Source: Department of Agriculture, Food and the Marine, Feasibility Study at Smooth Point, May 2015)

Figure 1- Pre-2004 Harbour Layout (Source: Killybegs Harbour Development Environmental Impact Statement (January 2001))



2.3 2004 Pier Construction

The 2004 harbour development in Killybegs provides facilities for the largest trawlers in Europe, visiting cruise liners and other commercial cargo vessels. The development, completed in 2004, required the infilling of tidal waters over an area of approximately 11 hectares. The footprint for the harbour development covered the tidal waters between two small islands adjacent to the approaches to Killybegs, at Smooth Point and Rough Point and the existing shoreline to the west (Photograph 2 and 3).



Photograph 2 - Site Location

(Source: Killybegs Harbour Development Environmental Impact Statement (January 2001))



Photograph 3 - Aerial View of the Site Prior to the Harbour Development with Rough Point and Smooth Point adjacent to Syncrolift. (Source: Department of Agriculture, Food and the Marine, Feasibility Study at Smooth Point, May 2015)

During the 2004 development, the quay wall was formed using a tubular steel pile/ Larssen sheet pile combined wall system with a reinforced concrete cast in-situ capping beam, precast concrete facing panels, tie rods and sheet pile anchor wall. A short section of the Quay at the shipyard end of Smooth Point was constructed using a rock armour revetment founded on the existing shore level. At this location the Smooth Point sediment bank remains in-situ. The historical maintenance of small fishing vessels has led to a degree of contamination in this area. As a result the Smooth Point sediment bank was not removed during the 2004 project, primarily due to the potential costs associated with the dredging and disposal of any contaminated sediments and other technical difficulties and time constraints.

2.4 Summary of the Proposed Development

Due to the success of the 2004 harbour development, marine traffic associated with both commercial and the fishing industry has increased significantly. Killybegs harbour now accommodates large cruise liners, service vessels for the oil and gas industry, large scale delivery of wind farm components along with annual fish landings from both foreign and Irish vessels.

As a consequence of this increased activity the demand for quayside berthing now exceeds available quay space during peak periods. At present, due to depth restrictions caused by the existing sediment bank at Smooth Point, approximately 80m of quayside is unusable.

The Department of Agriculture Food and the Marine are seeking to provide approximately 120 metres of additional berthing space in the vicinity of Smooth Point and to provide mooring dolphins to the western end of the pier to aid stern on mooring. The extent of the proposed dredging works and location of quay extension is shown in Figure 2 below.

2.5 Dredging Works

The area to the front of the new quay wall will require dredging. This bed level will increase to -7m Chart Datum over 120m from the quay wall to tie into the navigable shipping channel.

In total an estimated 128,500 m³ of bed material will be dredged from the Killybegs Harbour area, out of which approximately 96,900 m³ will be disposed at the proposed dredge dump site. The anticipated capital dredging campaign will last for potentially four weeks as a continuous operation represents.

Approximately 17,600 m³ of silts and gravels will be dredged from the dredge area which has been found to be unsuitable for disposal at sea. This material will be disposed of to land.

It is proposed that all rock arising from the development works will be stockpiled within Killybegs FHC under agreement with EPA, for reuse on future developments within the harbour.

The following describe the main activities that will be undertaken during the dredging works within the channel.

The dredging works are anticipated to be undertaken over 4 weeks. The dredge works are expected to consist of the following methods:

1. **Suction dredging** to remove as much of the softer/granular sediment 'overburden' as possible; and
2. **Backhoe dredging** of harder consolidated material, boulders and weathered/weaker rock outcrops.

At this stage it is not fully understood if drilling and blasting will also be required to complete the dredging works although the potential implications have been considered in the AIRE.

Suction Dredging

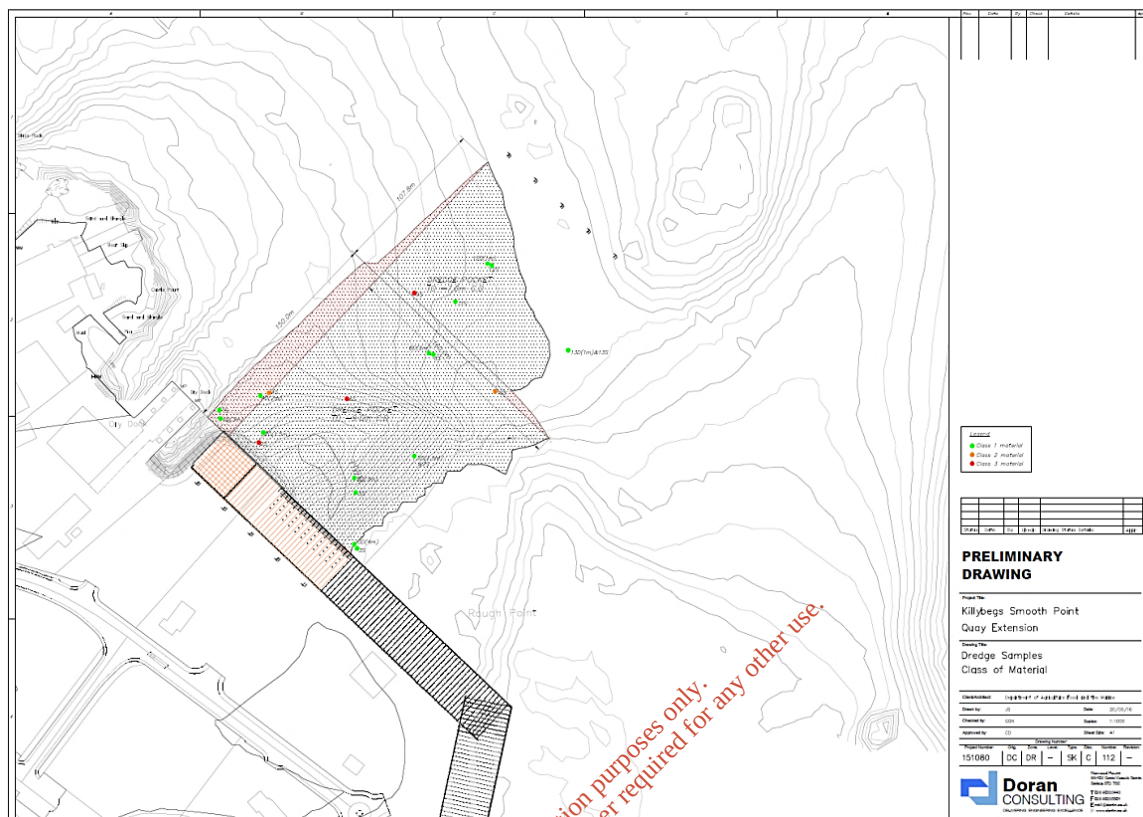
A Trailer Suction Hopper Dredger is suitable for removing granular, unconsolidated or softer material. This vessel is equipped with one or two dragheads connected to the ship by a pipe, these are trailed along the sea bed and a suction pump lifts sediment off the seabed, suspends it in water and draws the mixture up the pipe into the vessel's integral tank, or 'hopper'.

Backhoe Dredging

Backhoe dredging is required to effectively remove 'stiffer' consolidated material like clay, as well as boulders and weathered/weaker rock outcrops. It may also be needed to remove the pre-treated bed rock after the drill and blast process. Photograph 4 shows the typical arrangement with a long reach excavator positioned on a

barge; it also shows the self-propelled disposal barge that is used to take the dredged material to the disposal ground.

Figure 2: Quay Extension and Dredge Location



Photograph 4: Typical Backhoe Dredging set-up



2.6 Quay and Infrastructure Construction Summary

The works are considered to include the following key elements:

- Quay wall – 120m in length of similar construction method to the existing quay wall. Tubular steel piles with steel sheet piles between each tube will form the quay wall. Stability to the wall will be provided by tie rods anchored to a buried sheet pile wall beneath the hinterland behind the new wall;

- The proposed finished deck level will match that of the existing quay i.e. 6.55m above Chart Datum (CD); and
- Three breasting dolphins will be constructed perpendicular to the northern end of the quay to facilitate stern on berthing of fishing vessels.

3 SCOPING OUTCOMES

In April 2016 a Scoping Report was submitted to Donegal County Council. The key objective of the Scoping Report was to engage with the relevant Statutory and Non-Statutory Consultees to: obtain their views on the project; identify potential impacts; identify existing environmental information; and agree methods for the assessment of the nature and significance of these impacts, thus ensuring that all relevant environmental issues were covered by the AIRE. Furthermore, the scoping process enables the topics to be covered in the AIRE to be agreed and for those topics not considered pertinent to be scoped out or reduced in scope (i.e. not meriting a full chapter)

At the time of producing the AIRE, no formal consultation responses have been received, nevertheless, a degree of consultation has been undertaken as part of the design process and is summarised below:

3.1 Donegal County Council (DCC): Planning

Doran Consulting met with a DCC local planning officer to discuss the proposed project. The key information required included;

- Chemical Analysis of the sediments to be dredged;
- Historic and current Archaeological reports on Smooth Point;
- Ecological impacts associated with the proposed development require to be assessed;
- Habitats Regulations Assessment would potentially be required;
- Statement for mitigation of any identified impacts on St John's Point SAC;
- Details of proposed noise and dust control measures to be put in place during the works and a full AIRE chapter would not be required for traffic and transport.

3.2 Dumping at Sea Licence

The Marine Institute were contacted to discuss their requirements for chemical testing of the material to be disposed of to sea. Requirements were confirmed and Aquafact collected the required samples and arranged for the required testing. Consultation with key stakeholders in the Disposal at Sea licensing process has started.

3.3 Article 11 Declaration from EPA

Donegal County Council confirmed that they would defer to EPA on the issue of the rock generated from the dredging process being a resource or a waste. The EPA confirmed that an Article 11 declaration should be submitted to EPA for the proposed stockpile of rock.

3.4 Scope of the Assessment of Impact on the Receiving Environment (AIRE)

Based on consultation, best practice and professional experience, a view was reached on the key topics to be assessed and included as a full impact assessment chapter as part of the AIRE. These were:

- Planning;
- Water Environment;
- Ecology;
- Noise; and
- Underwater Archaeology.

On the basis of professional judgement and review of baseline conditions, full impact assessment was not considered necessary for the following topics:

- Air Quality;
- Geology, Soils and Contaminated Land; and
- Landscape and Visual;
- Traffic and Transport; and
- Vibration (Terrestrial).

A summary of the reasons why these topics were discounted from full impact assessment is provided below.

Air Quality

The site currently operates as a harbour facility which would remain relatively unchanged post construction. The main impact on air quality that could occur during the construction phase is when fugitive dust can be generated through construction activities. Procedures to minimise dust arisings will be addressed through a Construction Environmental Management Plan (CEMP).

Geology, Soils and Contaminated Land

No geological designations are known to be present on the site or its surrounds. Previous site investigation information available indicates that there are not anticipated to be any significant effects on geology or soils.

The principal potential environmental impacts would be associated with the construction phase and the possible release of potential contaminants during dredging and disposal of sediments. The site investigations carried out identified sediments unsuitable for sea disposal which will be disposed of on land.

Landscape & Visual

The site is located within the Killybegs Harbour estate. The proposed development is not expected to be sensitive in terms of visual impact as works will be at the level of the existing quay.

The proposed development site is not highly visible and views are likely to be similar to existing views. There are no significant ground features on completion of the project and no changes in landscape character from existing. The mooring dolphins and pontoons are also similar in character to existing ones.

The proposed development is set within an existing built up area and the proposed extension will not appear out of place in terms of their location, massing or height.

Traffic and Transport

The local road network, particularly Shore Road, will not be unduly affected by the additional HGV traffic generated during the construction phase.

Consultation between Doran Consulting and the Local Authority noted that the effects in relation to the environment from traffic will be negligible. Additional traffic during the construction phase and the day to day operation of the development are unlikely to unduly affect the noise levels or air quality in the area. It is therefore considered that there will be no adverse impacts on the environment in relation to traffic.

Vibration (Terrestrial)

The aspects to be considered from vibration impacts would be; the effects on people or equipment within buildings and the effect on buildings (or other structures) themselves. The most common form of vibration associated with construction is that from piling, which produces an intermittent type derived from conventional driven piling. Due to the proximity of the eastern section of the site to residential properties as well as the presence of buildings on site and within the immediate vicinity of the harbour, there is potential for construction activities, such as piling or blasting, to have an impact.

As detailed construction methods are not yet finalised it is considered at this stage that detailed vibration mitigation could not be confirmed. The following is therefore proposed that an assessment of vibration damage risk to properties within the vicinity of the site and harbour buildings from construction works should be carried out by the Contractor for works close to those structures prior to works commencing.

4 PLANNING CONTEXT

The proposed Smooth Point Pier Extension at Killybegs harbour was reviewed with regard to relevant planning policy, the following documents in particular were consulted:

- Killybegs Development Plan 2008 – 2014 (Expired)
- Border Regional Planning Guidelines 2010 - 2022
- County Donegal Development Plan 2012-2018

The proposed extension to Killybegs Harbour is consistent with the objectives and policies of the local, county and regional development plans in terms of their views on sustaining and developing the harbour at Killybegs, County Donegal and the border region. The planning chapter concluded that the development proposed was significantly in accordance with planning policy.

5 WATER ENVIRONMENT

There is a potential for the water environment to be affected by the proposed capital dredging of the harbour area and disposal at a disposal site in Donegal Bay. The potential environmental impacts on the water environment s are summarised as follows:

- Changes to sediment transport caused by dredging and disposal of sediments;
- Change in tidal currents (velocities);
- Pollution through spillages and sediment transfer (oil, fuels and suspended solids); and
- Flooding.

Dredging and disposal at sea has the potential to introduce suspended sediment to the water environment but this can be mitigated by effective planning and good working practices. Modelling has shown that suspended solids plumes are localised to the dredging and disposal areas and are not predicted to have a significant impact.

Tidal currents in Donegal Bay are known to be generally weak and the relatively small scale of dredging required in comparison to the wider harbour environment is not expected to result in any significant changes to tidal current velocities.

During the dredging works there is a risk of water pollution, with the use of heavy plant and machinery having an associated risk of spillage or leakage of oils or fuels however this risk can be mitigated by the adoption of best pollution prevention practices and good contingency planning by all contractors involved.

The proposed finished deck level of the harbour pier will remain (as at present) at +4.21 mOD (Malin). This is 0.783m above the 1 in 1,000 year event predicted sea level. As classified in the Planning System and Flood Risk Management Guidelines (2009) sites located above the 1 in 1000 year flood extent are within flood zone C, and are therefore considered suitable for all types of development.

The residual impacts of the proposed works on the water environment are considered to be low to negligible if the mitigation measures are implemented and therefore no significant environmental effects are predicted to arise as a result of the development.

6 ECOLOGY

The ecology assessment carried out focused on the following species or potential impacts:

- Otters;
- Terrestrial habitats;
- Benthic communities at the dredge and disposal site;
- Fisheries interests in the area; and
- Marine megafauna (marine mammals, whales, seals and so on).

Surveys were carried out on land, on the coastal margins at the development and on the disposal and dredging areas.

The impact assessments considered the following main potential impacts:

- Direct habitat loss or habitat disturbance and faunal disturbance or displacement from construction activity and increased levels of activity once the pier extension is operational;
- Impacts from increased dredging activity and sediment disposal; and
- Higher levels of collision risk for cetaceans and pinnipeds and increased underwater noise from vessel movement and construction activity.

Significant impacts were not predicted for the species and habitats considered with the exception of potentially significant impacts from underwater noise which will be short term. In addition mitigation measures have been proposed to reduce the potential impact of underwater noise to an acceptable level. Modelling carried out also predicts that the sediment dispersion arising from the dredging activities will not adversely affect fisheries in the area or migratory fish.

The potential impacts on the Natura sites St. John's Point SAC and Inishduff SPA were also considered. The predicted sediment dispersion at the dredge site and disposal ground indicates that these site will be unaffected by the proposed development.

With effective mitigation, no significant effects are predicted on ecology from the construction of the proposed harbour extension, based on the information currently available.

7 NOISE

There is potential for noise levels in the area surrounding the proposed development site to be changed by operational activities. As such, a noise assessment has been carried out.

A noise survey was carried out at Killybegs in June 2016. The purpose of the survey was to establish baseline noise conditions at potentially sensitive noise receptors. The proposed development is located in an operational harbour with the closest residential property located on St Catherine's Road circa 300 metres distance from the harbour development. In addition, Sensitive Receptors considered to have a view of the harbour development site are as follows:

- Residential properties located around Fintra Road;
- Killybegs Community Hospital; and
- Binroe Hamlet (2 locations located across the water from the harbour).

The residential property located on St Catherine's Road was not used as a monitoring location as it is mainly affected by existing traffic on the road, while existing harbour buildings such as Mooneys Boats, are located directly between the property and the harbour development area, thus acting as a screen.

The predictions and comparisons of noise levels expected during the works were made for each of the types of activity which may generate significant noise. These are as follows:

- Removing existing rock armour and stockpiling
- Quay Wall Piling
- Dredging
- Security.

For the piling phase a significant impact is predicted at the closest receptor (St Catherine's Road) for evening working. No impact is predicted for daytime working.

As details of the construction methodology are confirmed, elements of the assessment may alter slightly. Therefore, to minimise the potential for construction noise to be a nuisance to local residents of Killybegs, it is recommended that the contractor appointed should follow construction best practice standards. Some of the best practice activities that could be adopted to minimise noise are as follows:

- Informing neighbours or tenants when specific noisy activities are likely to take place. Good neighbour / tenant relations are recognised as an important factor in reducing the likelihood of nuisance or damage. Provision of a contact number is regarded as good practice in identifying any noise problems and resolving concerns at an early stage;
- The optimum technology for the piling activity bearing in mind all the relevant aspects of the particular task;
- Ensuring, where possible, that static items, such as generators, are sited away from sensitive receptors, and where necessary, noise control means, such as barriers, enclosures or silencers, are utilised to further reduce noise;
- Ensuring that, as far as reasonably practicable, sources of significant noise are enclosed. The extent to which this can be done depends on the nature of the machines to be enclosed and their ventilation requirements; and
- Regularly maintaining plant and equipment by trained personnel. Increases in plant noise are often indicative of future mechanical failure.

The only construction activity predicted to have any noise impact is piling during the evening period. This will be a short term activity and the site operatives should address this through a combination of restricted working times where possible and good liaison with residents.

8 UNDERWATER ARCHAEOLOGY

An archaeological impact assessment of the extension of the quay wall at Smooth Point, Killybegs, Co. Donegal and associated dredging and dumping at sea operations was carried out.

A desktop study was undertaken to provide an historical and archaeological background to the development and dumping at sea sites. It was also designed to identify any possible areas of archaeological significance which may be contained within the proposed dredging and dumping at sea areas.

The results of the baseline data collected during the desk top study were analysed to establish the archaeological and historical background in the area. Having established the background nature of the area an impact assessment was then carried out and mitigation measures proposed.

The key characteristics and interpretation of the area can be summarised as follows:

- The development site is located in close proximity to a series of recorded archaeological sites many of which are associated with St Catherine and an early ecclesiastical foundation. There is also a recorded Fulacht fia and a series of seventeenth century buildings;
- The dumping at sea site was the subject of a programme of archaeological survey and assessment in 2002 and no archaeological material was noted;
- Fourteen vessels have been recorded as been lost in, off or near Killybegs harbour. Two stray finds have also been recorded from the vicinity of the harbour;
- Five structures on Rough Point were excavated prior to the original 2004 pier development and were shown to be of seventeenth century date. A number of burnt mounds, one with an associated trough were identified during test excavations close to Rough Point which indicate Bronze Age activity in the area; and
- A number of timbers found in the area were also shown to be not archaeological in nature.

It is considered that the potential for the dumping at sea operations to have an impact on archaeological material and/or features is low. Consequently, it is suggested that no further mitigation measures should be required for disposal activities at sea.

The development at Smooth Point is located in an area of high archaeological significance, where there is a potential for the development works to impact previously unrecorded archaeological material. Although previous field surveys have not located any archaeological materials in the area, the potential remains. As a result, it is recommended that any groundworks associated with Smooth Point should be monitored by a suitably qualified archaeologist as appropriate to the works.

9 CUMULATIVE EFFECTS

We are aware of no other planned or committed developments within the surrounding area that could have the potential for a cumulative impact when considered in conjunction with the proposed upgrade to the existing harbour at Killybegs.