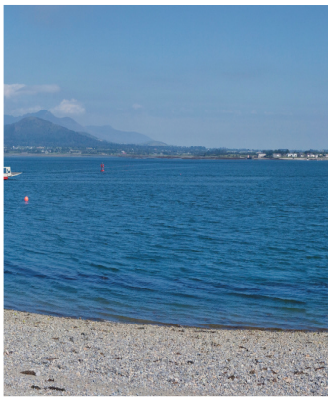
THE CARLINGFORD FERRY

PLANNING APPLICATION: 13/241

FULL PLANNING APPLICATION FOR THE PROPOSED CONSTRUCTION OF FERRY TERMINAL FACILITIES ADJACENT TO GREENORE PORT AT GREENORE POINT, SHORE ROAD IN CO. LOUTH AND ADJACENT TO 80 GREENCASTLE PIER ROAD, GREENCASTLE IN CO. DOWN TO ALLOW OPERATION OF A VEHICULAR FERRY ACROSS CARLINGFORD LOUGH



SUBMISSION OF FURTHER INFORMATION

OCTOBER 2013

creativepeople making a difference

Frazer Ferries Ltd

Further Information Submission

for

The proposed construction of ferry terminal facilities adjacent to 80 Greencastle Pier Road, Greencastle in Co. Down and adjacent to Greenore Port at Greenore Point, Shore Road in Greenore, Co. Louth, to allow operation of a vehicular ferry across the mouth of Carlingford Lough

in support of

Planning Application 13/241

Document Control	
Client	Frazer Ferries Ltd
Document Ref.	NI1328 The Carlingford Ferry

Rev.	Status	Author	Reviewed By	Approved By	Office of Origin	Issue Date
D01	Draft	AMC	SF	SF	RPS S70	26.09.13
D02	Draft	AMC	SF	SF	RPS S70	4.10.13
DO3	Final	AMC	SF	SF	RPS S70	11.10.13

TABLE OF CONTENTS

1.0 INTRODUCTION

This submission has been prepared in response to the Further Information Request (FI) dated 02.08.13, by Louth County Council, in relation to Planning Application 13/241.

This application was submitted on 14th June 2013, and seek permission for the proposed construction of ferry terminal facilities adjacent to Greenore Port and adjacent to Greencastle Pier Road, to allow the operation of a vehicular ferry across the mouth of Carlingford Lough.

At Greenore, the works include:

- Construction of a reinforced concrete slipway (60m long) with 7 vertical tubular berthing & fender piles on the southern side to facilitate ferry berthing;
- Relocation of the existing Port entrance gates and weighbridge;
- Realignment of existing boundary fence to northern side of the Port;
- Modification of entrance road layout, part demolition of gable walls of existing shed to allow through access for vehicles;
- Use of existing hard stand area for parking & queuing, new lighting columns;
- New pedestrian footpaths along the existing rock armour and replacement of the existing fence along the SE boundary with pedestrian bollards.

The proposals also includes floating navigational marks anchored to the bed of the Lough & laid at the edges of the navigable channel to delineate appropriate channel boundaries or to mark shallow rock outcrops, and provide for safety of navigation.

Frazer Ferries submitted an Environmental Impact Statement and a Natura Impact Statement in support of this application.

The Further Information Request outlined a number of points to be addressed, including:

- Public re-advertisement of the proposal with reference to its location within the curtilage of two Protected Structures;
- Information to assess and manage the flood risk, in the context of the 'The Guidelines for Planning Authorities - The Planning System and Flood Risk Management';
- Clarification on the type of vehicles to be accommodated by the proposal, and additional details on the movement layout;
- Additional public footpath between Euston Street and Shore Road;

- Location of the proposed watermain connection for the proposal;
- Confirmation that the CEMP will be reviewed having regard to the specific mitigation measures outlined in the NIS and EIS, forming a revised CEMP;
- Confirmation that the correct Conservation Objectives have been used in the EIS;
- Discussion with National Parks & Wildlife Service regarding an error in the mapping, highlighted by Louth County Council;
- Clarification on the proposed location of the existing plaque at the Port entrance gateway;
- Confirmation of revised public notices and a schedule of all documents submitted;

A copy of the Further Information Request is located in Appendix I. A response to each point in the FI is provided in the subsequent sections of this submission.

2.0 PUBLIC ADVERTISEMENT OF THE PROPOSAL

The public notices for this proposal have been amended to reference the fact that the subject development lies within the curtilage of two Protected Structures, listed in the Louth County Development Plan. A revised newspaper advertisement has been published and a revised site notice has been erected. The revised text notes:

LOUTH COUNTY COUNCIL - FURTHER INFORMATION

Frazer Ferries Ltd have applied for full planning permission (Ref:13/241) for the proposed construction of ferry terminal facilities adjacent to Greenore Port at Greenore Point, Shore Road in Greenore, Co. Louth, and adjacent to 80 Greencastle Pier Road, Greencastle in Co. Down to allow operation of a vehicular ferry across the mouth of Carlingford Lough. The proposed works include:

- *At Greenore, construction of a reinforced concrete slipway (60m long) with 7 vertical tubular berthing and fender piles on the southern side to facilitate ferry berthing; relocation of existing Port entrance gates and weighbridge; realignment of existing boundary fence to northern side of Port; modification of entrance road layout, part demolition of gable walls of existing shed to allow through access for vehicles, use of existing hard stand area for parking and queuing, new lighting columns, new pedestrian footpath along the existing rock armour and replacement of existing fence on SE boundary with pedestrian bollards.*
- *At Greencastle, the construction of a reinforced concrete suspended pier (58m long), supported by vertical tubular piles and a reinforced concrete slipway (70m long) to allow vehicular access to the Ferry and 12 berthing piles with fenders and steel gangway to facilitate berthing and tying up of vessels overnight, new access & hardstand for parking and queuing, kiosk for office & ancillary staff facilities, drainage and landscape proposals; Upgrade and widening to parts of the Greencastle Pier Road and provision of passing bays.*
- *Also floating navigational marks anchored to the bed of the Lough and laid at the edges of the navigable channel to delineate appropriate channel boundaries or to mark shallow rock outcrops and provide for safety of navigation.*

The proposed works at Greenore are within the curtilage of two Protected Structures (LHS009-043 Greenore Lighthouse & LHS009-044 Greenore Lighthouse Keeper's House). An Environmental Impact Statement and a Natura Impact Statement have been prepared in support of the planning application. Further significant information has been provided to

Louth County Council - this is available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy, at the offices of Louth County Council from 9.30am to 4.30pm Monday to Friday. A submission or observation in relation to the application may be made to the Authority in writing within a period of 5 weeks from the date of receipt by the Authority of the newspaper notice & site notice and on payment of the prescribed fee of €20.00

Copies of the revised Public Notices are included in Appendix II.

3.0 MANAGING THE COASTAL FLOOD RISK

Point 2 of the FI Request relates to managing the coastal flood risk, and the following points are made in response:

Extreme Coastal Water Level

In relation to the 1 in 200yr (0.5 % AEP) coastal flood level at the application site, the predicted level from the Irish Coastal Protection Strategy Study is 3.75m OD Malin. The quoted figure in the FI Request of 4.25m OD Malin is the 2100, 1 in 200yr flood level. The predicted 1 in 1000yr (0.1% AEP) coastal flood level is 3.97m OD. Under the requirements of The Planning System and Flood Risk Management Guidelines, the establishment of the various flood zones should be based on the present day extreme water levels.

Therefore all land below 3.75mOD Malin should be classified as Flood Zone A, all land between 3.75m OD Malin and 3.97m OD Malin should be classified as Flood Zone B and all land higher than 3.97m OD Malin should be classified as Flood Zone C.

Consideration of Proposed and Existing Development Levels

In relation to the proposed development at Greenore, only the slipway and a very small portion of the car park (where it drops to 3.71m OD) are within Flood Zone A. The existing buildings, and access road and proposed Portacabin for toilets and office facilities are located in Flood Zone C (i.e above 3.97m OD). These levels have been set based on the respective levels of the existing building on the application site, the existing quay and those of the slipway. These existing constraints and the need to maintain the functionality of the proposed development mean that there is little flexibility to alter the existing levels.

Consideration of Risk

It is acknowledged that the assessment of risk to the proposed development, the users of it and the surrounding area needs to be considered fully. In relation to the surrounding area, the proposed development does not encroach any further into Carlingford Lough and therefore there is no alteration to the tidal regime and mechanisms that exist currently. Subsequently it can be stated there is no additional increase in flood risk in the vicinity or surrounding area.

In relation to the users of the development, the only areas which would be affected during a 0.5% AEP event, are the slipway and a small area of car park which will probably only be

flooded to a depth of 40-50mm. This presents a very low risk to users of what is a water compatible development. It should also be noted that during an event of this magnitude the ferry will not be running, the terminal closed and passengers or employees would not be in the vicinity. The main access road leading from the ferry terminal also rises quickly to 4.0m OD and above thus allowing a safe means of escape even during an extreme event.

In relation to the development itself, the slipway has been designed structurally to accommodate an event of this magnitude and the existing rock armour protects the car parking area from any damage associated with tidal or wave action. The existing building and portacabin are located in an area of the car park which is at 4.21m OD and so would remain unaffected by an event of this nature. RPS therefore consider the proposed development to be at low risk and to have a suitable level of protection against a 0.5% AEP event.

Consideration of Climate Change

In the climate change scenario, whereby a predicted flood level of 4.25m OD would be considered as the best estimate of 0.5% AEP extreme water level, the development would obviously be exposed to a higher degree of risk. However, even in this scenario it is only the car park which would be flooded and water would be just encroaching upon the existing buildings. As discussed previously, the terminal would be closed during an event of this magnitude and therefore there is a low risk posed to passengers and employees. Given that it will take an extreme event of this magnitude to occur before the proposed facility is severely affected, it will mean that ferry crossings under normal conditions will be largely unaffected by climate change and associated sea level rise.

4.0 TRAFFIC & TRANSPORTATION

Clarification has been requested on the type of vehicles to be accommodated by the proposal, and how the proposal accommodates the range of movements anticipated. This information is outlined below.

The principle and over-riding vision of the Ferry company is to provide a cross border tourism link across the mouth of Carlingford Lough. Market research undertaken by the client indicates that this link will be used predominantly by private motor cars. However the ferry service will also accommodate caravans, coaches and light vans during any crossings.

Commercial and Goods Vehicles will be permitted on crossings, but these will generally be restricted to prohibit the accommodation of larger than 3-Axle vehicles (OGV2) as defined within the Design Manual for Roads and Bridges (DMRB), unless pre-booked to arrive at off-peak times. This will still allow small panel vans and goods vehicles with up to 3 axles to use the Ferry, which are smaller in size. This is consistent with the operation of the Strangford to Portaferry Service where restrictions are placed on larger vehicles during periods of maintenance or high traffic flow. The market for the Ferry is tourism based and this restriction will accommodate the use of smaller vehicles on the Ferry and ensure minimal conflict at the difficult corner with Greenore Port.

The maximum number of coaches and commercial vehicles will be **8 per day** in either direction. Averaged over the day, this is less than one per crossing and is seen as an optimistic level at the busier periods of the year. This figure has been derived from market research undertaken by the client.

In relation to tracking, it is understood that the Council are concerned with the tight 90 degree bend within the Port. They have requested that auto-swept analysis is carried out to track the movement of a car and lorry passing, to show that both a car and lorry meeting can operate safely and satisfactorily. Such a condition would arise if a lorry was entering the port as the ferry docked. Given the restricted use of heavier vehicles on the ferry it is most likely that the conflict that could occur is between a large car and a coach or HGV. The tracking drawing IBM0358-115 (Appendix III) indicates the tracking for a number of scenarios and demonstrates that the expected conflicts can be accommodated at the corner. The operation of this corner will not be impacted by the ferry given the restrictions on the larger goods vehicles.

Given the restrictions on the larger Goods Vehicle use on the Ferry there are is no increase in the level of conflict between larger vehicles as a result of the Ferry proposal and hence no requirement for the Ferry to make alterations at this location.

There is potential for staff to cycle to the Ferry terminal however there is not anticipated that there will be a large cycle parking requirement as part of the public use of the Ferry. It is more likely that cyclist will take their bicycle on to the Ferry. Notwithstanding this a dedicated sheffield style cycle stand can be provided on site to offer a location for a cycle to be securely parked should a member of staff wish to cycle to the terminal.

5.0 PUBLIC FOOTPATH PROVISION

The Local Authority has noted that the there is no footpath between Euston Street and Shore Road, with pedestrians sharing the road space with the existing traffic. As such, it considers that the provision of a footpath and associated public lighting is required along the eastern side of the existing roadway

It is appreciated that the proposal may generate pedestrians walking to / from the Ferry, and a new footpath to accommodate these may be appropriate to ensure they are separated from vehicular traffic, to avoid movement conflicts. This link will provide a benefit to the local community and the operation of the Port. An uncontrolled crossing with dropped kerbs and tactile paving will also enhance the walking links to the Port

The applicant, Frazer Ferries, is willing to provide an agreed financial contribution towards the construction of this pathway. In the first instance, it is suggested that part of the Infrastructure levy to be used to provide such a link, and we would welcome a meeting with the Council to discuss this further.

6.0 WATERMAIN CONNECTIVITY

Clarification was sought from the applicant, by the Council, in relation to the exact location of a connection of the proposal to the watermains.

The proposed connection to watermains shall be drawn from the existing Greenore Port supply located within the Port boundary. The existing water supply to the weighbridge building (located beside the Port entrance gate) shall be re-routed by approx 22m into the proposed portacabin office and toilet block for the ferry terminal. Given the limited usage for a small office and an adjacent toilet, we consider that a sub-supply, drawn from the existing port watermain is appropriate rather than extend public watermains from Shore Road. The proximity of the existing weighbridge hut supply to the proposed portacabin also suggests that the connection be made locally rather than extend the public watermains. This also ensures no disruption to local supplies during connection.

7.0 PRE-CONSTRUCTION EMP

The applicant fully intends to transpose the environmental commitments given in the EIS and NIS into a Construction stage Environmental Management Plan (CEMP).

A pre-construction EMP is included in Appendix V. This document is largely informed by the mitigation measures detailed in the Environment Statement and the Natura Impact Statement.

It should be noted that this document is a *pre-construction* EMP*,* prepared in support of the planning application process. It will provide the basis for the production and refining of a CEMP in conjunction with appointed contractor, as well as further discussions and agreement on an approach with the relevant statutory consultees and local authorities

8.0 SAC CONSERVATION OBJECTIVES

It was noted that the Conservation Objectives for the SPA and SAC, within the EIS were generic and out of date objectives.

When finalising the EIS appendix Volume, the editors erred in not updating Appendix 5.3. Ecological assessment for both the EIS and NIS was undertaken by the ecologists based on the most recently published Conservation Objectives available on www.npws.ie. The SPA qualifying features were discussed in correspondence with David Tierney of NPWS by email in May 2013 to ensure RPS undertook assessment on the most up-to-date Conservation Objectives. To clarify, assessment was undertaken based on Brent Geese and Wetlands being listed as Special Conservation Interests for Carlingford Lough SPA; and Annual vegetation of drift lines [1210] and Perennial vegetation of stony banks [1220] being listed for Carlingford Shore SAC.

9.0 BOUNDARY OF THE CANDIDATE SAC

In the FI request, Louth Council noted that it considered the current boundary of the cSAC to contain mapping errors - it notes that a number of developed areas which have lost their conservation interest and value. This proposal has been assessed using the current official cSAC boundary.

RPS sought the opinion of NPWS on this point, who responded as outlined in Appendix IV. In summary, the Site Designations Unit of NPWS has advised RPS that Louth County Council raised this issue of a boundary error in July 2013; that the matter has been examined by NPWS; and that NPWS has agreed to amend the boundary.

Digitising the amendment will be undertaken by NPWS GIS staff as party of a wider programme to 'move' the entire Natura 2000 network to a new map base. This involves a major transfer of mapping from the old Irish Grid system to the Irish Transverse Mercator system (ITM) to ensure accuracy and compatibility with modern standards and mapping tools such as GPS. Checking of boundaries is underway and an amendment such as this one can be carried out as part of that process. New maps will be released as the programme progresses but the Site Designations Unit of NPWS cannot say, at this point, when the maps for this site will be published.

In this instance, it is apparent that this issue is being pursued by Louth County Council as a separate matter. It is noted that the applicant, has not requested an amendment to the cSAC boundary - this request has been made by Louth County Council to NPWS directly. This matter is clearly independent from and unconnected with the consideration and assessment of the proposal for The Ferry (under application 13/241), which is based on the official site boundary in effect at the time of publication of the EIS and NIS.

To confirm, assessment of the proposal as part of EIA and as contained within the EIS and NIS has been undertaken using the official and legal cSAC boundary and the most recently available Conservation Objectives.

10.0 PLAQUE AT PORT ENTRANCE

Clarification was sought in relation to the location of the existing plaque which is currently in place on the new extended entrance gateway, commemorating the opening of the Port in 1873.

It is confirmed that the plaque commemorating the Port opening in 1873 shall be maintained in situ. Only the central concrete gate pillar at the existing port entrance gate shall be removed as part of the proposed works. The perimeter wall at the northern side of the public car-park shall be retained in-situ with its tourist information signs, commemorative plaque and planting beds all retained. However, the palisade fencing which currently extends from the end of the perimeter wall towards the shore shall also be removed and replaced with pedestrian height bollards to prevent traffic movement into the public car-park but permit open flow of pedestrians (and fishermen) from the public car-park to and from the Greenore Point area (ferry terminal area). The essence of the ferry terminal facility is to maintain an open and welcoming facility for tourists and enhance the amenity value to locals and fishermen. The public car-park will not be affected by the proposed works.

11.0 READVERTISEMENT OF PUBLIC NOTICES

It is understood that this submission will significantly alter the original proposal in relation to site size, site layout, development location and description, and as such revised public notices are required in accordances with Article 35, 1(C) of the Local Government (Planning and Development Regulations 2006.

In anticipation of the submission of this submission, in response to the Further Information Request, a revised Newspaper Advertisement has been published in the Dundalk Democrat (dated Tuesday 1st October 2013) and a revised Site Notice has been erected at the proposed site location (on Friday 11th October 2013) referring to the FI submission.

Copies of both of these are included in Appendix II.

APPENDIX I: FURTHER INFORMATION REQUEST

LOUTH COUNTY COUNCIL

REGISTERED POST
Frazer Ferries
C/O RPS Consulting Engineers
Aideen McCabe
Elmwood House
74 Boucher Road
Belfast BT12 6RZ

Planning Section
County Hall
Millennium Centre
St. Alphonsus Road
Dundalk
Tel: 042/9335457
Fax: 042/9320080

Date: 02/08/2013

FURTHER INFORMATION REQUEST

RE: Permission for the proposed construction of ferry terminal facilities adjacent to Greenore Port and adjacent to Greencastle Pier Road Greencastle County Down to allow operation of a vehicular ferry across the mouth of Carlingford Lough. The proposed works include: •At Greenore construction of a reinforced concrete slipway (60m long) with 7vertical tubular berthing & fender piles on the southern side to facilitate ferry berthing; relocation of existing Port entrance gates & weighbridge; realignment of existing boundary fence to northern side of Port; modification of entrance road layout, part demolition of gable walls of existing shed to allow through access for vehicles, use of existing hard stand area for parking & queuing, new lighting columns, new pedestrian footpath along the existing rock armour & replacement of existing fence on SE boundary with pedestrian bollards. • At Greencastle the construction of a reinforced concrete suspended pier (58m long), supported by vertical tubular piles & a reinforced concrete slipway (70m long) to allow vehicular access to the Ferry & 12 berthing piles with fenders & steel gangway to facilitate berthing & tying up of vessels overnight, new access & hardstanding for parking & queuing, kiosk for office & ancillary staff facilities, drainage & landscape proposals. Upgrade & widening to part of the Greencastle Pier Road & provision of passing bays. • Floating navigational marks anchored to the bed of the Lough & laid at the edges of the navigable channel to delineate appropriate channel boundaries or to mark shallow rock outcrops & provide for safety of navigation. An Environmental Impact Statement & a Natura Impact Statement have been prepared in support of the planning application. This application may have transboundary environmental effects, at Greenore Point, Shore Road, Greenore, Co. Louth.

REF. NO. 13/241

Dear Sir/ Madam,

I refer to your application received on 14/06/2013 and wish to inform you that pursuant to Section 33 of the Planning & Development Acts, 2000-2010, and Article 33 of the Planning & Development Regulations, 2006-2011, Louth County Council requests you to forward the following Further Information.

1. The applicant is advised that it is considered by the Planning Authority that the subject development lies within the curtilage of two Protected Structures which are listed in the Louth County Development Plan 2009 -2015 and which are located in the vicinity of the development. The two structures are noted as LHS009-043 Greenore Lighthouse & LHS009-044 Greenore Lighthouse Keeper's House. The applicant has failed to adequately notify the public that the proposed development lies within the curtilage of these structures. Accordingly the applicant is requested to amend the public notices giving reference to the fact that the subject development lies within the curtilage of two Protected Structures. **(10 copies)**

2. The OPW Irish Coastal Protection Strategy Study Phase 3 – North East Coast, August 2012, indicates that a significant portion of the proposed site is vulnerable to Coastal Flooding with a predicted Extreme Water Level of 4.25m for a 1 in 200 year return period. The proposed development is for a Car Ferry, which is defined in the "The Guidelines for Planning Authorities – The Planning System and Flood Risk Management", November 2009, as" water – compatible development".
The existing ground levels throughout the site and the landward section of the proposed slipway are below the predicted Extreme Water Level of 4.22m, varying from 4.21m in the queuing lanes down to 2.95m at the edge of the slipway. The applicant is therefore requested to demonstrate how vehicular access through the development can be safely maintained given that some levels are below even the Extreme Water Level of 3.60m for a 1 in 2 year return period. **(10 copies)**

The applicant is also requested to submit an appropriate flood risk assessment, including a detailed level survey of the area, to ordinance datum levels. The required survey shall be completed by a professionally qualified independent competent person, and shall also clearly demonstrate that the development is not at risk of flooding nor will exacerbate flooding in the immediate vicinity or wider area or that any residual risks to the area and/or development can be managed to an acceptable level. **(10 copies)**

Note: The applicant should contact **Patrick Connolly** (Senior Executive Engineer) on 042-9324351 before submitting a response to this specific further information request.

3. (a) The applicant shall clarify whether the facility is being designed to cater for HGVs, coaches or other commercial / heavy goods vehicles. **(10 copies)**

(b) If HGV's, coaches or other heavy goods vehicles are to be accommodated on the ferry the applicant is requested to detail an estimate of the number of these vehicles that are to use the ferry crossing. **(10 copies)**

(c) The applicant shall provide autoTRACK or similar swept path details on an accurately surveyed layout plan of the R175/Shore road 90° bend

demonstrating how a car and HGV can pass safely and also a separate plan to demonstrate the swept path of two HGVs meeting at this location. **(10 copies)**

(d) The applicant shall provide details of proposal to amend the existing layout to facilitate such additional movements and intensification that will result from the development and provide details of any consents that may be necessary to achieve this layout. Swept path analysis shall also be provided for the proposed layout. **(10 copies)**

(e) The applicant is requested to detail the location and extent of the cycle parking facilities for the proposed development. **(10 copies)**

4. Following an assessment of existing public infrastructure in the Greenore village it was noted that there was no footpath from Euston Street leading to the Shore Road. Pedestrians presently share the road space with the existing volume of traffic in this area. The Planning Authority considers that the provision of a footpath along the eastern side of existing roadway incorporating public lighting is required to facilitate the subject development. The length of the proposed footpath is circa 140m. It is considered that an uncontrolled pedestrian crossing with drop kerbs and tactile paving will be sufficient at this location. The applicant shall indicate that they are prepared to meet the costs of these proposed works and/or provide an alternative scheme with costings which is acceptable to the local authority.
(10 copies)

5. The applicant shall clarify the exact location of connection to watermains whether through the port area or via connection to the nearest watermain in public area. **(10 copies)**

6. (a) The Department of Arts, Heritage & The Gaeltacht – Nature Conservation Section considers that the mitigation measures contained within both the Environmental Impact & Natural Impact Statements should be part of the Construction Environmental Management Plan (CEMP) so that the minimum standards and mitigation measures can be assessed in any construction methodology or plans put forward. Accordingly the applicant is requested to review the CEMP having regard to specific mitigation measures outlined in both the EIS and the NIS submitted for the subject development and that these measures should form part of a revised CEMP. **(10 copies)**

(b). It is noted in the EIS that the Conservation Objectives for the SAC & SPA are generic objectives and are out of date. The applicant is requested to amend these objectives having regard to the National Parks & Wildlife website www.npws.ie. **(10 copies)**

7. The report from the Department of Arts Heritage & The Gaeltacht - Nature Conservation & Underwater Archaeological section indicates that the development will result in the permanent loss of 0.47 ha of Carlingford Lough proposed Natural Heritage Area (NHA) and 0.22 ha of the Carlingford Shore Candidate Special Area of Conservation (cSAC).
It would appear to the Louth County Council Heritage Officer that the cSAC has been mapped (in around 2002) using old and out-of-date six inch maps and that the

High and Low Water Marks, as shown on these old maps, have been used to determine the boundaries of the Natura 2000 sites. These boundaries of the cSAC include most of the site of the proposed development (which extends seaward beyond the cSAC boundary) and also include other areas which do not currently support the habitats for which the cSAC is designated. These developed areas should not have been included it would appear in the cSAC when it was designated as they had already lost all their nature conservation interest and value.

Accordingly it is clear that there has been some error in the mapping of the cSAC and the applicant is invited to liaise with National Parks & Wildlife Section of the Department of Arts, Heritage & the Gaeltacht and have the error in mapping corrected. The applicant is required to submit confirmation from the Department of Arts, Heritage & The Gaeltacht that all statutory processes or otherwise are in place to correct mapping error and that the amendment is reflected in the supporting documentation contained within the EIS & NIS submitted with planning application. **(10 copies)**

8. The applicant is requested to clarify if the plaque which is currently in place on the new extended entrance gateway which commemorated the opening of the Port in 1873 is to be maintained in situ or alternatively to advise of its relocation position. **(10 copies)**

9. The further information response **will significantly** alter your original proposal in relation to site size, site layout, development, location or description etc. The applicant must therefore submit revised newspaper and site notices, in accordance with Article 35, 1(c), of Local Government (Planning & Development) Regulations, 2006, which include reference to these alterations.

10. The applicant is requested to attach a schedule of all documents being submitted in response to the further information request. **(1 copy)**

The 4 week period for making a decision shall not commence until this request for Further Information has been **fully complied with.** If this request is not complied with within the period of 6 months from the date of this notice, the application shall be declared withdrawn.

This matter is being dealt with by **Declan Conlon** who can be contacted on 042-9353180.

Yours faithfully,

Riona M-Coy

Riona McCoy
Planning Section

A response in writing is required. When Further Information is submitted, if you do not receive an acknowledgement from the Planning Authority within 7 days, please contact the Planning Office, County Hall, Millennium Centre, Dundalk. Tel: 0429353180.

APPENDIX II: PUBLIC NOTICES

LOUTH COUNTY COUNCIL

SITE NOTICE OF FURTHER INFORMATION

Name of applicant: **Frazer Ferries**

Reference No. of the application: **13/241**

The development applied for consisted of:

The proposed construction of ferry terminal facilities adjacent to Greenore Port at Greenore Point, Shore Road in Greenore, Co. Louth, and adjacent to 80 Greencastle Pier Road, Greencastle in Co. Down to allow operation of a vehicular ferry across the mouth of Carlingford Lough. The proposed works include:

- **At Greenore, construction of a reinforced concrete slipway (60m long) with 7 vertical tubular berthing and fender piles on the southern side to facilitate ferry berthing; relocation of existing Port entrance gates and weighbridge; realignment of existing boundary fence to northern side of Port; modification of entrance road layout, part demolition of gable walls of existing shed to allow through access for vehicles, use of existing hard stand area for parking and queuing, new lighting columns, new pedestrian footpath along the existing rock armour and replacement of existing fence on SE boundary with pedestrian bollards.**
- **At Greencastle, the construction of a reinforced concrete suspended pier (58m long), supported by vertical tubular piles and a reinforced concrete slipway (70m long) to allow vehicular access to the Ferry and 12 berthing piles with fenders and steel gangway to facilitate berthing and tying up of vessels overnight, new access & hardstand for parking and queuing, kiosk for office & ancillary staff facilities, drainage and landscape proposals; Upgrade and widening to parts of the Greencastle Pier Road and provision of passing bays.**

- **Floating navigational marks anchored to the bed of the Lough and laid at the edges of the navigable channel to delineate appropriate channel boundaries or to mark shallow rock outcrops and provide for safety of navigation.**

The proposed works at Greenore are within the curtilage of two Protected Structures (LHS009-043 Greenore Lighthouse & LHS009-044 Greenore Lighthouse Keeper's House). An Environmental Impact Statement and a Natura Impact Statement have been prepared in support of the planning application.

Significant Further Information has been furnished to the planning authority in respect of this proposed development, and is/are available for inspection or purchase at the offices of the authority during its public opening hours:

Monday – Friday (9.30am to 4.30pm)

A submission or observation in relation to the further information may be made in writing to the Planning Authority within a period of 5 weeks from the date of receipt by the Authority of the newspaper notice & site notice.

A submission or observation must be accompanied by the prescribed fee of €20.00, except in the case of a person or body who has already made a submission or observation.

Signed

Aideen McCabe.

Aideen McCabe
RPS
Elmwood House
74 Boucher Road
Belfast BT12 6RZ
Northern Ireland
Email: aideen.mccabe@rpsgroup.com

Date of erection of site notice: **11th October 2013**

Call 042 9334058

Classifieds

PLANNING NOTICES

LOUTH COUNTY COUNCIL

I, Breffni O'Rourke, intend to apply for Permission for development at Richard Taaffes Holding, Louth Village, Dundalk, Co. Louth.

The development will consist of,
Permission for alterations and extensions to the front, side and rear of an existing public house to include a new function room with a new store, toilets, ventilated smoking room and an extension to the existing bar all at ground floor level.
Permission for an outdoor balcony at first floor level along with all associated site works.

The Planning Application may be inspected or purchased, at a fee not exceeding the reasonable cost of making a copy, at the offices of Louth Co. Co, County Hall, Millennium Centre, Dundalk, Co. Louth during its working hours, from 9.30am to 4.30pm Monday to Friday, excluding bank holidays. Tel. 042-9335457.

A submission or observation in relation to the application may be made in writing to the planning authority on payment of 20 within the period of 5 weeks beginning on the date of receipt by the planning authority of the application.

Any such submissions or observations will be considered by the Planning Authority in making a decision on the application. The Planning Authority may grant permission subject to or without conditions or may refuse to grant permission.

What happens when you don't advertise?....

.....Nothing

PLANNING NOTICES

LOUTH COUNTY COUNCIL

We intend to apply to the above Planning authority on behalf of Bart Cullen & John McKeown for Permission for Development at
Trinity Close, Carlingford, Co. Louth. The Development consists of
One-Storey Extension to Side of Existing Medical Centre to Include
2 Consulting Rooms, 2 Offices and Bathroom and All Associated
Site Works.
This Planning Application may be Inspected or Purchased at a fee
not exceeding the reasonable cost of making a copy, at the offices
of Louth County Council from 9.30am to 4.30pm Monday to Friday
and a submission or Observation in relation to the application may
be made to Louth County Council in writing on payment of the
prescribed fee within the period of 5 weeks beginning on the date of receipt by Louth County Council of the application.
Signed: Colm G. Holmes & Associates Ltd., 'Bearna', Jenkinstown,
Dundalk Tel. 042 9380557. E-Mail colm@cgh.ie. Web www.cgh.ie

PLANNING NOTICES

LOUTH COUNTY COUNCIL

We, The Board of Management of Scoil San Nicholas, National School, intend to apply for Permission for a development at Stabannon, Castlebellingham, Co.Louth The development consists of a single storey extension to the Front of existing single storey school building consisting of 1 no. Resource room, together with associated elevational changes and site development works

This planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of Louth County Council from 9.30am to 4.30pm Monday to Friday. A submission or observation in relation to the application may be made to the Authority in writing within a period of 5 weeks from the date of receipt by the Authority of the application and on payment of the prescribed fee of 20.00

Signed:Cunningham Design Associates, Architectural & Building Consultants, Thornford Lodge, Castleblayney, Co. Monaghan T: 042 9743755 F: 042 9743754

LOUTH COUNTY COUNCIL - FURTHER INFORMATION

Frazer Ferries Ltd have applied for full planning permission (Ref:13/241) for the proposed construction of ferry terminal facilities adjacent to Greenore Port at Greenore Point, Shore Road in Greenore, Co. Louth, and adjacent to 80 Greencastle Pier Road, Greencastle in Co. Down to allow operation of a vehicular ferry across the mouth of Carlingford Lough. The proposed works include:

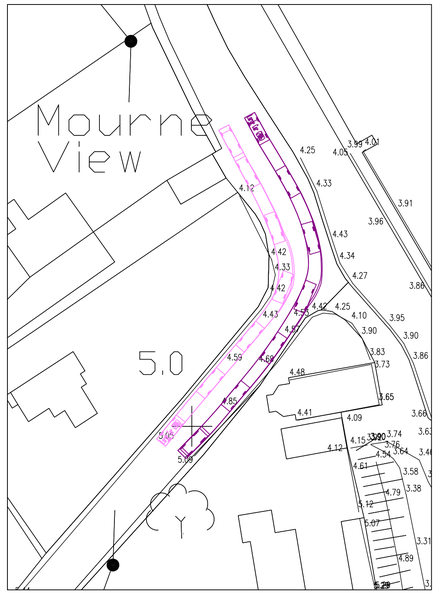
- At Greenore, construction of a reinforced concrete slipway (60m long) with 7 vertical tubular berthing and fender piles on the southern side to facilitate ferry berthing; relocation of existing Port entrance gates and weighbridge; realignment of existing boundary fence to northern side of Port; modification of entrance road layout, part demolition of gable walls of existing shed to allow through access for vehicles, use of existing hard stand area for parking and queuing, new lighting columns, new pedestrian footpath along the existing rock armour and replacement of existing fence on SE boundary with pedestrian bollards.

- At Greencastle, the construction of a reinforced concrete suspended pier (58m long), supported by vertical tubular piles and a reinforced concrete slipway (70m long) to allow vehicular access to the Ferry and 12 berthing piles with fenders and steel gangway to facilitate berthing and tying up of vessels overnight, new access & hardstand for parking and queuing, kiosk for office & ancillary staff facilities, drainage and landscape proposals; Upgrade and widening to parts of the Greencastle Pier Road and provision of passing bays.

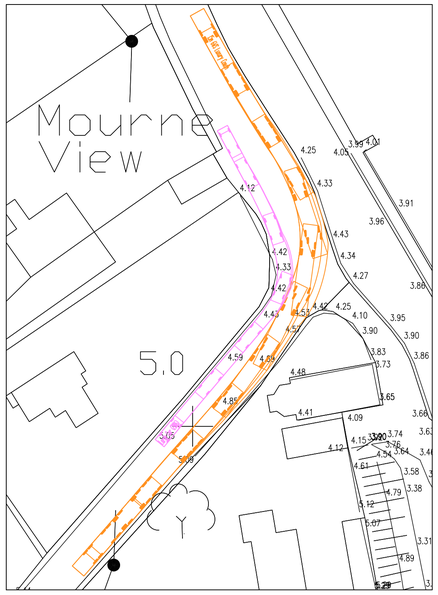
- Also floating navigational marks anchored to the bed of the Lough and laid at the edges of the navigable channel to delineate appropriate channel boundaries or to mark shallow rock outcrops and provide for safety of navigation.

The proposed works at Greenore are within the curtilage of two Protected Structures (LHS009-043 Greenore Lighthouse & LHS009-044 Greenore Lighthouse Keeper's House). An Environmental Impact Statement and a Natura Impact Statement have been prepared in support of the planning application. Further significant information has been provided to Louth County Council - this is available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy, at the offices of Louth County Council from 9.30am to 4.30pm Monday to Friday. A submission or observation in relation to the application may be made to the Authority in writing within a period of 5 weeks from the date of receipt by the Authority of the newspaper notice & site notice and on payment of the prescribed fee of €20.00.

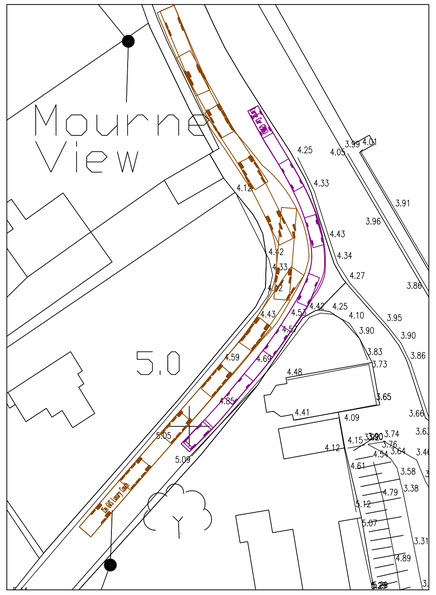
APPENDIX III: AUTO-TRACKING



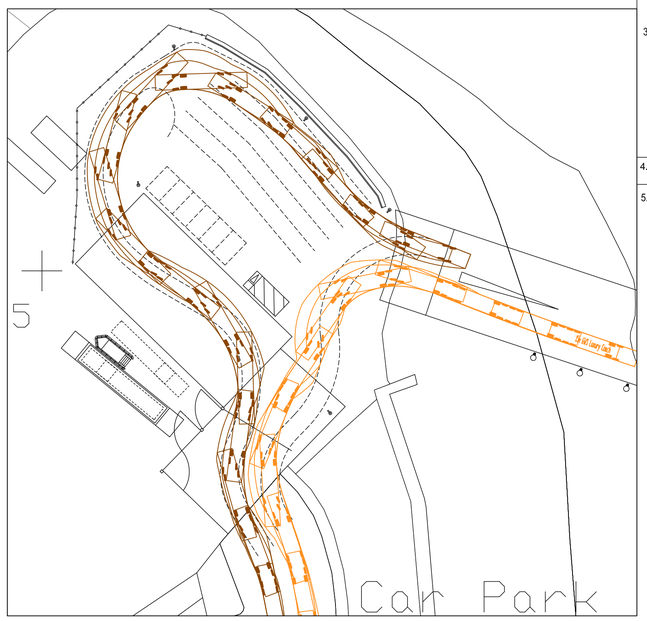
Large Car - Shore Road Both Directions



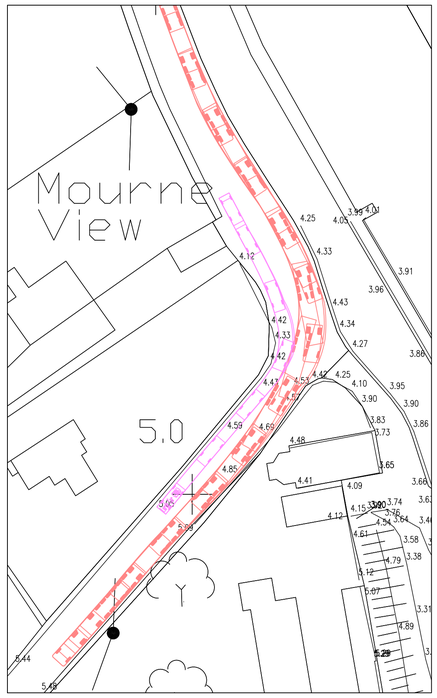
Large Car Heading to Ferry and
Luxury Coach Leaving Ferry -
Shore Road



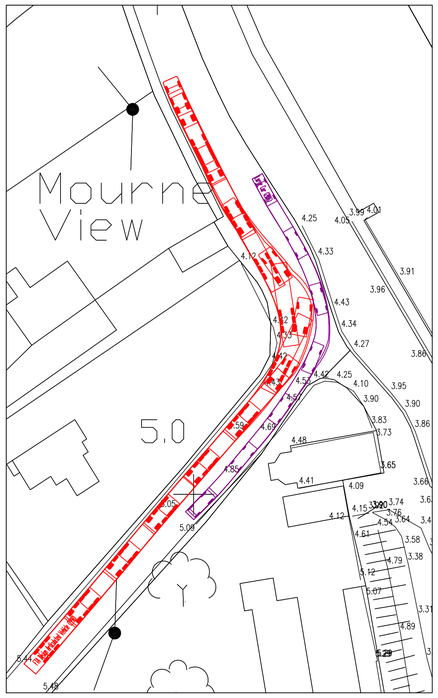
Luxury Coach Heading to Ferry
and Large Car Leaving Ferry -
Shore Road



Luxury Coach - Entering Ferry
Luxury Coach - Leaving Ferry
HGV's not accommodated on Ferry

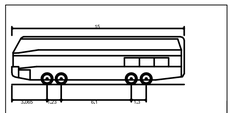


Large Car Heading to Ferry
and HGV Leaving Ferry -
Shore Road



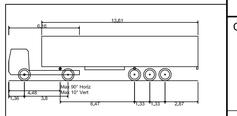
HGV Heading to Ferry and
Large Car Leaving Ferry -
Shore Road

10m SCALE 1:500



Overall Length 15.000m
Overall Width 2.500m
Overall Body Height 4.157m
Min Body Ground Clearance 0.397m
Track Width 2.500m
Lock to Lock Time 5.00 sec
Curb to Curb Turning Radius 9.773m

15m 6WS Luxury Coach



Overall Length 16.480m
Overall Width 2.550m
Overall Body Height 3.870m
Min Body Ground Clearance 0.515m
Max Track Width 2.470m
Lock to Lock Time 5.00 sec
Curb to Curb Turning Radius 6.550m

FTA Design Articulated Vehicle (1998)

Overall Length 5.079m
Overall Width 1.872m
Overall Body Height 1.525m
Min Body Ground Clearance 0.310m
Max Track Width 1.831m
Lock to Lock Time 4.00 sec
Curb to Curb Turning Radius 5.900m

Large Car (2006)

NOTES

1. Verifying Dimensions.
   The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
   Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings.
   Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc,) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipients own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipients drawing production, or setting out on site.
4. DATUM: Ordnance Datum Malin
5. SURVEY UNDERTAKEN BY BQS LISBURN

rev	amendments	drawn	date

RPS
Elmwood House
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Belfast
BT12 6RZ
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W www.rpsgroup.com/ireland
E ireland@rpsgroup.com

Client
Carlingford Ferries

Project
Carlingford Ferry

Title
Greenore AutoTrack Layouts

Architect
-

Drawing Status	Sheet Size	Drawing Scale
Planing	A1	1:500

Drawing Number	Rev
IBM0358-115	-

Project Leader	Drawn By	Date	Initial Review
D.O'L.	C.O'C.	01/10/2013	D.O'L.

APPENDIX IV: NPWS CORRESPONDENCE

James McCrory

From: Frank Donohoe - (DAHG) [Frank.Donohoe@ahg.gov.ie]
Sent: 03 October 2013 17:32
To: brendan.mcsherry@louthcoco.ie
Cc: Maurice Eakin - (DAHG); James McCrory; David Farrell - (DAHG)
Subject: Boundary of Carlingford Lough SAC

Brendan,

I refer to previous emails between yourself and the Department concerning an issue you raised regarding with the current boundary of Carlingford Lough cSAC in the area at Greenore Point.

The matter has been examined here and I can advise that we have agreed to amend the boundary. The next step will involve the digitising of the amendment by our GIS/Mapping staff. There will be some delay here as we are currently in a process which involves moving the entire Natura 2000 network to a new map base.

This involves a major transfer of mapping from the old Irish Grid system to the Irish Transverse Mercator system (ITM) to ensure accuracy and compatibility with modern standards and mapping tools such as GPS. Checking of boundaries is underway and an amendment such as this one can be carried out as part of that process. New maps will be released as the programme progresses but I cannot say, at this point, when the maps for this site will be published.

I trust this is of assistance and if you have further queries you can contact me directly.

Frank Donohoe

Site Designations Unit

Tel. (01) 8883260

APPENDIX V: PRE-CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Carlingford Ferry
Pre-Construction phase
Environmental Management Plan
(Pre-CEMP)

DOCUMENT CONTROL SHEET

Client:	**Frazer Ferries Ltd**					
Project Title:	**Carlingford Ferry**					
Document Title:	**Carlingford Ferry Pre-Construction phase Environmental Management Plan (Pre-CEMP) in support of planning applications *(Planning NI: P/2013/0434/F & Louth CoCo: 13/241).***					
Document No:	**PCEMPCF_101013**					
This Document Comprises:	**DCS**	**TOC**	**Text**	**Tables**	**Figures**	**No. of Appendices**
	✓	✓	✓	✓	✓	**8**

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
D01	Final	S. McAfee M. Magee J. McCrory D. O'Loan	A. McCabe	A.McCabe	Belfast	11.10.2013

TABLE OF CONTENTS

APPENDICES

This document forms part of the supporting documentation for planning application (Planning NI: P/2013/0434/F & Louth CoCo: 13/241). This document is largely informed by the mitigation measures detailed in the Environmental Statement and the Natura Impact Statement (NIS) for the proposed development. Within the Environmental Statement there are numerous references to a Construction phase Environmental Management Plan (CEMP).

This document is a pre-construction CEMP and will provide the basis for the production and refining of a CEMP in conjunction with appointed contractor and following further discussion and agreed approach from relevant statutory consultees and local authorities.

1 INTRODUCTION

1.1 PROJECT SUMMARY

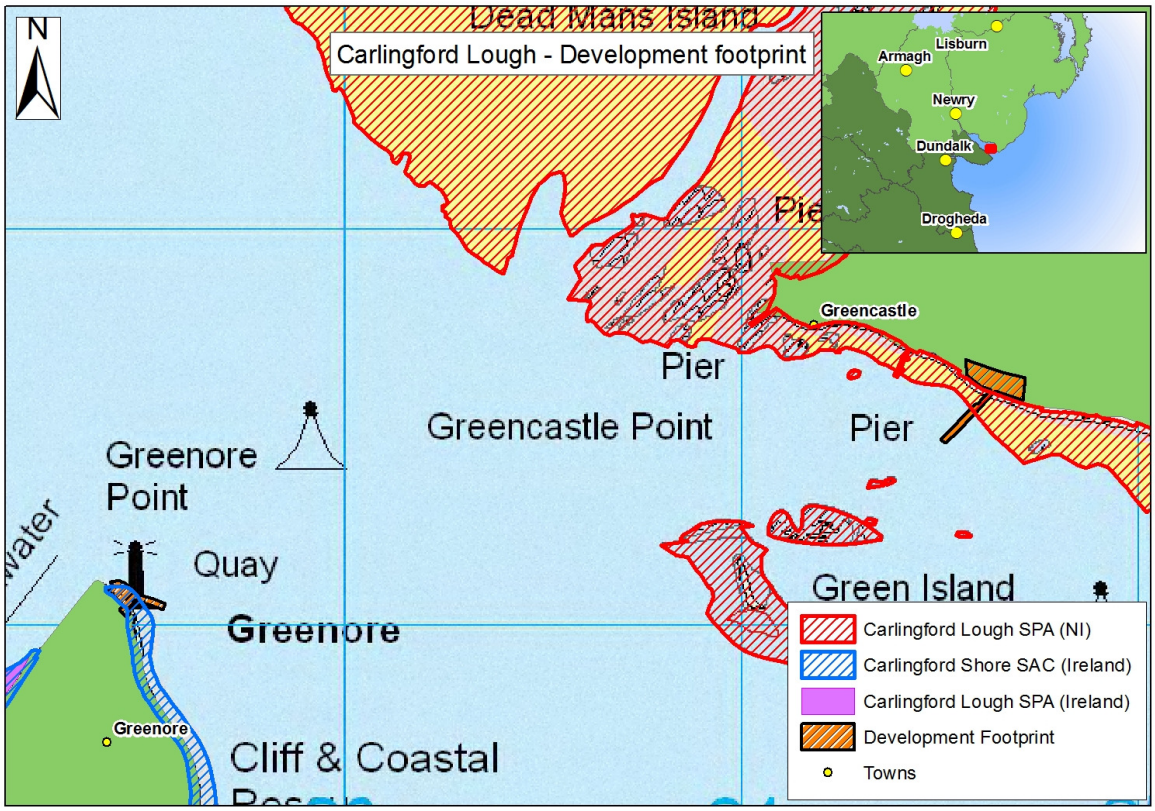
Frazer Ferries Ltd have sought planning permission *(Planning Application: Planning NI: P/2013/0434/F & Louth CoCo: 13/241)* to construct facilities at both Greenore in Co. Louth and Greencastle in Co. Down to allow operation of a vehicular ferry across the mouth of Carlingford Lough.

The proposed development includes:

- a reinforced concrete slipway with a narrow jetty along one side to facilitate berthing and tying up of vessels overnight, accessed from a high level concrete pier across the upper beach at Greencastle with a parking and queuing area constructed in the adjacent field;
- a reinforced concrete slipway at Greenore with vertical fender piles on one side to absorb berthing forces from the ferry with a parking and queuing area on land;
- floating navigational marks anchored to the bed of the Lough and laid at the edges of the navigable channel to delineate appropriate channel boundaries or to mark shallow rock outcrops and provide for safety of navigation; and
- upgrade and widening to parts of the Greencastle Pier Road within the existing verges to provide a target width of 5.5m where possible with additional passing bays provided wherever feasible.

The location of the proposed development is shown by Figure 1.1 below.

Figure 1.1 Development footprint of proposed development



It should be re-emphasised at this point that the proposal relates to development within both Northern Ireland and the Republic of Ireland (ROI) and as such within this document reference is made to relevant national legislation where appropriate.

In terms of proposed ferry vessel to be used once the development is operational; it will be a typical Roll-On and Roll-Off vessel (RO-RO), powered by four diesel engines and capable of accommodating approximately 40 cars. This form of vessel uses hydraulically operated ramps at either side of the vessel to allow for easy boarding and disembarkation of vehicles. Vehicles will drive over one ramp to access the vessel and drive straight through, exiting on the opposite ramp when the crossing is complete. This vessel would be approximately 48m long excluding ramps and have a top speed of approximately 8-12 knots, depending on specification and weather conditions.

The ferry is expected to operate on an hourly basis from each side commencing around 7am and finishing around 9pm during the summer season.

A comprehensive Environmental Impact Assessment (EIA) was carried out which assessed the likely impacts that the proposal would have on the environment. The corresponding Environmental Statement (ES) documents the EIA and outlines appropriate mitigation measures which have been incorporated into the design to eliminate or reduce to acceptable levels any predicted impacts.

The works shall comprise of both land based and marine based construction. Underwater works will require divers to complete such tasks, particularly at the outer end of the slipways.

There is no dredging associated the proposed development. The development has been conceived in such a manner as to minimise disturbance to water flows and also to minimise potential disruption to the natural sediment transport regime in Carlingford Lough. The proposals have been designed to fit within the natural seabed depths.

The Greenore site possess ideal natural characteristics for the construction of a slipway with its steep beach gradient over the main tidal range and with limited piling at the outer end to retain the submerged part of the slipway. These naturally suitable features mean that the construction of the slipway will cause little impedance to the flow of tidal water.

The Greencastle site possesses a shallower beach profile and the proposed works include a suspended jetty on supporting isolated piles spanning over the beach and out into deeper water. No blasting or explosives will be required for the construction of the slipways or jetty.

1.2 REQUEST FOR FURTHER INFORMATION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

Louth County Council has issued a formal letter requesting Further Environmental Information including a request from the Department of Arts, Heritage and The Gaeltacht that the mitigation measures contained in the EIS and NIS form part of a "*Construction Environmental Management Plan so that the minimum standards and mitigation measures can be assessed in any construction methodology or plans put forward*".

NIEA Water Management Unit, ***RSPB*** and ***Loughs Agency*** have requested a planning condition to be included requiring a Construction (phase) Environmental Management Plan (CEMP) to be prepared in conjunction with and submitted to relevant agencies for approval prior to construction.

NIEA Natural Heritage has requested an outline CEMP which will form the basis of the document which will subsequently be agreed with the regulatory authorities prior to the commencement of construction activities.

This pre-CEMP addresses the points raised by to including –

1. A Pollution Prevention Plan,
2. Site Resource and Waste Management Plan,
3. Excavated Materials and Reinstatement Plan,
4. Drainage Management Plan,
5. Water Quality Monitoring Plan, and;
6. Environmental Clerk of Works (ECoW) role and responsibilities defined.

This pre-CEMP specifies the environmental management controls to be employed to mitigate potential environmental impacts during the construction of the ferry facilities. The pre-CEMP addresses the mitigation measures specified in EIA and also the specific requirements of the various statutory and non-statutory bodies who made submissions during the planning stage of the project where necessary. It also further details request made by statutory in response to assessing the information containing with supporting documentation of the Planning Application including the Environmental Statement. The CEMP will be available to all personnel working on this project. All personnel working on the project are responsible for the environmental control of their own work and should perform their duties in accordance with the requirements of the CEMP and in compliance with the procedures referenced within.

The Environmental Management Plan is set out as follows:

Section 1 Provides a general project summary and introduction to the EMP

Section 2 Provides information on the relevant environmental legislation which applies to a project of this type

Section 3 Describes the proposed project team and their responsibilities

Section 4 Provides a summary information on the construction methodology

Section 5 Describes the mitigation measures and safeguards which will be implemented to provide environmental protection.

Full details of specific requests are set out in appendices. These are as follows:

APPENDIX A POLLUTION PREVENTION PLAN

APPENDIX B SITE RESOURCES AND WASTE MANAGEMENT PLAN

APPENDIX C EXCAVATED MATERIALS & REINSTATEMENT PLAN

APPENDIX D DRAINAGE MANAGEMENT PLAN

APPENDIX E WATER QUALITY MONITORING PLAN

APPENDIX F DUST MANAGEMENT PLAN

APPENDIX G ECOLOGICAL CLERK OF WORKS

APPENDIX H SUMMARY OF ENVIRONMENTAL STATEMENT MITIGATION MEASURES

2 ENVIRONMENTAL ASPECTS AND RELEVANT LEGISLATION

2.1 INTRODUCTION

It is expected that the Engineer, Principal Contractor and all Sub-contractors and other parties involved in the development of the ferry sites will comply with the requirements of this pre-CEMP and associated documentation and all applicable environmental, health and safety legislation as a minimum standard. Further confirmation of full CEMP details will be confirmed through continued discussion and future agreement with relevant authorities and statutory bodies.

2.2 ENVIRONMENTAL ASPECTS

Environmental Aspect is defined as an element of an organisation's activities, products or services that can interact with the environment. Environmental Aspects are activities on site which can lead to an Environmental Impact. At the outset of this project the Engineer and Principal Contractor will need to identify on site the Environmental Aspects associated with the construction of the ferry facilities previously identified in the Environmental Impact Assessment for the project.

2.3 ENVIRONMENTAL LEGISLATION

The Principal Contractor will need to comply with all relevant environmental legislation when carrying out work on the ferry facilities sites. The legislation which will need to be adhered to is listed in Table 2.1.

Table 2.1: Environmental Legislation

Northern Ireland Legislation

Title of Legislation/Regulation	Relevance to Project
Water (Northern Ireland) Order 1999	Provisions for the prevention of water pollution, including the requirement to apply for consent to discharge to waterways.
Fisheries Act Northern Ireland 1966	Makes it an offence to pollute a watercourse
Waste and Contaminated Land (NI) Order 1997	Part 2 deals with waste management including, duty of care, licensing and collection
Controlled Waste Regulations (NI) 2002	Categorises waste to allow for treatment regulation
Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations (NI) 2003	Establishes a system for registering waste carriers making it a criminal offence to transport waste without a carriers registration

Title of Legislation/Regulation	Relevance to Project
Waste Management Licensing Regulations (NI) 2005	Controls the waste management licensing system
Hazardous Waste Regulations (NI) 2005	Controls the movement and disposal of hazardous waste, including the requirement to generate and retain consignment notes.
Transfrontier Shipment of Waste Regulations 1994	Requirements for the transport of waste across international borders
Pollution Control and Local Government (NI) Order 1978	Provides for control of noise and dust related nuisance
Noise at Work Regulations (NI) 1990	Contractor on site is required to carry out appropriate noise assessments and provide appropriate noise protection.
Control of Noise (Codes of Practice for Construction and Open Sites) Order (NI) 2002	This Order covers ways in which noisy practices can be minimised on construction sites.
Clean Air (Northern Ireland) Order 1981	Air emissions from construction site activities need to comply with the Clean Air Order. Processes covered under this legislation include demolitions and bonfires on site.
Wildlife Order (Northern Ireland) 1985 as updated by The Wildlife (Amendment) (Northern Ireland) Order 1995 (S.I. 1995 No. 761 (N.I. 6)) and The Wildlife and Natural Environment (Northern Ireland) Act 2011	Provides for protection of flora and fauna and lists protected species. Offences relating to projects affecting hedgerows, badgers, bats etc. are established.
Conservation (Natural Habitats etc) Regulations (NI) 1995 (as amended 2004-2012)	Establishes procedures for assessing potential for project to impact on Natura 2000 sites.
Nature Conservation and Amenity Lands (NI) Order 1985 and Nature Conservation and Amenity Lands (Amendment) (NI) Order 1989	The contractor must ensure that their site operations do not affect areas/sites protected under this Order.

Republic of Ireland Legislation

Title of Legislation/Regulation	Relevance to Project
Foreshore (Amendment) Act, 1992;	Provisions for the prevention of water pollution, including the requirement to apply for consent to discharge to waterways.
Fisheries (Amendment) Act, 2003 (Part 5);	Makes it an offence to pollute a watercourse
Maritime Safety Act 2005 No. 11 (Part 6);	Ensures adequate and sufficient rules are in place regarding the usage of vessels in Irish waters including; speed and occupancy.
Foreshore and Dumping at Sea (Amendment) Act 2009;	Requires that prior to any works taking place on a foreshore; a licence must first be obtained in addition to detailing that dumping in Irish waters without consent from the Minister for Agriculture, Fisheries and Food is illegal.
Waste Management Act 1996	Ensures appropriate measures are taken to ensure harmful substances or any pollutants do not enter water bodies and details requirements for the transportation of harmful substances and waste items.
Waste Management (Transfrontier Shipment of Waste) Regulations 1998	Requirements for the transport of waste across international borders
Waste Management (Movement of Hazardous Waste) Regulations 1998	Controls the movement and disposal of hazardous waste, including the requirement to generate and retain consignment notes.
Safety, Health and Welfare at Work (Control of Noise at Work) Regulations 2006	This Order covers ways in which noisy practices can be minimised on construction sites.
Environmental Noise Regulations 2006	The aim of this regulation is to provide a common framework to avoid, prevent or reduce, on a prioritised basis, the harmful effects of exposure to environmental noise including noise created by transport.
Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2013.	Gives information regarding problematic regions requiring greater observation in their emissions from shipping. Also provides advice on suitable energy efficient vessels and means of fueling vessels in suitable ways.
Air Quality Standards Regulations 2011	Air emissions from construction site activities need to comply with the Clean Air Order. Processes covered under this legislation include demolitions and bonfires on site.
Wildlife (Amendment) Act 2000	Provides for protection of flora and fauna and lists protected species. Offences relating to projects affecting hedgerows, badgers, bats etc. are established.

3 ENVIRONMENTAL ROLES AND RESPONSIBILITIES

3.1 POLICY STATEMENT

Frazer Ferries Ltd recognises that potential environmental impacts relating are created as a result of their activities and that it has a responsibility to mitigate and manage these impacts appropriately. This involves consultation with both statutory and non-statutory organisations, detailed desktop studies, ecological assessments and the production of an CEMP in agreement with the relevant authorities. The baseline information contained within The Proposed Carlingford Ferry Environmental Impact Statement helps to develop site specific mitigation measures to minimise damage to the nature conservation value of the site and disturbance to key habitats and species.

3.2 TEAM STRUCTURE

The pre-CEMP can be adopted, updated and used by the Resident Engineer & ECOW (Role of ECOW outlined in Appendix G) to fulfil relevant Planning Conditions following discussion with relevant authorities and statutory consultees. The main aim of developing this pre-CEMP is to ensure that all environmental considerations, mitigation and monitoring measures identified throughout the planning phase of the Carlingford Ferry Project will be applied in practice to the proposed development.

The main aims of the pre-CEMP are to:

- Provide a mechanism for ensuring that measures to mitigate potentially adverse impacts identified in the ES are implemented;
- Ensure that best construction practices are adopted throughout the construction of the proposed development;
- Provide a framework for mitigating unexpected impacts during construction;
- Provide assurance to third parties, including the NIEA, RSPB, Loughs Agency & Louth County Council that their requirements with respect to minimising project impacts will be met; and,
- Provide a mechanism for ensuring compliance with environmental legislation and statutory consents.

The potential environmental impacts of the project are documented in the 2013 Carlingford Ferry Environmental Statement. This pre-CEMP develops and outlines controls to manage the possible environmental impacts during construction and operation. A full list of relevant mitigation measures listed in the ES is detailed in Appendix H of this document. The CEMP will be distributed to all relevant personnel. All personnel working on the project will be responsible for the environmental control of their own work and will perform their duties in accordance with the requirements of the CEMP and in compliance with the controls referenced therein. No deviations will be permitted without the written authority of the Resident Engineer and the Department. The Resident Engineer is responsible for ensuring that the contents of the EMP are satisfactorily circulated and explained to site supervisory staff for implementation during construction.

4 CONSTRUCTION AND SITE OPERATION

4.1 INTRODUCTION

Construction works are planned to commence immediately following receipt of permissions and licences but subject to any phasing restrictions contained within such licences. The slipways and piling for marine or intertidal structures and construction will be weather and tidally dependent. It is expected that the works will take approx 6 months to complete overall. The shore based paving and road works would progress in tandem with the marine works. Given the similar nature of works on each shoreline, it is anticipated that one common contractor would be appointed to construct both facilities – particularly the marine works requiring floating plant.

4.2 PROPOSED WORKS

GREENCASTLE HARDSTANDING, PIER AND SLIPWAY

At Greencastle the key elements comprise:

- a suspended concrete pier of approx 58m long by 10m wide to carry traffic over the upper beach zone constructed from vertical steel tubular piles and a suspended concrete deck at high level. Access along the beach will be maintained beneath this access pier. Safety barriers will be erected along each side of the pier. Approx 10 steel tubular piles will be used in the approach deck over the beach.
- a slipway of approx 70m long by 15m wide at approximately 1:9 gradient to allow a double ended car ferry to drop its vehicular ramp and permit access for through traffic. The slipway will “point” south-westwards and will also be constructed from vertical tubular piles supporting a suspended concrete deck to minimise disturbance of water flows and minimise impact on the adjacent beach. Approx 30 steel tubular piles will be used to support the suspended slipway slab to maintain the open flow beneath the deck.
- approx 12 vertical tubular piles of approx 1219mm diameter driven into the seabed on the southern side of the slipway with 500mm wide x 500mm breadth rubber fenders mounted vertically on the berthing side. These piles act as a guide for the vessel approaching the ramp and support a steel walkway of 1.2m wide at 1.8m above high water mark to allow access for tying up overnight to bollards mounted on top of each pile. Both fenders and piles will be black in colour. The most seaward pile will have a single navigation light mounted approximately 5.3m above high water level.
- a small ancillary portacabin to be used for ticket sales for the vehicular ferry and toilet facilities. The toilet waste will be diverted through an underground self contained secondary treatment plant and subsequently to a percolation area using herringbone drainage.
- a hardstanding area to be used as an off-road queuing area of approx 2,300m^2 using a paved surface with drainage provision through gullies and diverted through an oil interceptor and subsequently through a percolation area using herringbone drainage. Thus no drainage outfalls are proposed in these works
- any topsoil removed from the hardstanding area will be distributed within the remaining field boundary and re-seeded with grass or landscaped and planted with native shrubs around the perimeter hedgerows.
- Lighting columns of 8m height with directional light fittings to minimise light pollution spreading outside the site will be erected around the boundary of the hardstanding area.

GREENORE HARDSTANDING AND SLIPWAY

The key elements at Greenore comprise:

- a concrete slipway at approximately 1:9 gradient and 60m long to allow a double ended car ferry to drop its vehicular ramp and permit access for through traffic. The slipway will "point" south-eastwards and will be bounded on the three outer sides by a sheet piled wall to ensure stability and retain the fill within. The top surface will comprise a reinforced concrete slab.
- a series of seven vertical tubular piles of approx 1219mm diameter driven into the seabed on the southern side of the slipway with 500mm wide x 500mm breadth fenders mounted vertically on the berthing side to act as a guide for the vessel approaching the ramp. Both fenders and piles will be black in colour. The most seaward pile will have a single navigation light mounted 5.3m above high water level. There will be no walkway or bollards along the berthing face at Greenore, the ferry will simply berth on the slipway and not tie up. In the event of an emergency, mooring ropes may be slung around the fender piles to hold the ferry at the Greenore slipway.
- a small ancillary portacabin to be used for ticket sales for the vehicular ferry and toilet facilities. The toilet waste will be diverted through an underground self contained secondary treatment plant and subsequently to a percolation area using herringbone drainage.
- a hardstanding area will be created at similar levels as exist at present over Greenore Point using a paved surface to be used as an off-road queuing area for traffic of approx 1,900m^2. The drainage will be collected via gullies and diverted through an oil interceptor and subsequently through a percolation area using herringbone drainage. Thus no drainage outfalls are proposed in these works. The seaward perimeter will have a footpath and kerbing added along the top of the existing rock armour to facilitate pedestrians along the seafront and improve access for fishing stands.
- the gable ends of the existing warehouse building at Greenore Point will be demolished to allow improved traffic flow entering the site and direct them to form a queue at the northern end of the site. The concrete slab of approx 540m^2 within the warehouse will be retained. New bracing of the gable frames at each end of the building will be required to ensure the stability of the portal framed building and a combination of steel 'X' bracing and partial blockwork walls will be used to provide this stability.
- the existing gates, security hut for the Port and its weighbridge will be demolished and relocated further back into the port area to facilitate the new entrance configuration. The Port entrance gates will be pushed back by 15m and comprise 3 new palisade gates to allow incoming, outgoing and weighbridge traffic.
- the palisade fencing at the northern end of the Louth County Council car-park will be removed to allow pedestrian access from the car-park into the ferry terminal. This boundary will be demarcated by pedestrian bollards located approximately 1.2m apart. The existing port boundary wall at the northern end of the council car park will be retained as well
- The existing 20m high lighting column near the southern end of the warehouse will be retained and complemented by additional lighting columns of 8m height with directional light fittings to minimise light pollution spreading outside the site located around the boundary of the hardstanding area as shown on accompanying drawings.

4.3 CONSTRUCTION METHODOLOGY

The works comprise both land based and marine construction with some activities requiring divers to undertake construction works – particularly at the outer end of the slipways. An indicative method statement for construction is included below.

It is also confirmed that there is no dredging associated with these proposals. The works were conceived to minimise disturbance to water flows and to minimise potential disruption to the natural sediment transport regime in Carlingford Lough. The proposals are designed to fit within the natural seabed depths as found on site.

The site at Greenore has a naturally steep beach gradient which is most suitable for construction of a slipway aligned with the natural beach gradient over the main tidal range and with limited piling at the outer end to retain the submerged part of the slipway. There is thus little impedance to the flow of tidal water from construction of the slipway which will largely be aligned with current beach levels.

However, at Greencastle, the site includes a shallower beach profile near the shore and the proposed works include a suspended jetty on supporting isolated piles spanning over the shallow beach and reaching out into deeper water. Access for pedestrians at low to medium tide is maintained under this suspended deck. Ongoing beach access for pedestrians at high tide is accommodated by walking to the upper beach and crossing the shore end of the jetty and returning to the beach on the other side.

No blasting or explosives will be required for the construction of the slipways or jetty.

Should additional navigation marker buoys be deemed necessary by the Carlingford Lough Commission, these will be provided and located as per their requirements. It is anticipated that deadweight concrete or ships anchors would be deployed on the seabed to restrain these navigation buoys. Key materials imported are limited to the approximate quantities listed in Table 4.1.

Table 4.1: Approximate quantities of key materials to be imported

Material	***Greenore***	***Greencastle***
steel sheet piling at Greenore	200t	nil
tubular steel fender piles (≈1219mm dia. X 25m)	7 nr	12 nr
tubular steel deck piles (≈508mm dia. X 20m)	nil	40 nr
stone fill within sheet piles at Greenore	650m^3	nil
concrete deck	500 m^3	1,000 m^3
steel access walkway at Greencastle	nil	60t
rubber fenders	7 nr	12 nr

4.3.1 Duration of Works and Construction Programme

It is expected that the duration of works and programme at Greencastle will be as outlined in Table 4.2. Overlapping elements are shown as parallel activities in the programmed week column. These indications are given as a guide only and shall not be taken as definitive or restricting the build programme.

Table 4.2: Construction Programme at Greencastle

Construction Task	***Duration***	***Programmed Weeks***
Set up site	1 week	wk 1
Piling including fender piles	14 weeks	wk 1 to 14
Precast concrete off site	8 weeks	wk 4 to 11
In situ concrete deck	16 weeks	wk 6 to 21
Precast concrete deck and stitch pours	12 weeks	wk 10 to 21
Install fenders	3 weeks	wk 12 to 14
Steel access walkways	5 weeks	wk 10 to 14
Site hardstanding	10 weeks	wk 13 to 22
Site services, drainage, landscaping	5 weeks	wk 22 to 26
Road improvements	12 weeks	wk 5 to 16

It is expected that the duration of works and programme at Greenore will be as shown in Table 4.3. Overlapping elements are shown as parallel activities in the programmed week column. These durations are given as a guide only and shall not be taken as definitive or restricting the build programme.

Table 4.3: Construction Programme at Greenore

Construction Task	***Duration***	***Programmed Weeks***
Set up site	1 week	wk 1
Piling incl fender piles	10 weeks	wk 1 to 10
Stone infill within sheet piling	3 weeks	wk 8 to 10
Precast concrete off site	6 weeks	wk 4 to 9
In situ concrete deck	10 weeks	wk 6 to 15
Precast concrete deck and stitch pours	8 weeks	wk 6 to 13
Install fenders	3 weeks	wk 8 to 10
Site hardstanding	8 weeks	wk 11 to 18
Site services, drainage	3 weeks	wk 18 to 20
Port gate and access improvements	5 weeks	wk 6 to 10

4.3.1.1 Pre- Construction Tasks

Road signs will be erected in accordance with the Traffic Assessment and the Traffic & Transport Chapter in the ES submitted as part of supporting documentation for the Planning Application.

4.3.1.2 Construction of Slipways at Greencastle and Greenore

The assumed construction method of the major work items for Greenore slipway and Greencastle pier & slipway are outlined as follows:

(i) Erect a working station on site and create a local working gradient from land to beach by excavating into existing revetment material at top of beach on both Greenore and Greencastle shores to allow tracked plant onto the beach. Small quantities of imported

rockfill, less than 200m^3, will be necessary to create this safe working gradient and platform onto the beach. In order to minimise occurence of washout onto the beach; no significant rockfill bunds will be permitted out over the beach.

(ii) Establish a floating barge (or jack-up barge) for driving and drilling of marine piles at outer ends of slipways and jetty. Drive tubular steel piles (for slipway support and fender piles) in marine zone using crane and floating barge at Greencastle. Drive tubular steel piles as fender piles and steel sheet piles around the outer perimeter of the slipway using crane and floating barge at Greenore.

Floating plant will fix their location in the water by using either 2-4 spud legs or jack-up legs temporarily dropped into the seabed or a series of anchors dropped at a distance from the vessel and winched tight to draw them into the seabed and restrain vessel movement. The floating barge will be required to move periodically to new set-up locations and move off to quayside facilities for loading supplies. It is anticipated that Greenore Port will be used as the supply port for all material deliveries though other contractual arrangements may be adopted.

(iii) Slipway or jetty support piles need to be inserted using land based craneage, working from shore outwards, extending as far down the beach as possible. As is imaginable; this work will become increasingly tidally restricted as work progresses out the beach so careful sequencing of pitching and pile driving will be required. Timber spreader mats will be required to support the weight of the large cranes on the beach as rockfill bunds are not permitted over the beach. These timber spreader mats may be moved as and when required by the cranes.

(iv) Regarding the Greenore slipway; in order to bring the level up to the required 1:9 gradient; stone infill is required at the most seaward part within the sheet piles. Approx 650m^3 of stone fill will be imported by truck and placed within the slipway by excavator working from shore and beach.

(v) The concrete deck can be constructed once sufficient piling has been erected. It is expected that the concrete elements above high water level will be cast insitu and as a result supporting formwork will be required. Precast concrete slabs are most likely to be used for deck elements below water level and in the low tidal zone. A crane shall be used to lift these slabs into position from the beach and then divers shall install a small volume of stitch, approximately 1.5m^3 at each pile head stitch location, to tie them together.

Once concrete works have been completed and cured (approx 7-10 days after last pour), the final formwork and support elements will be removed from beneath the deck.

(vi) At the Greencastle site, a crane operating from the beach, or from the floating plant, will be used to both the steel framed walkway and handrailing into position on the top of the fender piles. Final fixing of the steel deck and concreting of the pile heads with bollards will follow immediately thereafter.

(vii) The most time critical aspects of the construction element are the marine piling and concreting and once it has been established that sufficient progress has been made with these two activities; the land based aspects of construction, including topsoil removal, drainage, lighting, among other activities, can be furthered.

(viii) Road improvements to the approach to Greencastle Pier can be undertaken at any stage of the development process however it is assumed that this will begin early in the construction phase.

(ix) Upon completion of all marine works, all construction materials shall be removed from beach and every effort shall be made to ensure that the beach profile is restored to its original condition.

Temporary working areas on land will be restricted to the site compounds themselves. No additional temporary works areas are anticipated.

4.3.2 Further Detail on Road improvements

4.3.2.1 Greencastle

In order to accomodate the increased number of vehicles travelling along the Greencastle Pier Road, and to improve the general road conditions for the surrounding residents and users of the road, Frazer Ferries Ltd have incorporated an element of road improvements into the construction phase of the development. A road width of 5.5m is desired in order to allow the passing of cars and coaches/lorries and where possible this width will be provided in the verges between the existing hedge widths and with minimum disruption to local accesses and dwelling entrances.

The road improvement works on the Greencastle Pier Road are proposed to extend along the length of the road from the junction with the Benagh Road to the proposed ferry terminal entrance; an approximate distance of 2000m. These offer an enhancement to the road conditions in the immediate area. These road widenings have been introduced so as not to impact upon the sight lines from existing accesses.

4.3.2.2 Greenore

No road modifications are proposed for the road network at Greenore. This network is considered to be adequate for the proposed ferry traffic. Slight alteration to the current Greenore Port access gate will be completed in order to accommodate entrance into the proposed ferry terminal.

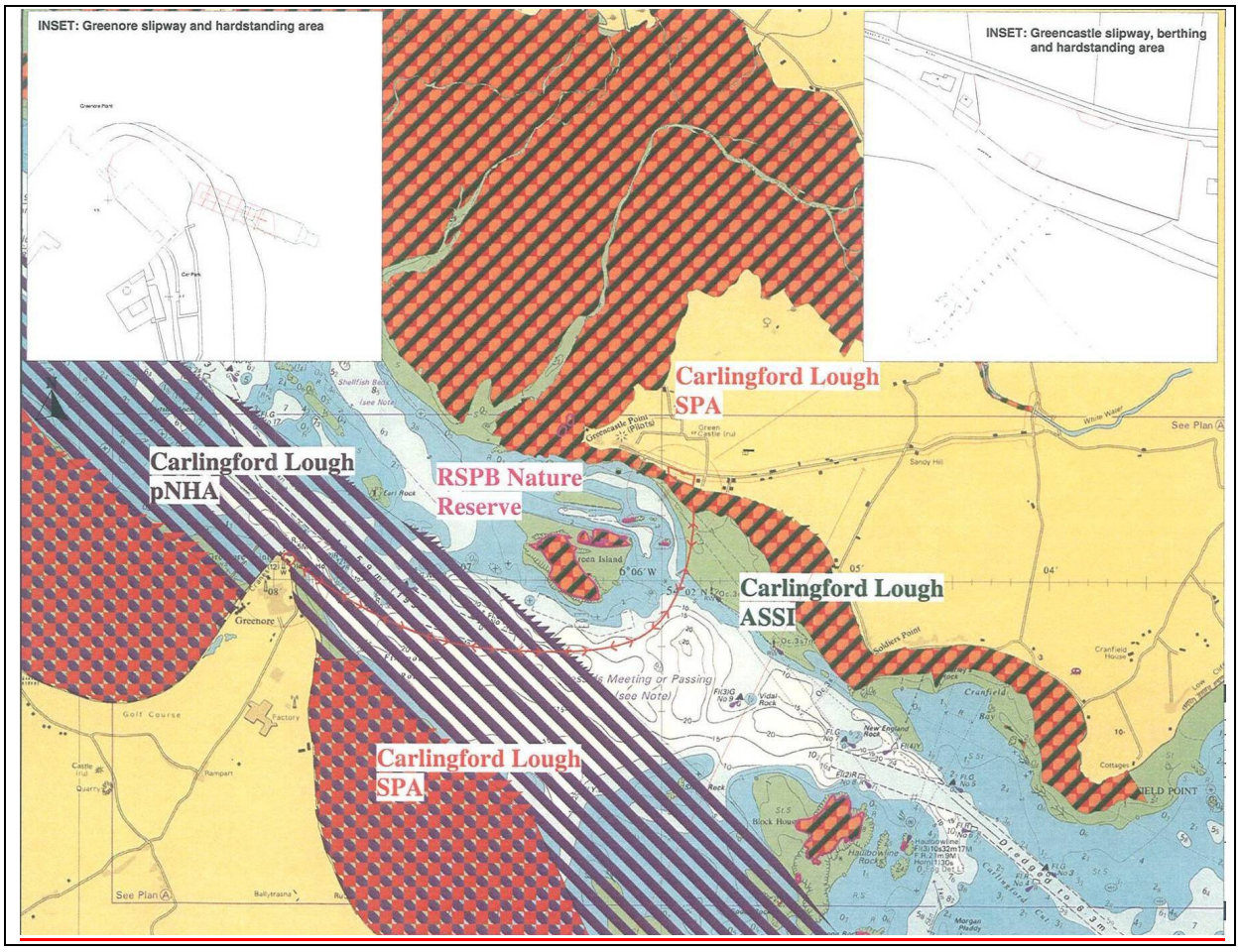
The Louth County Council car-park along the coastline to the south of the proposed terminal will remain as existing.

5 ENVIRONMENTAL MITIGATION MEASURES

5.1 INTRODUCTION

The proposed Greenore and Greencastle Ferry services are located adjacent to a number of sensitive environmental designations such as Carlingford Lough Special Protection Area (SPA), Carlingford Lough Area of Special Scientific Interest (ASSI), Carlingford Lough proposed Natural Heritage Area (pNHA). These designated areas are illustrated in Figure 5.1 below. (Full remit of drawings are presented in supporting documentation and the submitted ES). A full list of relevant mitigation listed in the ES are presented in Appendix H of this pre-CEMP.

Figure 5.1: Environmental Designations within and around Carlingford Lough



Construction of the various phases of the ferry facilities has the potential to impact on these designated sites and other aspects of the environment. A comprehensive Environmental Impact Assessment (EIA) was carried out which assessed the likely impacts that the proposal may have on the environment and, where appropriate mitigation measures to eliminate or reduce to acceptable levels any impacts. The summary tables below expand upon the mitigation measures sections within the Environmental Statement for the entire development. Table 5.1 sets out mitigation measures set out in the ES and expands on their purpose and management techniques.

Table 5.1: Proposed Mitigation Measures Identified in ES/EIS

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
AQUATIC ENVIRONMENT				
Suspended Sediment Topsoil stripping at the Greencastle terminal and the replacement of existing stone in the Greenore site has the potential to generate increased suspended solids in Carlingford Lough. Construction of the slipways and associated infrastructure will involve temporary working areas and access to the intertidal area by heavy plant and machinery. Impact piling, infilling and physical disturbance to a small footprint within the intertidal area will result in a temporary increase in suspended sediment levels and the potential to damage the intertidal habitats.	Best practice construction guidelines and an effective construction environmental management plan (CEMP) shall be drawn up and adhered to by the successful contractor. This plan shall be submitted to the Client Representative and NIEA/Louth County Council for approval prior to works commencing. Sediment, including all soils, mud, clay, silt, sand etc, is the single main pollutant generated at construction sites and largely arises from the erosion of exposed soils by surface water runoff. The adoption of appropriate erosion and sediment controls during construction is essential to prevent sediment pollution. Given the sensitivity of the receiving environment the main contractor will be required to prepare a surface water drainage/sediment control plan as part of the construction environmental management plan which will be agreed with the relevant agencies well in advance of work commencing on site. Temporary working areas will be required for access by construction plant on the beach on either side of the slipways. ·The detailed Method Statement will be drawn up indicating how the construction traffic will be directed and marshalled on site in order to minimise the damage to adjoining intertidal habitats at both terminal sites. Portable fences and/or tape will be used to confine traffic to agreed routes. Mitigation and control measures to address the impact from suspended sediments associated with construction activities should follow good work practices and sound design principals. Contractors shall establish contact with the relevant authorities, i.e. Loughs Agency, NPWS, NIEA and Louth County Council before works commence, with ongoing liaison throughout the	Pre-construction & From earliest stages of Construction	These measures will be implemented by the contractor.	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	construction. Contractors shall be familiar with the requirements of best practice and relevant guidelines including: – Technical Guidance C648: Control of Water Pollution from Linear Construction Projects, (CIRIA, 2006) – Technical Guidance C532: Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (CIRIA, 2001); Based on the guidance documents listed above the following control measures will be used as a tool box of measures to mitigate the impact of suspended sediments to Carlingford Lough together with the associated habitats and species along the proposed scheme: • Excess material stockpiles will be managed to prevent siltation of water bodies through run-off and overland flow during rainfall events. This will include the establishment of vegetation on exposed soil, and surrounding stockpiles with interception (cut-off) ditches to contain run-off; • interception, channelling and/or discharge of surface water from sumps, excavations and exposed soil surfaces to silt traps or settlement lagoons; • construction of silt traps, settlement lagoons / ponds, wetlands or hydrocarbon interceptors (either temporary or permanent) at an early stage in the construction programme and treated to remove oils and silt prior to controlled discharge via soakaway. • construction of cut-off ditches and berms to prevent surface water run-off from entering excavations and the construction area; • placing of granular materials over bare soil in the vicinity of watercourses in order to prevent erosion of fines and/or rutting by site traffic; • All water bodies that occur in areas proposed for site compounds and storage facilities will be fenced off to a minimum distance of 5m. Appropriate sediment control measures will be installed to ensure silt laden or contaminated surface runoff from the compound does not discharge directly to a water body;			

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	• Tool Box talks shall be given by the Environmental Manager nominated under the EMP to all contractor's site personnel to inform them of the mitigation measures required to ensure protection and conservation the aquatic environment. Establish vegetation as soon as practical on all areas where soil has been exposed e.g. stockpiles for stripped topsoil.			
Oil and Chemicals Construction of the slipways will involve the use of plant and machinery as well as the associated temporary storage of construction materials, oils, fuels and chemicals in close proximity to Carlingford Lough water body. There is the potential for spillage or release of construction materials (e.g. cement, diesel or oil) directly into Carlingford Lough. It is also possible that small residue amounts left on site may be mobilised by surface run-off and washed into Carlingford Lough.	The use of oils and chemicals on-site requires significant care and attention. It is important to ensure that the following procedures are followed to reduce the potential risk from oils and chemicals. • Fuel, oil and chemical storage must be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of adequate capacity. Detailed guidelines concerning above ground oil storage tanks are available (PPG2 - Reference 5). Leaking or empty drums must be removed from the site immediately and disposed of via a registered waste disposal contractor. • All valves and trigger guns should be protected from vandalism and unauthorised interference and should be turned off and securely locked when not in use. Any tanks or drums should be stored in a secure container or compound, which should be kept locked when not in use. Bowsers should be stored within site security compounds. • The risk of spilling fuel is at its greatest during refuelling of plant. Where possible, refuel mobile plant in a designated area within the site compound, on an impermeable surface well away from any drains or water bodies. Keep a spill kit available and use a bunded bowser. Never leave a vehicle unattended during refuelling or jam open a delivery valve. Check hoses and valves regularly for signs of wear, and ensure that they are turned off and securely locked when not in use. Diesel pumps and similar equipment should be placed on drip trays to collect minor spillages or leaks. These should be checked regularly and any accumulated oil removed for appropriate disposal	Pre-construction - earliest stages of Construction	These measures will be implemented by the contractor.	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
Oil and Chemicals	All re-fuelling of plant on the jack-up barge will be undertaken following an agreed protocol designed to minimise the chance of oil spills. • Any fuel stored on the barge will be in a securely locked and bunded enclosure. Further measures to mitigate against chemical pollution during construction should include: *Fuel and Chemical Storage* Ensure: • MSDS/COSHH documentation is available for all fuels/chemicals • All storage containers will be labelled appropriately, including hazardous markings All bulk tanks will be of material appropriate for fuel/chemical storage • All bulk tanks will be bunded to 110% of the maximum tank volume • All bulk tanks will be located on impervious base • Bunds will be to standard specified in *PPG 3 Above Ground Oil Storage Tanks* • Barrels and IBCs will be stored internally where appropriate and always on drip-trays or sump pallets • Appropriate spill kits will be available at all storage and refuelling locations • All fuel/chemical storage facilities will be subject to weekly inspection *Fuel and Chemical Delivery* Ensure: • All deliveries will be authorised before entering site • Vehicle drivers will report to designated Main Contractor personnel prior to delivery • Vehicle driver will check storage container labelling and capacity prior to commencing delivery • Vehicle driver will remain at delivery point until delivery process is completed • Vehicle driver will report to designated Main Contractor personnel on	Pre-construction - earliest stages of Construction	These measures will be implemented by the contractor.	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	completion of delivery • Designated personnel will receive appropriate documentation and confirm integrity of storage container.			
Cement and concrete It is expected that the concrete elements above high water level will be cast insitu and thus supporting formwork will be required. This temporary support may be trestles on the beach or a temporary steel frame from the piles but its duration at any one location will be approximately 7-10 days before being removed and repositioned for the next pour. It is expected that the concrete deck elements below water level and in the low tidal zone will be installed as precast concrete slabs with insitu stitching pours to tie them together at each pile head. The use of cement and concrete in the construction of the slipways has the potential to impact upon water quality. Fresh concrete and cement is highly alkaline and therefore is likely to affect water quality if washed into Carlingford Lough. The magnitude of the impact is considered to be moderate adverse and the impact is considered to be potentially **significant** to **profound** in the absence of mitigation.	If on-site concrete production is proposed for those sections of the slipways above the high water mark, careful initial siting of concrete mixing facilities is vital. A settlement and recirculation system for water reuse should be considered. This will minimise the risk of pollution and reduce water usage. Washing out and cleaning of concrete batching plant or ready mix lorries should be carried out in a contained area as far from the water body as practical. Excess material should be left to settle and removed from site after it has set. For the sections that are under water pre-cast units will be used for construction however the insitu stitching of these will be required. Where concrete is to be placed under water or in tidal conditions it will be designed to provide a cohesive mix to limit segregation and washout of fine material. This will normally be achieved by having either a higher than normal fines content, a higher cement content or the use of chemical admixtures. Plant operating close to water shall be given special consideration in relation to the transport of concrete from the point of discharge from the truck-mixer to final discharge into the delivery pipe (tremie). Care should be exercised when slewing concrete skips or mobile concrete pump booms over open water. All cement pouring operations will require to be constantly monitored to ensure that no spills occur. All equipment used in pumping or pouring cement will need to be checked for defects prior to each use in order to prevent spills arising from the failure of poorly maintained or defective equipment. The security and integrity of all formwork used e.g. for the new deck/platform of the berth will have to be carefully checked in advance of each cement pour to prevent uncured cement spilling into the tide or onto the shore.	During Construction (cranes and drill rig)	These measures will be implemented by the contractor	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
Foul Waste Contamination of watercourses or water bodies from foul waste from temporary site toilets	During construction, temporary portable toilets will be provided at the site offices within the temporary construction compound. These will be emptied regularly by a specialist contractor and disposed off-site in accordance with The Environmental Protection (Duty of Care) Regulation (NI) 2002	During Construction	These measures will be implemented by the contractor	Not Significant
AIR AND NOISE				
Noise from Construction Activities	▪ Construction activity for the proposed development will generally operate between the hours of 08:00 and 18:00 on Monday to Fridays, between 08:00 and 13:00 on Saturdays and there will be no activity on Sundays or Bank Holidays. ▪ On the Greencastle side of the proposed development, a temporary noise barrier (approximately 3m height) must be placed on the site boundary on all three land-based boundaries of the proposed site. ▪ A detailed Construction Environmental Management Plan (CEMP) will be prepared prior to the construction phase outlining all measures undertaken to reduce construction noise levels emanating from the proposed site. ▪ On the Greenore side of the proposed development, a 3m temporary noise barrier should be placed along the southern boundary of the proposed development site. ▪ British Standard *BS5228:2009 – Noise and vibration control on construction*	Pre-construction and During Construction	These measures will be implemented by the contractor	Not significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	and open sites outlines a range of measures that can be used to reduce the impact of construction phase noise on the nearest noise sensitive receptors. These are best practice measures and examples of some of these measures are included below: – ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order; – careful selection of quiet plant and machinery to undertake the required work where available; – all major compressors should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use; – any ancillary pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers; – machines in intermittent use should be shut down in the intervening periods between work; – ancillary plant such as generators, compressors and pumps should be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines should be placed away from sensitive locations, in order to cause minimum noise disturbance. Where possible, in potentially sensitive areas, acoustic barriers of enclosures should be utilised around noisy plant. – Handling of all materials should take place in a manner which minimises noise emissions; – Audible warning systems should be switched to the minimum setting required by the Health & Safety Executive or the Health & Safety Authority; – The Contractor should adhere to the codes and practices for minimising			

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	noise emissions from construction and piling works, including those provided in BS5228:2009. ▪ In order to minimise the likelihood of complaints, Newry and Mourne District Council, Louth County Council and affected residents should be kept informed of the works to be carried out and of any proposals for work outside normal hours. A complaints procedure should be operated by the Contractor throughout the construction phase, as part of the CEMP. – It is recommended that on-site monitoring of noise levels and construction activities be undertaken in order to verify the predicted worst-case noise levels and also to ensure that all available and appropriate measures are implemented to minimise the potential impact upon local sensitive receptors. This is especially required for the nearest noise sensitive receptors on the Greencastle side of the proposed development.			
Vibration from Construction Activities	▪ During the detailed design stage or as part of the initial on-site construction stage, a test pile survey and assessment must be completed to ensure that there will be no significant vibration impact from the proposed piling at the nearest vibration sensitive properties. Any such assessment will include the requirement to undertake pile testing to determine the likely transmission of vibration levels to the nearest sensitive properties. The detailed requirements for pile testing must be included in the CEMP completed for the construction phase activities. This document will outline detailed procedures for undertaking the work, assign responsibility for the work and will outline detailed procedures for notification of local residents and dealing with complaints. The plan will also include for detailed vibration monitoring to be undertaken during any such work. ▪ The intention throughout any construction programme should be to minimise the effects of site vibration whilst having due regard to the practicability and economic implications of any proposed control or mitigation measures. Excessive vibration levels can be avoided by giving careful consideration to the design of the proposed project, the processes	Pre-construction and during Construction	These measures will be implemented by the contractor	Not significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	and equipment implied by the design and the phasing of operations. ▪ Elements of the works preparation that may contribute to reducing the vibration impact include: – Arranging the project design such that the number of operations likely to be particularly disturbing is kept to a minimum; – When a number of site operators will be working on one site, overall site operations should be coordinated with access traffic being routes placed away from sensitive receptors; – The most appropriate plant must be selected in order that limits are not exceeded. The contractor must be aware of the extent of control measures that will be necessary so that appropriate cost allowances can be made; ▪ In terms of control of vibration, the most general means of control are substituting plant with less intrusive plant and relocating or isolating stationary plant using resilient mountings. Other potential solutions to control vibration include the provision of cut-off trenches, the reduction of energy to the machine generating the vibration and excavations under support fluid.			
Dust from Construction Activities	▪ A Dust Management Plan (DMP) will be adopted during the construction phase of the proposed development in order to help alleviate potential impact on air quality in the immediate locality. The DMP will be adopted as part of the Construction Phase Environmental Management Plan (CEMP) produced for the development and adhered to by appointed contractor. A pre-CEMP is detailed in Appendix F. ▪ A DMP should include the following mitigation measures: – Site roads will be regularly cleaned and maintained as appropriate. Hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads will be restricted to essential site traffic only.	During Construction	These measures will be implemented by the contractor	Not significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	– Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential). – Restriction on hours of operation (to be agreed with each Council Area). – Site stockpiling of materials should be stored to minimise exposure to wind. – Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. – The contractor will be required to ensure that all vehicles are suitably maintained to ensure that emissions of engine generated pollutants is kept to a minimum. – Restriction of drop heights onto HGVs and other demolition/construction equipment. – Provision of appropriate fencing/screening to reduce dust dispersion and lengthen the distance of the public-site interface. – A non-idling policy should be put in place when site vehicles are static and not in use. – The transport of soils or dusty materials should be undertaken in covered vehicles. – Reference to Building Research Establishment (BRE) publication *Controlling particles, vapour and noise pollution from construction sites – set of five Pollution Control Guides* (2003).			

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
LANDSCAPE & VISUAL				
The visual impact of the proposal is caused by the appearance of new structures, and the ancillary works associated with such a development. The arrival of the ferry to the new slipways will result in transitory visual impacts.	The design evolution of the proposed project has undertaken to enable incorporation of the following mitigation measures: • Sensitive use of local materials for constructed elements; • Careful integration of constructed elements with existing elements such as existing roads and building sites; • Appropriate materials and colour of fencing and buildings; • Appropriate landscape planting to minimise visual impact; • Directional lighting; • General site housekeeping designed to minimise visual impact during construction stage.	During Construction	These measures will be implemented by the contractor	Not significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
CULTURAL HERITAGE				
Archaeological Monitoring	Archaeological monitoring is recommended during all ground and seabed disturbances associated with the slipway constructions. A suitably qualified archaeologist with experience in marine environments should undertake the archaeological monitoring. The archaeological monitoring should be undertaken with the proviso for full excavation of any archaeologically significant material uncovered as part of the operation. Archaeological monitoring in Greenore would be licensed by the Department of Arts, Heritage and the Gaeltacht. Archaeological monitoring in Greencastle would be subject to the requirements of the Northern Ireland Environment Agency. – An archaeologist should be retained for the duration of the relevant works. – Time scale for the construction phase should be made available to the archaeologist, with information on where and when ground disturbances and dredging will take place. – It is essential for the developer to give sufficient notice to the archaeologist/s in advance of the construction works commencing. This will allow for prompt arrival on site to monitor the ground disturbances. As often happens, intervals may occur during the construction phase. In this case, it is also necessary to inform the archaeologist/s as to when ground disturbance works will recommence. – In the event of archaeological features or material being uncovered during the construction phase, it is crucial that any machine work cease in the immediate area to allow the archaeologist/s to inspect	During Construction	These measures will be implemented by the contractor with the assistance of a suitably qualified archaeologist	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	any such material. – Once the presence of archaeologically significant material is established, full archaeological recording of such material is recommended. If it is not possible for the construction works to avoid the material, full excavation would be recommended. The extent and duration of excavation would be a matter for discussion between the client and the licensing authorities. – It is recommended that the core of a suitable archaeological team be on standby to deal with any such rescue excavation. This would be complimented in the event of a full excavation. – In the event that underwater archaeological work is required, the team will conduct its work according to Safety in Industry (Diving Operations) Regulations 1981, SI 422. – Secure site offices and facilities should be provided on or near those sites where excavation is required. – Fencing/buoying of any such areas would be necessary once discovered and during excavation. – Secure artefact storage including secure wet storage facilities should be provided with the site offices, to ensure the protection and preservation of artefacts recovered during the monitoring work. Such facilities should be maintained on site until the instructions issued by the regulatory authorities concerning their requirements of such material are carried out. – Adequate funds to cover excavation, post-excavation analysis, and any testing or conservation work required should be made available. – Machinery traffic during construction must be restricted as to avoid any of the selected sites and their environs. – Spoil should not be dumped on any of the selected sites or their environs.			

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
SOILS, GEOLOGY AND HYDROGEOLOGY				
The construction activities should be conducted in a safe environmentally conscious manner and in line with all health and safety guidelines.	– Provision of noise, dust and odour abatement measures including a Dust Management Plan to mitigate the effects of large scale stone import, infill and construction practice. Dust suppression measures may include physical barriers to limit dust migration and/or wet suppression measures such as water spraying. The Dust Management Plan (Pre-CEMP version detailed in Appendix F) will be prepared by the Contractor prior to the commencement of construction. The Plan will include details on; potential dust creating activities and their timescale, list of all dust and emission control methods to be used, details and procedures for dealing with dust in extremely dry weather, details of authorised person deemed responsible for monitoring dust levels and implementing suppression measures and details for recording and dealing with complaints from members of the public/local authority. – Fuel storage tanks, paints and oils will be stored in clearly labelled and bunded areas. Reference will be made to Pollution Prevention Guideline (PPG) 2: Above Ground Oil Storage Tanks. Bunds will be at 110% of the capacity of the largest tank. – Refuelling of all plant and machinery will only take place in designated areas away from surface waters and drains. Spill kits will be placed within the designated re-fuelling areas to contain any	During Construction	These measures will be implemented by the contractor	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	accidental spillages of fuel. – An emergency plan to deal with accidental spillages will be drafted prior to construction and implemented to prevent contamination of groundwater and surface water. – Reference should be made to PPG6: Working at Construction and Demolition Sites and PPG5: Works in, near or liable to affect watercourses for guidance on dealing with refuelling and potential spillages as outlined above. – A construction Environmental Management Plan (CEMP) will be prepared and implemented by the Contractor to detail the mitigation measures required during construction. The EMP will provide details of procedures for monitoring reporting the environmental effects of the development during construction. – A Groundwater Management Plan will be prepared and implemented by the Contractor to minimise the potential risk to any groundwater encountered during construction activities. Reference should be made to *CIRIA C515 Groundwater Control – Design and Practice.* – A Foundation Works Risk Assessment will be undertaken prior to the commencement of construction to ascertain the potential risk which piling activities may pose to the groundwater quality of the underlying aquifer. Reference should be made to the Environment Agency publication '*Piling and Penetrative Ground Improvement Methods on Lands Affected by Contamination and Pollution Prevention'*. – The fuel storage tank adjacent to the security hut at the Greenore site will be decommissioned and removed by a competent contractor. Verification soil samples will be taken from the area beneath the removed tank to ascertain if the soils have been impacted by hydrocarbons. – Should any unexpected contaminated materials be encountered			

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	during site re-development, these materials shall be excavated and quarantined within a separate lined area away from the waters edge, for further analysis and assessment. Depending on the outcome, the CSM may need to be re-assessed. Any unexpected waste encountered on site will be dealt with in accordance with the appropriate current legislation relevant to the jurisdiction. – Determine waste acceptance criteria (WAC) for the excavated material being disposed off-site to a licensed waste facility. A number of representative samples from the excavated material will be sent to a laboratory for leachate analysis (BS EN 12457/3) to determine its waste classification, – Improve reuse and recycling rates and subsequently reduce costs, – Reduce the potential for sub-surface infiltration by placing all stockpiled soil material on impermeable heavy duty plastic liners and covering all stockpiles to minimise rainwater infiltration. – Any soil material imported onto the site must undergo WAC testing to ensure that the material is classified as inert and does not pose a risk to the underlying groundwater through leaching of contaminants. Any topsoil which is imported onto the site will be chemically analysed and screened against generic screening values for a commercial end use to ensure that it does not pose a risk to human health. – Reference should be made to Department of Trade and Industry guidance on the preparation of a Site Waste Management Plan. – Any fuel storage tanks will be bunded and inspected regularly for any leaks or spillages (As per the guidance in PPG2).			

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
HUMAN BEINGS & LAND USE				
General disturbance to residence from construction works, such as noise and additional HGV traffic during the construction period.	- Confine heavy construction vehicles to specific roads; - Restrict the number of access points to the construction site; - Control the movement of work vehicles close to sensitive human receptors such as residential or commercial properties; - Residents should be kept informed of the works to be carried out and of any proposals for work outside normal hours; - Ensure that the main compounds are located in areas away from sensitive receptors such as residential or commercial properties, and can be accessed from roads; - Phase the construction programme to limit disruption to road users, - Limit the number and duration of temporary road closures; - Provide reasonable and safe facilities for pedestrians and cyclists; and - Advanced warning should be given of any necessary route diversions. Land take as a result form the scheme is not considered to be significant therefore corresponding mitigation measures have not been identified. Where hedgerows are removed these will be reinstated or alterative stock-proof fencing will be provided to ensure field boundaries remain secure to keep livestock in place. Where any fences, walls or hedges are damaged during the construction phase these will be made stock proof immediately. During the construction phase the contractor will be advised to close all gates used to prevent stock from straying. Existing access to property will, where practicable, remain during construction, otherwise reasonable temporary access will be provided. The crossings or adjustments to the utilities will be constructed in accordance with the relevant service providers to avoid/minimise disruption to their services. Any disruption to water supply will be reinstated immediately or an alternative source will be provided.	Throughout the construction phase.	These measures will be implemented by the contractor	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
	The proposed road improvements may create benefits in terms of upgraded infrastructure. Discussions should be made with boat owners currently mooring their vessels proximate to the jetty to seek suitable alternatives during the construction and operational phases of the development.			
ORNITHOLOGY				
Loss of Nesting Bird Habitat (Site Clearance)	All breeding wild birds their nests, eggs and dependent young are protected in Northern Ireland and ROI under Articles of The Wildlife Order and The Wildlife Acts respectively. The presence of breeding birds within the proposed project footprint will therefore impose seasonal constraints on site clearance activities during the breeding bird season. In Northern Ireland there is no legally dated season during which an offence under The Wildlife Order may be committed. In ROI under Section 40 of The Wildlife Act (as amended by Section 40 of The Wildlife (Amendment) Act) it is an offence to destroy any vegetation during the period 1st March to the 31st August (inclusive) except for the purposes of agriculture or forestry. Vegetation loss shall be kept to a minimum but where required site clearance activities including the removal of any vegetation and the demolition (full or part) of any building or wall will be undertaken outside of the breeding bird season in line with Northern Irish and ROI legislation.	Pre-construction phase/site clearance	These measures will be implemented by the contractor	Not Significant

Potential Impact	Proposed Mitigation Measure	Time scale, relative to project, of mitigation implementation	Who will be responsible for implementation	Residual Impact
Loss of Hedgerows/Stone Walls	The loss of hedgerows/stone walls along the Greencastle Pier Road to facilitate road widening will be kept to an absolute minimum, as outlined on road design drawings (Chapter 3 of the ES supporting the application). Approx 660m of hedgerow comprising native species in keeping with the setting of this rural road will be planted. The planting proposed will be confirmed by the contractor in the CEMP, which is subject to approval by the Planning Authority and Statutory Nature Conservation Bodies. Such linear features provide important ecological corridors, foraging and nesting habitats for small mammals, birds and invertebrates.	Construction Phase	These measures will be implemented by the contractor	Not Significant

5.2 ENVIRONMENTAL RISK ASSESSMENTS

A series of risk assessment will be undertaken by the main contractor prior to the commencement of construction works and form part of the CEMP. This pre-CEMP details the various elements of the construction activities and potential risk associated with the proposal. These risk assessments may be adopted and further detailed as required by the contractor.

The contractor will be expected to undertake an individual risk assessment (Sub section 5.2.1) of all the construction elements as detailed in Section 5.2.1 and propose further mitigation measures based on the control measures and included in the ES/EIS. The risk assessment should include the severity of impact which can be derived from the impact assessments included in the ES/EIS and the risk of occurrence.

The main contractor will be required to evaluate aspects of the construction and impacts on a continual basis and these will be deemed significant if:

1. They breach legislative or contractual compliance.

2. The impact could cause a prolonged or long term nuisance or environmental impact during the contract period.

3. The impact could have a long term effect to the environment outside of the footprint of the works.

4. The impact could adversely impact the flora and fauna within the footprint of the proposed works and adjacent areas, particularly within the neighbouring SPA/SAC.

Table 5.2: Identification of Environmental Aspects

Activity	Environmental Aspects (activities which can lead to an Environmental Impact) Aspect – Y or N													
	Discharges to Watercourse	Discharges to Groundwater	Generation of Dust	Generation of Air Emissions - Particulates	Generation of Dirt on Roads	Generation of Odour	Noise	Vibration	Inactive Waste Generation	Hazardous Waste Generation	Resource Consumption	Disturbance to Wildlife/ Natural Resources&/or Archaeology	Local Community Issues	Notes
Topsoil Stripping & Excavation	Y	N	Y	Y	N	N	Y	N	N	N	Y	Y	N	
Re-Fuelling	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	
Truck Deliveries	N	N	Y	Y	Y	N	Y	N	N	N	Y	N	Y	
Materials Storage	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	
Site Plant	Y	N	Y	Y	N	N	Y	N	N	N	Y	N	N	
Waste Generation	N	N	N	N	N	Y	N	N	N	N	N	N	Y	
Stone Laying	N	N	Y	Y	Y	N	Y	N	N	N	Y	N	N	
Asphalt Laying	N	N	N	Y	Y	Y	Y	Y	N	Y	Y	N	N	

5.2.1 Individual Risk Assessments

Environment Impacts - Topsoil Stripping & Excavation WATER (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Topsoil Stripping & Excavation**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Water	Discharges to Watercourses and Groundwater	**High**	**Low**
Control Measures			
1. All excavation/moving of topsoil/subsoil will be carried out in suitable weather conditions			
2. The amount of exposed ground is to be kept at a minimum during site preparation			
3. Materials should be stockpiled on as level ground as possible and in a position which does not present conditions encouraging runoff into Carlingford Lough (e.g. not on steep slopes)			
4. Surface water cut-off drains will be designed in such a way so as to avoid erosion.			
5. During stripping, run-off from the site will fall to the low side, where a shallow ditch will catch any runoff.			

Environment Impacts - Topsoil Stripping & Excavation AIR & DUST (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Topsoil Stripping & Excavation**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Air/Nuisance	Generation of Dust	**Medium**	**Low**
Air	Generation of Emissions/Particulates	**Low**	**High**
Control Measures			
1. A separate Dust Minimisation Plan has been prepared and is Appendix F of this pre-CEMP			
2. No overfilling of the bucket leading to spillage on the working areas. No overloading of vehicles.			
3. Keep fall heights of the material into the transport vehicles to a minimum			
4. All vehicles loaded with loose soil must be effectively sheeted before leaving the site			
5. Checks shall be made to ensure that no leakage occurs from damaged vehicles and that tailgates are effectively closed			
6. Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind and will be located as far from receptors as possible. If weather conditions are predicted to increase the risk of dust generation from stockpiled topsoil, they are to be covered with tarpaulins.			
7. Use of well maintained plant, and where possible new plant manufactured under more strict EC guidelines for manufacturers.			
8. A “no idling” policy should be adopted by switching off engines when practicable.			
9. Complaints procedure to be adhered to - dust monitoring measures will be implemented in the event that numerous complaints are received or at the request of relevant authority.			

Environment Impacts - Topsoil Stripping & Excavation NOISE & VIBRATION (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Topsoil Stripping & Excavation**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Vibration	Noise Nuisance	**Medium**	**Low**
Control Measures			
1. It is recommended that on-site monitoring of noise levels and construction activities be undertaken in order to verify the predicted worst-case noise levels and also to ensure that all available and appropriate measures are implemented to minimise the potential impact upon local sensitive receptors. This is especially required for the nearest noise sensitive receptors on the Greencastle side of the proposed development.			
2. In order to minimise the likelihood of complaints, Newry and Mourne District Council, Louth County Council and affected residents should be kept informed of the works to be carried out and of any proposals for work outside normal hours. A complaints procedure should be operated by the Contractor throughout the construction phase, as part of the CEMP.			
3. Use of well maintained plant, and where possible new plant manufactured under more strict EC guidelines for manufacturers. Ensure maintenance of silencers and moving components.			
4. Construction activity for the proposed development will generally operate between the hours of 08:00 and 18:00 on Monday to Fridays, between 08:00 and 13:00 on Saturdays and there will be no activity on Sundays or Bank Holidays.			
5. On the Greencastle side of the proposed development, a temporary noise barrier (approximately 3m height) must be placed on the site boundary on all three land-based boundaries of the proposed site.			
6. On the Greenore side of the proposed development, a 3m temporary noise barrier should be placed along the southern boundary of the proposed development site.			
7. The intention throughout any construction programme should be to minimise the effects of site vibration whilst having due regard to the practicability and economic implications of any proposed control or mitigation measures. Excessive vibration levels can be avoided by giving careful consideration to the design of the proposed project, the processes and equipment implied by the design and the phasing of operations.			
8. During the detailed design stage or as part of the initial on-site construction stage, a test pile survey and assessment must be completed to ensure that there will be no significant vibration impact from the proposed piling at the nearest vibration sensitive properties.			
9. Any such assessment will include the requirement to undertake pile testing to determine the likely transmission of vibration levels to the nearest sensitive properties. The detailed requirements for pile testing must confirmed by the contractor through discussion with relevant authorities for the construction phase activities & detailed vibration monitoring to be undertaken during any such work.			

Environment Impacts - Topsoil Stripping & Excavation TERRESTRIAL WILDLIFE (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Topsoil Stripping & Excavation**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Wildlife/Archaeology	Disturbance to Wildlife	**Medium**	**Low**
Control Measures			
1. Temporary lighting erected during construction will be sensitive to foraging otters. Lighting will be directional so as to prevent spill into intertidal and sub-tidal foraging habitats out with the development footprints. Details of sensitive lighting to be agreed between contractor and local authorities.			
2. There was no evidence of roosting bats within the security gate lodge to be demolished or within the concrete store to have its gables removed at Greenore in 2012. This should be re-confirmed by a competent bat expert prior to any works. Should evidence of roosting bats be found, NPWS will be consulted and a derogation licence sought to exclude the bats. Compensatory measures may be required as part of this derogation procedure in consultation with NPWS.			
3. Any temporary lighting erected during construction should be sensitive to roosting, foraging and commuting bats. There will be no floodlight spill which could affect the derelict two storey building east of the Greencastle footprint where Leisler's activity in May 2012 indicated a potential roost in that area.			
4. The loss of hedgerows and/or stone walls along the Greencastle Pier Road to facilitate road widening will be kept to an absolute minimum, as outlined on road design drawings. 660m of hedgerow comprising native species in keeping with the setting of this rural road will be planted. The planting proposed will be specified by the contractor as specified in the planting plan drawings as part of the application, which is subject to approval by the Planning Authority. Such linear features provide important ecological corridors, foraging and nesting habitats for small mammals, birds and invertebrates.			

Environment Impacts - Topsoil Stripping & Excavation ARCHAEOLOGY			
(The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Topsoil Stripping & Excavation**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Archaeology	Disturbance to Archaeology	**Medium**	**Medium**
Control Measures			
1. A qualified archaeologist assigned to the contract and under licence to NIEA: Built Heritage will supervise and be present during all topsoil stripping.			
2. In the event of archaeological features or material being uncovered during the construction phase, it is crucial that any machine work cease in the immediate area to allow the archaeologist/s to inspect any such material.			
3. Once the presence of archaeologically significant material is established, full archaeological recording of such material is recommended. If it is not possible for the construction works to avoid the material, full excavation would be recommended. The extent and duration of excavation would be a matter for discussion between the client and the licensing authorities.			
4. It is recommended that the core of a suitable archaeological team be on standby to deal with any such rescue excavation. This would be complimented in the event of a full excavation.			
5. In the event that underwater archaeological work is required, the team will conduct its work according to Safety in Industry (Diving Operations) Regulations 1981, SI 422.			
6. Fencing/buoying of any such areas would be necessary once discovered and during excavation.			
7. Secure artefact storage including secure wet storage facilities should be provided with the site offices, to ensure the protection and preservation of artefacts recovered during the monitoring work. Such facilities should be maintained on site until the instructions issued by the regulatory authorities concerning their requirements of such material are carried out.			
8. Adequate funds to cover excavation, post-excavation analysis, and any testing or conservation work required should be made available.			

Environment Impacts - THE WATER ENVIRONMENT (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Refuelling**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Water	Discharges to Watercourses and Groundwater	**High**	**Low**
APPENDIX A - Details a Pollution Prevention Plan **APPENDIX D - Details a Drainage Management Plan** **APPENDIX E - Details a Water Quality Monitoring Plan**			

Environment Impacts - CONSTRUCTION TRAFFIC (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Construction Traffic**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Air/Nuisance	Generation of Dust	**Medium**	**Low**
Air/Nuisance	Generation of Emissions/Particulates	**Low**	**High**
Nuisance	Generation of Dirt on Roads	**Medium**	**Low**
Nuisance	Noise	**Medium**	**Low**
Nuisance	Local Community Issues – Traffic Congestion	**Medium**	**Low**
Control Measures			
1. A Traffic Assessment has been prepared and submitted as part of the Planning Application			
2. All vehicles will be kept well maintained and regularly inspected			
3. Advisory signage for road users (for the benefit of both local road users and site traffic) will be erected			
4. Truck deliveries will be coordinated to minimise congestion and inconvenience to local residents whilst retaining continuity of works progress.			
5. All drivers will receive awareness training and specific briefing on sensitive areas where particular vigilance must be undertaken, e.g. road stretches where there are no footpaths, junctions with reduced visibility, local schools and areas where there is likely to be increased vehicle and pedestrian traffic			
6. Any fouling of roads will be dealt with immediately by use of road sweepers or manual labour.			
7. Complaints policy will be strictly adhered to and all complaints investigated.			

Environment Impacts - MATERIALS STORAGE (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity –**Materials Storage**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Water	Discharges to Watercourses and Groundwater	**Medium**	**Low**
Air/Nuisance	Dust	**Low**	**Low**
Control Measures			
1. Materials will be stockpiled on as level ground as possible and in a position which minimises runoff into Carlingford Lough (e.g. not on steep slopes)			
2. Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind and will be located as far from receptors as possible. If weather conditions are predicted to increase the risk of dust generation from stockpiled topsoil, they are to be covered with tarpaulins.			
3. Complaints policy will be strictly adhered to and all complaints investigated. Resident Engineer's telephone number has been circulated to residents.			
4. Appendix C details an Excavated Resources & Reinstatement Plan			

Environment Impacts - SITE PLANT (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity – **Site Plant**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Water	Discharges to Watercourses	**High**	**Low**
Air/Nuisance	Generation of Dust	**Medium**	**Low**
Natural Environment	Disturbance to Wildlife	**Low**	**Medium**
Air/Nuisance	Generation of Air Emissions	**Low**	**High**
Nuisance	Generation of Dirt on Roads	**Medium**	**Low**
Nuisance	Generation of Noise	**Medium**	**Low**
Nuisance	Vibration	**Low**	**Low**
Nuisance	Traffic Congestion	**Low**	**Low**
Other	Resource Consumption	**Low**	**High**
Control Measures			
1. All items of mobile plant will be fitted with a spill kit and staff trained in their correct usage. Appendix A details a Pollution Prevention Plan.			
2. Dust generation potential will be monitored and mitigation measures such as damping down will be employed when/where necessary (Appendix F details a Dust Management Plan).			
3. All plant will be maintained in an efficient manner. Daily production schedules will be prepared to enable optimum plant usage. Site plant will be regularly inspected for leaks.			
4. A “no idling” policy should be adopted by switching off engines when practicable.			
5. Advisory signage for road users (for the benefit of both local road users and site traffic) will be erected			
6. Complaints policy will be strictly adhered to and all complaints investigated.			
7. It is recommended that on-site monitoring of noise levels and construction activities be undertaken in order to verify the predicted worst-case noise levels and also to ensure that all available and appropriate measures are implemented to minimise the potential impact upon local sensitive receptors. This is especially required for the nearest noise sensitive receptors on the Greencastle side of the proposed development.			
8. In order to minimise the likelihood of complaints, Newry and Mourne District Council, Louth County Council and affected residents should be kept informed of the works to be carried out and of any proposals for work outside normal hours. A complaints procedure should be operated by the Contractor throughout the construction phase, as part of the CEMP.			

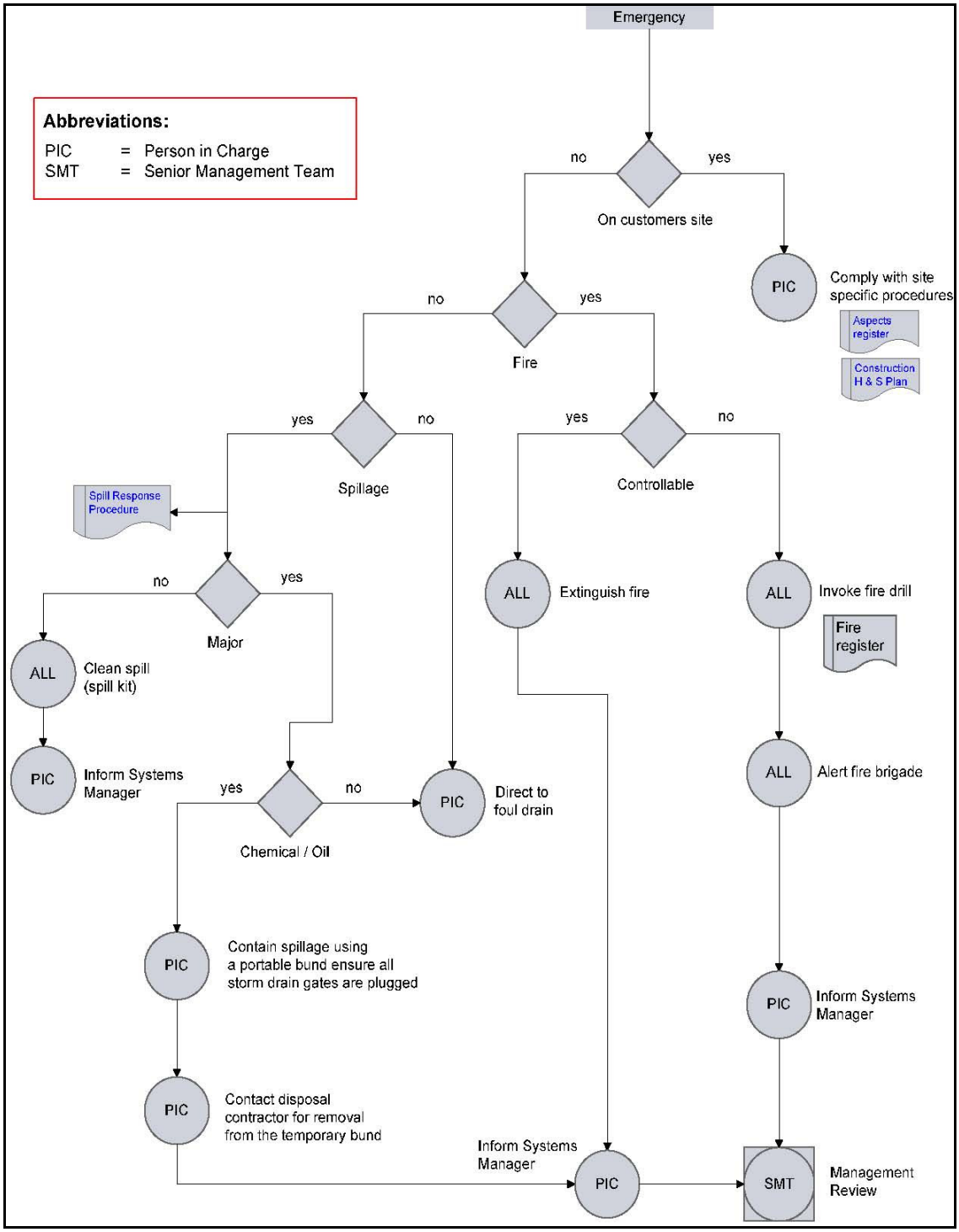
Environment Impacts - WASTE (The effect on the Environment of the environmental aspects whether direct or indirect)			
Activity – **Waste**		Severity of Impact (Low, Medium, High)	Risk of Occurrence (Low, Medium, High)
Nuisance	Odour	**Medium**	**Low**
Natural Environment/Nuisance	Disturbance to Wildlife/Community Issues (vermin)	**High**	**Low**
Natural Environment/Nuisance	Disturbance to Wildlife/Community Issues (littering)	**High**	**Low**
Control Measures			
1. The Contractor will establish procedures to minimise waste (planned production, reusing, reworking materials, etc.)			
2. A Site Resources & Waste Management Plan is located in Appendix B.			
3. All waste will be disposed of In an appropriate and legal manner; where possible waste will be separated into appropriate waste streams prior to collection, to facilitate recycling.			
4. The Company will ensure that documentation is obtained and filed for all waste carried off site.			
5. The Company will ensure that a “tidy site” policy is in place at all times. All staff will receive environmental awareness training and littering will be strictly prohibited.			
6. General office/messing waste will be collected in covered skips/large bins to discourage vermin and taken for disposal by a licensed waste contractor.			
7. Temporary site toilets will be regularly emptied and contents disposed of by a licensed waste contractor.			

5.2.2 Environmental Documentation

Reference to the following documentation which will be made available to all site staff within the site offices:

Environmental Impact	Refer to Documentation
General Information	Environmental good practice on site, CIRIA C502, 2002 PPG06 -Working at construction and demolition sites
Ground Contamination	Environmental good practice on site, CIRIA C502, 2002 PPG06 -Working at construction and demolition sites (Refer also to list for Water Pollution below)
Air Pollution	Environmental good practice on site, CIRIA C502, 2002 PPG06 -Working at construction and demolition sites
	Building Research Establishment (BRE) publication Controlling particles, vapour and noise pollution from construction sites - set of five Pollution Control Guides (2003)
	London Best Practice Guide developed by the Greater London Authority, London Boroughs and the Association of London Government
	The control of dust and emissions from construction and demolition, produced in partnership by London Councils
Water Pollution	Environmental good practice on site, CIRIA C502, 2002 Control of water pollution from construction sites, CIRIA C532 2001 PPG01 -General guide to the prevention of water pollution PPG02 -Correct storage of above ground oil tanks PPG03 -Use and design of oil separators in surface water drainage systems PPG05 -Works in, near or liable to affect watercourses PPG06 -Working at construction and demolition sites PPG08 -Safe storage and disposal of used oils PPG18 -Managing fire water and major spillages PPG20 -Dewatering of underground ducts and chambers PPG22 -Dealing with spillages on highways PPG23 -Maintenance of structures over water PPG26 -Storage & handling of drums & intermediate bulk containers Chemical pollution and how to avoid it Solvent pollution and how to avoid it Follow the oil care code
Nuisance: **Noise & Vibration**	Environmental good practice on site, CIRIA C502, 2002 PPG06 -Working at construction and demolition sites
Waste generation / use of resources	Environmental good practice on site, CIRIA C502, 2002 PPG06 -Working at construction and demolition sites. PPG26 -Storage & handling of drums & intermediate bulk containers Waste minimisation good practice guide.
Wildlife & Natural Resources	Environmental good practice on site, CIRIA C502, 2002
Emergency Preparedness & Response	Environmental good practice on site, CIRIA C502, 2002 PPG06 -Working at construction and demolition sites PPG18 -Managing fire water and major spillages PPG21 -Pollution incident response planning PPG22 -Dealing with spillages on highways

5.2.2 Emergency Response Plan



Things to consider for spillage response procedure:

1. Follow the response procedure overleaf. If the main contractor already has a spill response procedure in operation, integrate into that.

2. Inform all personnel about the spill response procedure through toolbox talks and/or induction training. Consider the need for refresher training on long-term construction projects.

3. Use reminder posters, identifying the key essential elements of the spill response procedure, located in appropriate areas such as fuel storage areas, mess cabins, security points or on the back of toilet doors.

Stop further spill contain and inform Resident Engineer immediately

	Pollutants				
Spill on ground	**Concrete / cement**	**Paints**	**Oils**	**Silt**	**Detergents**
Sand	✓	✓	✓	×	✓
Straw bales	×	×	✓	✓	×
Absorbent granules	×	×	✓	×	×
Geotextile fence	✓	×	×	✓	×
Drip trays	×	✓	✓	×	×
Pads/rolls	×	×	✓	×	×
Drain seal	✓	✓	✓	✓	✓
Earth bunds	✓	✓	✓	✓	✓
Spill in water					
Straw bales	×	×	✓	✓	×
Pads/rolls	×	×	✓	×	×
Booms	×	×	✓	×	×
Stop further spill contain and inform Systems Manager immediately	✓	✓	✓	✓	✓

In the event of a significant spill contact the

NIEA Environmental Incident Hotline 0800 80 70 60 (Free 24 hr Emergency Hotline)

Louth County Council (emergency) 1890 202 303

Loughs Agency +353 (0)42 938 3888

It will be important to incorporate the names and telephone numbers of others you need to inform (includes alerting people out of hours) and who should contact them within the spillage response plan.

- NI Water
- Relevant Council, neighbours, other stakeholders
- Details of a professional 24 hour call-out clean-up service e.g.: Alpha Environmental Systems Ltd. Tel: 028 7035 4435
- Ensure sufficient types and quantities of spill response equipment are available on site. Keep spill kits where spills may occur, e.g. at refuelling points or on plant working near a watercourse.
- Material safety data sheets and COSHH assessments will assist in identifying appropriate spill measures for dealing with hazardous materials.
- Dispose of used spill response material appropriately, e.g. oily granules or pads should be bagged up and placed in the designated waste skip.

What to do if you find a spillage of any substance on site

STOP - CONTAIN - NOTIFY

STOP work immediately and prevent any more material spilling, e.g. right an oil drum, close valves.

Eliminate any sources of ignition, e.g. switch off plant, extinguish cigarettes.

CONTAIN the spillage using bunds of earth or sand, drip tray etc. immediately.

Check the spill has not reached any nearby drains / manholes, watercourses, ponds and other sensitive areas. Bund drains / manholes to stop the substance entering the drainage system

NOTIFY your foreman / supervisor immediately giving the following information:

- ❑ whether material has entered the drain / watercourse or is affecting the environment
- ❑ material involved
- ❑ location
- ❑ reason for the incident
- ❑ quantity involved.

SPILLAGE TYPE

MAJOR	Cannot be controlled; pollution has entered, or could enter a drain or watercourse. Report to foreman / supervisor immediately.
MINOR	Can be controlled; pollution has not entered, and cannot enter a drain or watercourse.

FOREMAN/SUPERVISORS INSTRUCTIONS

MAJOR	Contain and report immediately to contact detailed below.
MINOR	Clean up immediately using appropriate materials (granules, pads etc.)

CONTACT NAMES AND NUMBERS

Environmental Incident Hotline …… 0800 80 70 60

Clean up contractor **(tbc)**

IMPORTANT TELEPHONE NUMBERS

Emergency Contact Details	
Emergency Services	999 (Don't forget the extra 9 for an outside line where applicable) Northern Ireland 999 or 112 Republic of Ireland
Nearest hospital – Accident & Emergency Dept.	Daisy Hill Hospital 5 Hospital Road Newry BT35 8DR Tel 028 3083 5000
Environmental Incident Hotline/Water Pollution Hotline	0800 80 70 60 (Free 24 hr Emergency Hotline)

Specific Authorities		
	Office Hours	Out of Hours (To be Confirmed and filled in by contractor)
Newry and Mourne District Council Environmental Health	028 2827 2313	
NI Water (Water mains / Sewage)	0845 744 0088	
Special Waste Disposal		
Specialist Clean Up Contractor		
Health & Safety Executive	028 9024 3249	
NIE	028 9066 1100	

Company Contacts: (Out of Hours)	Out of Hours (To be Confirmed and filled in by contractor)
Resident Engineer	
Civils Foreman	
Environmental Clerk of Works (ECOW)	

APPENDIX A

POLLUTION PREVENTION PLAN

Pollution Prevention Plan

Refer to Table 5.1 in this document for reference to PPP. Not included in this appendix to avoid repetition.

This pollution prevention plan outlines the control measures that will be taken to mitigate the risk of pollution from the proposed works. As this is a pre-construction Environmental Management Plan and the planning application in both jurisdictions has not yet been determined it will be a working document that will need to be updated with any relevant conditions resulting from the consenting process.

In addition the principal contractor has not been appointed and method statements for the different work elements have not been prepared. However the EIS has outlined the construction methodology in broad terms and this has been the basis of Environmental Impact Assessment. The principal contractor will have to adhere to the general method of construction outlined in the EIS but will prepare site specific method statements on appointment.

The contractor will also be expected to develop the pre-construction EMP and its constituent parts to ensure that it is specific to the proposed method statement. Risk assessments will also be carried out to detail the potential for specific activities to cause pollution and to identify the control measures that will be put in place. This pre construction pollution prevention plan highlights the potential impact and possible control measures, however the detailed design of these control measures will be the responsibility of the principal contractor.

The main aim of developing this PPP is to ensure that all pollution, mitigation and monitoring measures identified throughout the planning phase of the Carlingford Ferry project will be applied in practice to the proposed development.

The principal controls waste management, excavation, reinstatement and water quality monitoring will be identified and controlled primarily through the accompanying Site resource and waste management plan, Excavated materials and reinstatement plan and the Water Quality Monitoring plan.

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The main aims of the PPP are to:

- Provide a mechanism for ensuring that measures to mitigate potentially polluting activities identified in the ES are implemented;
- Ensure that best construction practices are adopted throughout the construction of the proposed development;
- Provide a framework for mitigating unexpected pollution events during construction;
- Provide assurance to third parties including the Statutory bodies that their requirements with respect to minimising the pollution potential of the project will be met;

- Provide a mechanism for ensuring compliance with environmental legislation and statutory consents.

The potential environmental impacts of the project are documented in the Environmental Statement. The PPP and wider EMP do not aim to re-assess those impacts, but to develop and outline controls to manage them during construction and operation.

The PPP will be distributed along with the other plans identified above to all relevant personnel and will be made available to them in their place of work to direct, guide and assist in their activities. All personnel working on the project will be responsible for the environmental control of their own work and will perform their duties in accordance with the requirements of the PPP and in compliance with the controls referenced therein. No deviations will be permitted without the written authority of the Resident Engineer and if necessary the Department or Louth County Council.

The Resident Engineer is responsible for ensuring that the contents of the EMP including the PPP are satisfactorily circulated and explained to site supervisory staff for implementation during construction. Any problems or disputes arising from such will be brought to the attention of the Resident Engineer and/or the Carlingford Ferry Ltd. Site Representative.

Emergency Spill Response Plan

An emergency response plan shall be prepared to inform the procedures to be taken in the event of a spillage that has the potential to cause pollution.

The contractor will be responsible for the preparation and implementation of the spillage response procedure. The key issues to consider for the spillage response procedure include:

4. If the main contractor already has a standard spill response procedure in operation for marine sites then this should be amended to reflect the local conditions on site. Where a spill response plan is not in place a project specific plan will be developed;

5. The Plan should also detail the procedures to be followed if there is a breach in any licence conditions or a non compliance. It will be important to ensure that the Environmental Manager is notified of all incidents where there has been a breach in agreed environmental management procedures;

6. As a general rule the following principles should apply In the event of an environmental emergency:

    a. If SAFE, stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers. Inform Resident Engineer immediately

b. If SAFE (USE PPE), contain the spill using the absorbent spill material provided. Do not spread or flush away the spill. Cover or bund off any vulnerable areas where appropriate.

c. If possible, clean up as much as possible using the absorbent spills materials. Do not hose the spillage down or use any detergents.

d. Contain any used absorbent material so that future contamination is limited.

e. Notify the Construction Manager or the Resident Engineer and environmental officer so that used absorbent material can be disposed of using a specialist contractor.

7. The Construction Manager, in conjunction with the contractor's environmental manager, will develop and test, through exercises, the Emergency Spillage Procedure to ensure that appropriate measures to prevent and mitigate damage due to accidents and spillages are in place.

8. Testing of the Emergency Spillage Procedure shall be recorded on the relevant environmental control form.

9. Inform all personnel about the spill response procedure through toolbox talks and/or induction training. Consider the need for refresher training on long-term construction projects.

10. Use reminder posters, identifying the key essential elements of the spill response procedure, located in appropriate areas such as fuel storage areas, mess cabins, security points or on the back of toilet doors.

11. Control containment measures for different pollutants are outlined below;

Control/Containment Measure	**Pollutants**				
Spill on ground	**Concrete / cement**	**Paints**	**Oils**	**Silt**	**Detergents**
Sand	✓	✓	✓	×	✓
Straw bales	×	×	✓	✓	×
Absorbent granules	×	×	✓	×	×
Geotextile fence	✓	×	×	✓	×
Drip trays	×	✓	✓	×	×
Pads/rolls	×	×	✓	×	×
Drain seal	✓	✓	✓	✓	✓
Earth bunds	✓	✓	✓	✓	✓
Spill in water					
Straw bales	×	×	✓	✓	×
Pads/rolls	×	×	✓	×	×

Booms	×	×	✓	×	×
Stop further spill contain and inform appropriate personnel immediately	✓	✓	✓	✓	✓

In the event of a significant spill contact the **NIEA Water Pollution hotline** (**0800 80 70 60), Louth County Council Environment Section and Loughs Agency.**

It will be important to incorporate the names and telephone numbers of others you need to inform (includes alerting people out of hours) and who should contact them within the spillage response plan.

Further issues to be considered when the main contractor is preparing an emergency spill response plan include:

- Details of a professional 24 hour call-out clean-up service e.g.: Alpha Environmental Systems Ltd. Tel: 028 7035 4435

- Ensure sufficient types and quantities of spill response equipment are available on site. Keep spill kits where spills may occur, e.g. at refuelling points or on plant working near a watercourse.

- Material safety data sheets and COSHH assessments will assist in identifying appropriate spill measures for dealing with hazardous materials.

- Dispose of used spill response material appropriately, e.g. oily granules or pads should be bagged up and placed in the designated waste skip.

APPENDIX B

SITE RESOURCE AND WASTE MANAGEMENT PLAN

SITE RESOURCES & WASTE MANAGEMENT PLAN

1.0 INTRODUCTION

This section of the pre-construction environmental management plan will outline the key elements to be addressed by the Contractor relating to site resources and waste handling on the proposed site. A more refined version of this management plan will subsequently be agreed between the appointed contractor and the regulatory authorities prior to the commencement of construction activities.

2.0 CONTRACT OBLIGATIONS

The overall implementation of the construction environmental management plan shall be a contractual requirement for the successful contractor. Assessment of the contractor's environmental credentials shall also form part of the contract appointment process. It is recognised that previous similar experience of managing a sensitive environmental project is essential to proper implementation of environmental controls on site.

An Environmental Manager will be appointed who will generally be responsible for implementing controls on site. They will also be responsible for a protocol for regular communication with statutory agencies such as NIEA, NPWS, Loughs Agency and Louth County Council.

3.0 OBJECTIVES OF CEMP

This pre-construction environmental management plan has been established on behalf of the contractor, (who is yet to be appointed), to ensure that environmental protection will be achieved on site. The key stages are:

- Objectives to be achieved are clearly set out in the Environmental Statement and within this pre-Construction Environmental Management Plan (CEMP)
- The contractor must have management strategies in place to fully recognise these objectives and a commitment to their full implementation.
- Tasks for personnel on site should be identified clearly.
- Responsibilities for undertaking compliance roles on site must be identified by the contractor and clearly recorded. Responsibility for overall mitigation of environmental risks should remain with the contractor's management team who must be familiar with the proposed site works and with the planned construction operations on site. The contractor's management team must also be responsible for sub-contractors who will visit the site and operate there. All sub-contractors with a significant extent of work on site must be made fully aware of their required roles and responsibilities in advance of commencement.
- The frequency of sampling and measuring must be identified and recorded.
- Monitoring and subsequent reporting of results to statutory authorities must be carried out.
- Corrective actions should be identified in advance so that soonest rectification can be achieved if things go wrong or adverse conditions are encountered. Supplies of equipment and materials should be on hand or be easily accessible in the event of accidents. Contact information should be easily available for environmental agencies who may be required to assist or monitor any clean-up or rectification of accidents.

4.0 INFORMATION AND TRAINING

Procedures for environmental awareness training and in particular the implementation of the Emergency Response Plan shall be carried out. These shall be implemented by prescriptive clauses in the construction contract that ties the contractor to implement appropriate training and awareness seminars for all those persons who have a direct impact on the site works.

The Environmental Manager will be appointed who will generally be responsible for any induction training and environmental tool box talks. They will also be responsible for a protocol for regular communication with statutory agencies.

In addition, a protocol for communication between site personnel, the engineer's representatives and third parties will also be established and managed by the Contractor's Environmental Manager to ensure that information from the site is disseminated wherever appropriate.

5.0 CONTROL OF SITE RESOURCES

Existing site resources are considered to be as follows:

- Natural hedgerows along road side of terminal location
- Topsoil in field
- Natural drainage paths through land towards shore
- Gently sloping beach with sand and shingle – accessible for pedestrians at low water
- Open views and fresh sea air. Car-parking adjacent at Greenore
- Accessibility for birds to the existing buildings and proposed bird boxes required as part of the mitigation measures.
- Energy availability

The protection of these resources is required to be maintained wherever possible throughout construction. The minimum environmental controls on these resources are required to be:

5.1 Maintain existing hedgerows wherever possible. At Greencastle remove only the minimum extent to allow the entrance configuration to be constructed.

5.2 Create the layout of the entrance configuration at the outset of construction so that soonest re-planting of native hedgerows (at Greencastle) can be carried out.

5.3 At Greencastle, strip topsoil from field at the outset and stockpile in perimeter bunds. Use gentle side slopes (at least 1:2 or less) on all stockpiles to ensure that slippage does not occur during heavy rainfall. Protect from washdown by creating a shallow perimeter ditch around the bund to catch soil particles removed by rainwater. Spray with water during dry conditions when the soil becomes dusty. Target the soonest creation of surfaced areas and the soonest replacing of topsoil throughout the site to new levels with replanting.

5.4 Lay geotextile and stone surfacing for access at the soonest to provide a bearing surface for vehicles that does not excessively consolidate or compromise the water paths through the soil sub-base. Avoid creating muddy tracks in advance of laying the stone surfacing.

5.5 Use wide tracked machines wherever practicable to work over the beach and prevent consolidation of the beach material as works progress.

5.6 Maintain pedestrian access along the beach throughout the works. This may be accommodated by staged construction working forwards towards the sea. Once works progress beyond the high water mark, ensure that the pedestrian

route from beach up onto the root of the jetty/slipway is complete so that pedestrians can traverse the works in subsequent stages.

5.7 Avoid dusty operations such as concrete cutting or grinding. Plan ahead for all concreting operations such that concrete cutting/grinding is not subsequently required.

5.8 Avoid works that are dusty or create dust plumes that could affect locals or pedestrians. Wash down vehicles before they exit the site and carry dirt onto the public road. Maintain full access to the Greenore car-park throughout the works.

5.9 Minimise noise and light disturbance wherever possible. Plan works carefully so that night-time and weekend/evening works are kept to an absolute minimum. It is recognised that the works will be tidally influenced and not all restrictions on evening or night-time work is practicable.

5.10 Maintain the current level of access to the existing buildings for birds to ensure that nesting sites are maintained and least disturbance caused. Erect proposed bird boxes at appropriate times to avoid bird nesting and minimise disturbance.

5.11 Minimise energy usage by using electricity to best practice and using energy efficient machinery. Monitor usage and establish high energy use areas that could be minimised. Take energy rating into account when purchasing new machinery.

6.0 CONTROL OF WASTE MANAGEMENT

Once works commence on site, there will inevitably be importation of materials and resources from off-site that require management and control. Materials may be placed in their final location as soon as received (e.g. stone for surfacing) whilst others will be stored until required (e.g. precast slab units for the jetty). The handling and control of these resources together with the key waste management issues arising on site are considered to be as follows:

- Disposal of hedgerow and trimmings
- Disposal of excavated materials along road verges and along edge of road including surfacing and vegetation.
- Disposal of machinery wastes on site, e.g, oil, filters, maintenance parts
- Clearance of site including debris and disposal of rubbish
- Disposal of wash water from cleaning vehicles and concrete equipment
- Disposal of construction chemicals, e.g. resin for anchor fixing
- Disposal of excess or residual construction materials, e.g. concrete, steel sections, timber, plywood shuttering, welding rods/consumables, plastic drainage pipes, cabling, ducts, electrical waste, fencing
- Disposal of transport materials, wrappings, bindings, etc
- Disposal of drilling returns when drilling for pile installation
- Disposal of domestic waste from canteen/mess facilities, toilets, wash rooms, office facilities
- Disposal of sewage waste.
- Control of re-fuelling on site
- Control of in-situ concrete operations

Control and minimisation of these waste streams is required throughout construction. The minimum environmental controls and protection of the environment on waste handling are required to be:

6.1 Minimise waste generation by developing strategies for the management and disposal of all waste produced in accordance with the principals of avoidance, reuse, recycling and disposal of waste.

6.2 To manage waste in a manner that is sustainable and sensitive to the environment

6.3 Separate components of waste streams at source where possible to minimise contamination and maximise potential for reuse and recycling of materials.

6.4 Organize regular waste collection to minimise excessive waste storage.
6.5 Waste shall not be stored on areas where it could contribute to the generation of contaminated runoff. Waste storage on-site to be organised by the main contractor. Waste management to form part of the on-site induction process.
6.6 Audit the locations of waste storage to ensure that the above strategies are being complied with.
6.7 Any complaints as to the management of on-site waste nuisance to be directed to the Environmental Manager on site, recorded and reported to the responsible company director as soon as practical. Complaints and any actions arising from a complaint shall be recorded in a complaints register to be maintained by site management.
6.8 No burning of hedgerow materials or wood is permitted. No burning of any kind is permitted on site.
6.9 Maintain a sufficient and excess store of spill kits appropriate to the chemicals on site –expected to be mainly fuel and oil.
6.10 Fuel stores shall be fully bunded, properly marked and maintained, regularly inspected and only operated by authorised personnel. They shall be locked and secured at all times when not in use to prevent accidental or malicious damage.
6.11 Smoking is only permitted in designated areas.

7.0 SPECIFIC ES/EIS REQUIREMENTS

The following requirements are specifically addressed in the ES/EIS and are targeted mitigation measures or specific requirements that the contractor must implement as part of the works. Those that relate specifically to site resources and waste management are listed below.

It shall be the duty of the contractor to implement these works as and when required. In addition, should excessive negative feedback or complaints be received, then rectification will be required to ensure a satisfactory implementation of works.

- Portable fences and/or tape will be used to confine traffic to agreed routes to minimise disturbance.
- 660m of hedgerow comprising native species in keeping with the setting of Greencastle Pier Road will be planted
- House Sparrow nesting boxes and Swallow nesting cups will be installed on the retained concrete store at Greenore
- Black Guillemot Nest Tunnels will be installed. Suitable locations include the existing Greencastle Pier, Greencastle Docks, Greenore Breakwater and Greenore Port Quay Wall
- Swift Boxes will be installed on the retained concrete store at Greenore
- Provide information boards on the ornithological features of Carlingford Lough in consultation with relevant stakeholders for installation at the terminals
- If a cement batching plant is required for the project at either site it will be sited as far back from the foreshore as possible on a bunded hard stand site.
- Run-off from the batching plant will be subject to (i) settlement to remove solids and (ii) neutralisation for the balancing of pH to within 6-8 pH.
- All cement pouring operations will require to be constantly monitored to ensure that no spills occur.
- All equipment used in pumping or pouring cement will need to be checked for defects prior to each use in order to prevent spills arising from the failure of poorly maintained or defective equipment.
- The security and integrity of all formwork used e.g. for the new deck/platform of the berth will have to be carefully checked in advance of each cement pour to prevent uncured cement spilling into the tide or onto the shore.

- Vehicle re-fuelling will be undertaken within the site compound at least 10m back from the top of the shore.
- All fuel stored on site will be held in securely locked and bunded enclosures.
- All re-fuelling of plant on the jack-up barge will be undertaken following an agreed protocol designed to minimise the chance of oil spills.
- Any fuel stored on the barge will be in a securely locked and bunded enclosure.
- Temporary working areas will be required for access by construction plant on the beach on either side of the slipways.
- These areas will be subject to trafficking but given the likely plant loads, it is expected that timber mats may be required to support crawler tracks or vehicle wheels and reduce physical disturbance.
- Timber mats will be moved along the beach to suit the location of works as they progress.
- Upon completion of all works, the adjacent beach areas will be restored to their original profiles and sand raked to reinstate surface texture.
- If on-site concrete production is proposed for those sections of the slipways above the high water mark, careful initial siting of concrete mixing facilities is vital.
- Washing out and cleaning of concrete batching plant or ready mix lorries will be carried out in a contained area as far from the water body as practical.
- Excess material will be left to settle and removed from site after it has set.
- For the sections that are under water, pre-cast units will be used for construction however in-situ stitching of these will be required. Where concrete is to be placed under water or in tidal conditions it will be designed to provide a cohesive mix to limit segregation and washout of fine material.
- Plant operating close to water shall be given special consideration in relation to the transport of concrete from the point of discharge from the truck-mixer to final discharge into the delivery pipe (tremie).
- Care will be exercised when slewing concrete skips or mobile concrete pump booms over open water.
- Fuel, oil and chemical storage must be sited on an impervious base within a bund and secured.
- The base and bund walls must be impermeable to the material stored and of adequate capacity.
- Leaking or empty drums must be removed from the site immediately and disposed of via a registered waste disposal contractor.
- All valves and trigger guns will be protected from vandalism and unauthorised interference and should be turned off and securely locked when not in use.
- Any tanks or drums will be stored in a secure container or compound, which will be kept locked when not in use.
- Bowsers will be stored within site security compounds.
- Mobile plant will be refuelled in a designated area, on an impermeable surface well away from any drains or water bodies.
- Spill kits will be plentiful and readily available.
- Vehicle will not be left unattended during refuelling.
- Refuelling delivery valves will not be left jammed open.
- Hoses and valves will be checked regularly for signs of wear, turned off, disconnected and securely stored under lock when not in use.
- Diesel pumps and similar equipment will be placed on drip trays to collect minor spillages or leaks which will be checked regularly and any accumulated oil removed for appropriate disposal.
- A contingency plan for the works will be prepared in accordance with PPG 21 Pollution Incident Response Planning. The Emergency Response Plan will detail actions to be taken in the event of an accidental spillage of fuel, chemicals or other hazardous material. The Plan will also detail the procedures to be followed if there is a breach in any licence conditions or a non compliance.
- The Contractor's Environmental Manager will be notified of all incidents where there has been a breach in agreed environmental management procedures.

- Suitable training will be provided to relevant personnel detailed within the Emergency Response Plan to ensure that appropriate and timely actions will be taken should an incident occur.
- MSDS/COSHH documentation will be available for all fuels/chemicals
- All storage containers will be labelled appropriately, including hazardous markings
- All bulk tanks will be of material appropriate for fuel/chemical storage
- All bulk tanks will be double-skinned or bunded to 110% of the maximum tank volume
- All bulk tanks will be located on impervious base
- Bunds will be to standard specified in PPG 3 Above Ground Oil Storage Tanks
- Barrels and IBCs will be stored internally where appropriate and always on drip-trays or sump pallets
- Appropriate spill kits will be available at all storage locations
- All fuel/chemical storage facilities will be subject to weekly inspection
- All deliveries will be authorised before entering site
- Vehicle drivers will report to designated Main Contractor personnel prior to delivery
- Vehicle driver will check storage container labelling and capacity prior to commencing delivery
- Vehicle driver will remain at delivery point until delivery process is completed
- Vehicle driver will report to designated Main Contractor personnel on completion of delivery
- Designated personnel will receive appropriate documentation and confirm integrity of storage container.
- At operational stage, the key issues associated with the operation of the ferry terminals is associated with the risk of leaks or spillage of fuel, either during storage, transfer to the ferry or directly from the ferry. Mitigation is proposed:
- Adequate bunding for any fuel, oils or chemicals stored on-land in accordance with relevant PPGs and following the same guidance outlined for storage and refuelling during the construction phase;

APPENDIX C

EXCAVATED MATERIALS & REINSTATEMENT PLAN

CONTROL OF EXCAVATED MATERIALS AND REINSTATEMENT

This section of the pre-construction environmental management plan will outline the key elements to be addressed by the Contractor relating to excavated materials and reinstatement on the proposed sites. A more refined version of this management plan will subsequently be agreed between the appointed contractor and the regulatory authorities prior to the commencement of construction activities. This pre-construction Management Plan incorporates all environmental commitments and provides a method of compliance with these.

The works will include excavation of the topsoil in the field at Greencastle as well as excavation along the verges of Greencastle Pier Road and excavation/levelling of hardstanding at Greenore. Reinstatement will be required in the field at Greencastle as well as along the verges of road on the Greencastle Pier Road.

Both terminals will also require reinstatement of the embankment along the water's edge where the pier or slipway will extend from land onto the foreshore. However, the embankment will be covered in the final works and only reinstatement around the sides and edges will be necessary.

Control will be required when working on the beach at either Greenore or Greencastle. No significant excavation of the sandy beach material is required at either terminal as the works are built over, or suspended above, the respective beaches.

The control of excavation and reinstatement is required throughout the construction period. The minimum environmental controls and protection of the environment are required to be:

- Maintain existing hedgerows wherever possible. At Greencastle remove only the minimum extent to allow the entrance configuration to be constructed.
- Create the layout of the entrance configuration at the outset of construction so that soonest re-planting of native hedgerows (at Greencastle) can be carried out.
- At Greencastle, strip topsoil from field at the outset and stockpile in perimeter bunds. Use gentle side slopes (at least 1:2 or less) on all stockpiles to ensure that slippage does not occur during heavy rainfall. Protect from washdown by creating a shallow perimeter ditch around the bund to catch soil particles removed by rainwater. Spray with water during dry conditions when the soil becomes dusty. Target the soonest creation of surfaced areas and the soonest replacing of topsoil throughout the site to new levels with replanting.
- Lay geotextile and stone surfacing for access at the soonest to provide a bearing surface for vehicles that does not excessively consolidate or compromise the water paths through the soil sub-base. Avoid creating muddy tracks in advance of laying the stone surfacing of final surfacing.
- Remove excavated material along the Greencastle Pier Road as works progress and dispose to a licensed landfill site. No stockpiling of excavated material will be permitted in the terminal site pending removal. As road widening works progress along Greencastle Pier Road, works shall only be opened that can be completed with rockfill, compacted and have sub-base laid within that day. This is required to ensure safety of road users & pedestrians and maintain as much access provision as possible. This requires removal of spoil daily and reinstatement with rockfill, compaction and laying of sub-base daily. The schedule of works shall accommodate this frequency of excavation and partial reinstatement.
- Ensure that rock existing armour along the shoreline at Greenore is replaced to new line and level as soon as practicable to ensure that wash-out of rockfill by wave action is prevented.
- Use wide tracked machines wherever practicable to work over the beach and prevent consolidation of the beach material as works progress.

- Place as much fill as possible within the outer end of the Greenore slipway at low water to minimise the depth of water through which fill is placed. Ensure only clean rockfill without mud contamination is placed through the water column.
- Maintain pedestrian access along the beach throughout the works. This may be accommodated by staged construction working forwards towards the sea. Once works progress beyond the high water mark, ensure that the pedestrian route from beach up onto the root of the jetty/slipway is complete so that pedestrians can traverse the works in subsequent stages.
- Avoid dusty operations such as concrete cutting or grinding. Plan ahead for all concreting operations such that concrete cutting/grinding is not subsequently required.
- Avoid works that are dusty or create dust plumes that could affect locals or pedestrians. Wash down vehicles before they exit the site and carry dirt onto the public road. Maintain full access to the Greenore car-park throughout the works.

SPECIFIC ES/EIS REQUIREMENTS

The following requirements are specifically addressed in the ES/EIS and are targeted mitigation measures or specific requirements that the contractor must implement as part of the works. Those that relate specifically to excavated materials and reinstatement are listed below.

It shall be the duty of the contractor to implement these works as and when required. In addition, should excessive negative feedback or complaints be received, then rectification will be required to ensure a satisfactory implementation of works.

- Portable fences and/or tape will be used to confine traffic and machinery to agreed routes to minimise disturbance.
- Temporary working areas will be required for access by construction plant on the beach on either side of the slipways.
- These areas will be subject to trafficking but given the likely plant loads, it is expected that timber mats may be required to support crawler tracks or vehicle wheels and reduce physical disturbance.
- Timber mats will be moved along the beach to suit the location of works as they progress.
- Upon completion of all works, the adjacent beach areas will be restored to their original profiles and sand raked to reinstate surface texture.
- The Contractor's Environmental Manager will be notified of all incidents where there has been a breach in agreed environmental management procedures.
- Suitable training will be provided to relevant personnel detailed within the Emergency Response Plan to ensure that appropriate and timely actions will be taken should an incident occur.
- All deliveries will be authorised before entering site
- Vehicle drivers will report to designated Main Contractor personnel prior to delivery
- Vehicle driver will remain at delivery point until delivery process is completed
- Vehicle driver will report to designated Main Contractor personnel on completion of delivery
- Removal of any vegetation and the demolition (full or part) of any building or wall will be undertaken outside of the breeding bird season
- A detailed Method Statement will be drawn up indicating how the construction traffic will be directed and marshalled on site in order to minimise the damage to adjoining intertidal habitats at both sites.
- All surface runoff from the site compounds will be passed through settlement and hydrocarbon interceptors before it reaches the shore in order to remove suspended solids and hydrocarbons that might be present in the run-off.
- All plant will be equipped with drip-trays to prevent oil leaks reaching the shore.
- All operational surface runoff from the vehicle marshalling areas for both berths will be directed through grit traps and hydrocarbon interceptors in order to remove solids and oil from the run-off.

- Piling operations associated with construction will be carried out between November and March to avoid interference with bird migrations. This will also remove the potential for any disruption to the sandeel spawning period during the summer months.
- Surface water drainage and proposed discharge points will be mapped on a site plan which should also include the location of existing and proposed measures such as monitoring points, sediment traps, settlement lagoon and oil interceptors.
- A sediment control plan will be prepared well in advance of work commencing on site, to include:
  - Excess material stockpiles will be managed to prevent siltation of water bodies through run-off and overland flow during rainfall events. This will include the establishment of vegetation on exposed soil, and surrounding stockpiles with interception (cut-off) ditches to contain run-off;
  - interception, channelling and/or discharge of surface water from sumps, excavations and exposed soil surfaces to silt traps or settlement lagoons;
  - construction of silt traps, settlement lagoons / ponds, wetlands or hydrocarbon interceptors (either temporary or permanent) at sensitive outfalls at an early stage in the construction programme;
  - construction of cut-off ditches and berms to prevent surface water run-off from entering excavations and the construction area;
  - placing of granular materials over bare soil in the vicinity of watercourses in order to prevent erosion of fines and/or rutting by site traffic;
  - All water bodies that occur in areas proposed for site compounds and storage facilities will be fenced off to a minimum distance of 5m. Appropriate sediment control measures will be installed to ensure silt laden or contaminated surface runoff from the compound does not discharge directly to a water body;
  - Tool Box talks shall be given by the Environmental Manager nominated under the EMP to all contractor's site personnel to inform them of the mitigation measures required to ensure protection and conservation the aquatic environment.
  - Establish vegetation as soon as practical on all areas where soil has been exposed e.g. stockpiles for stripped topsoil.

APPENDIX D

DRAINAGE MANAGEMENT PLAN

INTRODUCTION & METHODOLOGY

The purpose of this Preliminary Water Management Plan is to provide an insight into how the surface runoff and drainage may be managed by the Contractor during the construction phase of the works. The Contractor will submit his Construction Phase Surface Water Management Plan to the Engineer and local authority for approval prior to any works commencing on site.

GREENCASTLE

The proposed site at Greencastle is currently Greenfield and proposals include construction of approximately 2,300m^2 hardstanding area for off-road queuing for the ferry, therefore, the Contractor will, once granted access to site, immediately put in place a suitable construction phase surface water drainage system including SUDs systems, where appropriate.

The site does not have a water supply to it, however, there is an Northern Ireland Water (NIW) watermain on the Greencastle Pier Road and it is envisaged that the Contractor will be connect into this watermain to service the site and provide a water supply for small domestic use and washing facilities.

The proposed site does not have any existing sewage infrastructure on it or connected to it, therefore, prior to installation of a permanent foul network and septic tank the Contractor will provide stand alone toilet and washing facilities on site for the duration of the works (e.g portaloo). During construction all foul waste will be tankered and disposed of appropriately off site.

Surface levels have been designed to follow broadly the natural gradient of the ground and minimise any excavations and earthworks. The Contractor's Construction Phase Surface Water Management Plan will set out how it is intended to minimse risk to the surrounding water. Suitable SUDS, taking account of proximity to sensitive waters, will be installed on site during construction in accordance with CIRIA guidance.

GREENORE

The proposed site at Greenore currently has a stoned surface which will be replaced with a hardstanding area for off-road queuing for the ferry, therefore, the Contractor will, once granted access to site, immediately put in place a suitable construction phase surface water drainage system including SUDs systems, where appropriate.

The existing port water facilities at Greenore are serviced by Louth County Council and it is envisaged that this service will be retained and operational while the works are being undertaken.

The proposed site does not have any existing sewage infrastructure on it or connected to it, therefore, prior to installation of a permanent foul network and septic tank the Contractor will provide stand alone toilet and washing facilities on site for the duration of the works (e.g portaloo). During construction all foul waste will be tankered and disposed of appropriately off site.

Land raising, construction of hardstanding and the installation of drainage features will change existing drainage conditions permanently; however, no significant impacts to groundwater flow would be anticipated. Currently the site at Greenore is surfaced with stone which provides a natural drainage percolation system which the Contractor will utilise as much as possible during the Construction works. It is envisaged that a phased approach will be taken to the installation of the drainage which will accommodate this.

Proposed surface levels for over Greenore Point have been set similar to existing. The Contractor's Construction Phase Surface Water Management Plan will set out how it is intended to minimse risk to the surrounding water. Suitable SUDS, taking account of proximity to sensitive waters, will be installed on site during construction in accordance with CIRIA guidance.

CONSTRUCTION PHASE WATER MANAGEMENT PLAN

The Contractor will provide Construction Phase Water Management Plan's for both Greencastle and Greenore sites in accordance with the following guidance and codes of practice. Pollution Prevention Guidelines are produced by the Environment and Heritage Service in Northern Ireland and provide practical advice to avoid

causing pollution, minimise waste and comply with the requirement of the law. The full suite of relevant PPG's are listed below.

- PPG1 – General guide to the prevention of pollution of controlled waters
- PPG2 – Above ground oil storage tanks
- PPG3 – The use and design of oil separators in surface water drainage systems
- PPG4 – Disposal of sewage where no mains drainage is available
- PPG5 – Works in, near or liable to affect watercourses
- PPG6 – Working at demolition and construction sites
- PPG7 – Fuelling stations: construction and operation
- PPG8 – Safe storage and disposal of used oils
- PPG13 – The use of high pressure water and stream cleaners
- PPG18 – Managing firewater and major spillages
- PPG20 – Dewatering underground ducts and chambers
- PPG21 – Pollution Incident Response Planning
- PPG22 – Dealing with spillages on highways
- PPG23 – Maintenance of structures over water
- PPG26 – Storage and handling of Drums & Intermediate Bulk Containers

Within the above PPG's a range of measures are applicable. In addition to the PPG's guidelines provided by CIRIA "Control of Water Pollution from Construction Site – Guide to Good Practice" will be followed.

Any temporary or permanent construction occurring, or any use of potentially polluting substances anywhere on the site will be subject to ***PPG5: "Works or Maintenance In or Near Water".*** This will set out guidelines for identifying different types and sources of pollutant likely to be present, appropriate storage and siting of polluting materials and remediation techniques.

All construction site activities involving potentially polluting materials are subject to ***PPG6: "Working at Construction and Demolition Sites".*** This guidance note covers planning and preparation, protection of site drainage, materials deliveries, safe and secure storage, waste management, silt and concrete control, refuelling on site and emergency response procedures. Planning for effective incident response is outlined further in ***PPG21: "Pollution Incident Response Planning".***

Vehicle washing will occur as a matter of maintenance, suppress dust and aid pollution prevention. This activity however generates potentially polluting run off waters which will be controlled under ***PPG13: "Vehicle Washing and Cleaning".***

Any major spillage incidents or incidents where a fire has occurred leaving potentially contaminated waster after extinguishing require pollution control measures as outlined in guidance note ***PPG18:"Managing Fire Water and Major Spillages".*** Spillages of potentially polluting material on the highways are dealt with under ***PPG22:" Dealing with Spillages on Highways".***

Any storage of oil on the site in support of construction activities must comply with ***PPG2:"Above Ground Oil Storage Tanks".*** Similarly, any facilities for refuelling on the site in support of construction activities must comply with ***PPG7:"Refuelling Facilities".***

APPENDIX E

WATER QUALITY MONITORING PLAN

1 BACKGROUND INFORMATION

1.1 INTRODUCTION

As part of the Environmental Impact Statement submitted by RPS for the Greencastle to Greenore Vehicular Ferry proposal, it was stated that;

"Prior to the commencement of construction a Construction Stage Environmental Management Plan (CEMP) will be prepared to assist the main contractor in preventing, managing and/or minimizing significant environmental impacts during the construction phase. In order to achieve this, the CEMP shall comprehensively incorporate all environmental commitments and provide a method of compliance with these."

Although made up of a number of facets to ensure minimal environmental impact as a result of the construction works, this report focuses on the aspect of implementing water quality monitoring, identified in the EIS as a key component of the CEMP.

- "Preparation of a Water Quality Management Plan to ensure compliance with the relevant environmental quality standards. This should include a detailed programme of monitoring."

It should be noted that this is a preliminary water quality monitoring plan that forms a component part of the preliminary Construction environmental management plan. This monitoring plan will be developed on appointment of the main contractor, confirmation of the method of construction and consultations with the relevant statutory bodies. The contractor under supervision from the resident engineer will be responsible for the further development and implementation of the water quality monitoring plan;

The water quality monitoring programme will be highly dependent on incorporating other requirements of the CEMP, i.e. liaison with relevant authorities to establish threshold monitoring values, this report identifies the sampling required to be undertaken to ensure an adequate monitoring programme throughout the construction works.

1.2 STUDY AREA AND EXISTING ENVIRONMENT

Carlingford Lough (code UKGBNIIE6NB030) is a cross-border coastal water body located within the Neagh-Bann International River Basin District (IRBD) and within the Carlingford and Newry Local Management Area (LMA).

The Lough extends 15 km in length from the mouth to Warrenpoint in the Northwest, and reaches 5km in width at its widest point. The lough is mainly shallow with some deeper, narrow channels that run along the centre of the lough. There is an extensive intertidal area (14.9km^2) and shallow subtidal area that supports a wide variety of aquaculture, including the cultivation of mussels, oysters, clams. The deeper rocky areas towards the mouth of the lough support lobster and crab pot fishing.

It is a relatively large coastal water body and therefore NIEA undertake extensive monitoring within the Lough. A summary of the relevant water quality information is provided below.

Water body Information

- River Basin District: NBIRBD
- Water body type: CW8
- Water body code : UKGBNIIE6NB030
- Water body characteristics: Euhaline, mesotidal, sheltered
- Water body area: 48.66 km^2
- Heavily Modified Water Body: No

Table 1.1 Carlingford Lough WFD Classification

Overall waterbody classification		Status	Pass/fail WFD Objective
First Round of Classification -	December 2009	Moderate	Fail
Annual Review of Classification -	May 2011	Moderate	Fail
Local Management Area Objectives			
Date		Objective Status	
2015 Objective		Moderate	
2021 Objective		Good	
2027 Objective		Good	

The cause of moderate status is due to physico-chemical elements, specifically moderate status due to nutrients (Winter Dissolved Inorganic Nitrogen (DIN)) and presence of specific pollutants (Annex VIII). These elements result in ecological status being classified as moderate, which combines with good chemical status to give moderate overall status for the Carlingford Lough water body. While the overall status has remained moderate since the 2009 assessment, the only element classified as moderate during the 2009 assessment was nutrient levels. However, since this assessment, monitoring has identified the presence of specific Annex VIII pollutants at concentrations above the environmental quality standards for good status.

There are two Special Protection Areas (SPAs), one designation from Ireland (Carlingford Lough - IE004078) and one from Northern Ireland (Carlingford Lough - UK9020161), and one Special Area of Conservation (SAC), designated by Ireland (Carlingford Shore - IE002306), within Carlingford Lough.

There is one recreational bathing water, Cranfield Bay designated by Northern Ireland, within Carlingford Lough and the full extent of Carlingford is designated under the Shellfish Waters Directive due to its economic significance for shellfish production. As the lough is bisected by the border two separate designations were required to cover the relative areas of the water body in Ireland and Northern Ireland. Designated waters are afforded greater protection and their water quality is

monitored by the NIEA in Northern Ireland and the EPA in Ireland according to the requirements of the directive.

The Shellfish Directive will be repealed in 2013 by the EC Water Framework Directive, which will provide at least the same level of protection to shellfish waters within the context of the River Basin Management Plan process.

2 METHODOLOGY

2.1 PRE-CONSTRUCTION BASELINE SURVEY

A pre-construction baseline survey has not yet been undertaken but will be required to assess background concentrations of relevant parameters in Carlingford Lough. This is essential in order to be able to assess any impact from the works against the existing conditions. The baseline survey will require consultation with the contractor and relevant authorities (Northern Ireland Environment Agency (NIEA), Loughs Agency, Louth County Council) to determine;

- Relevant parameters deemed necessary for analysis;
- Frequency and timeframe of monitoring;
- Threshold concentration levels which must not be exceeded; and
- Actions to be taken if threshold levels are breached.

This will help determine the threshold concentrations for certain parameters which the construction activities will be required to adhere to, and as such it is suggested that a suite of physico-chemical and chemical analyses are undertaken. A possible list of parameters is provided below, giving consideration to the designations in the waterbody and the potential impacts and pressures associated with the construction of the slipway, piers and ferry terminals.

- Total Suspended solids
- Petroleum hydrocarbons
- Faecal coliforms
- Turbidity
- Dissolved oxygen
- Temperature
- Salinity
- pH
- Conductivity

As suspended solids and sediment transport poses a potential impact to water quality and local aquaculture during construction, turbidity readings shall be used as a surrogate in the field. This will require a rating relationship curve drawn up from the results of the baseline survey to allow a turbidity/suspended solid threshold limit to be calculated. Under the Shellfish Waters Directive it typically states that the suspended solids concentrations should not exceed a 30% increase above baseline concentrations.

Once a pre-construction baseline survey is complete and has been processed it will further inform the water quality monitoring programme to be carried out under the CEMP. Until then, this preliminary proposal for the monitoring programme will outline

recommended monitoring locations, parameters for analysis and other mitigation measures which may have an impact on water quality.

2.2 PROPOSED MONITORING LOCATIONS

Based on the results of the Coastal Processes chapter included in the EIS, highlighting the existing conditions with regard to current velocity, and the predicted impact that the proposed construction works may have in various different tidal scenarios, suggested sample locations have been identified. In selecting the sampling locations consideration was given to:

- The location of the proposed construction works;
- The likely dispersal of contaminants from the location (using results of Coastal Processes report);
- The location of the nearby aquaculture sites; and
- Sources of other potential contamination.

The works associated with this project have been designed to minimise potential disruption to the natural sediment transport regime in Carlingford Lough. However, construction of the slipways will involve excavation and physical disturbance to small areas of seabed and adjoining beach at each terminal, and this will have the potential for the release of some sediment to the lough. There will therefore be some potential for a temporary increase in suspended solids in the water column with the associated risk of sediment transport and deposition in sensitive areas such as shellfish production sites.

Modelling of tidal flows described in the Coastal Processes chapter illustrates that tidal flows are strongly bi-directional in the proposed construction areas, with flood flows occurring in the north-westerly direction and the largest current speeds being experienced north of Greenore Point. The residual currents show a circulatory pattern on the east shore of Greenore Point, as flow is deflected around the headland on the ebb tide. This would suggest that any sediment release at a particular time or over a period will be dispersed by tidal currents into or out of the lough depending on the state of the tide. However the residual circulatory pattern would suggest that there is a tendency for materials to be deposited along the shore south of Greenore Point.

Following examination of the existing currents shown in the coastal modelling, i.e. areas of highest current velocity which would be most likely to carry a plume, proposed sample locations have been identified as per Figure 1.

These locations are offered as an initial proposal and are subject to change following appointment of the main contractor and consultation with the relevant authorities.

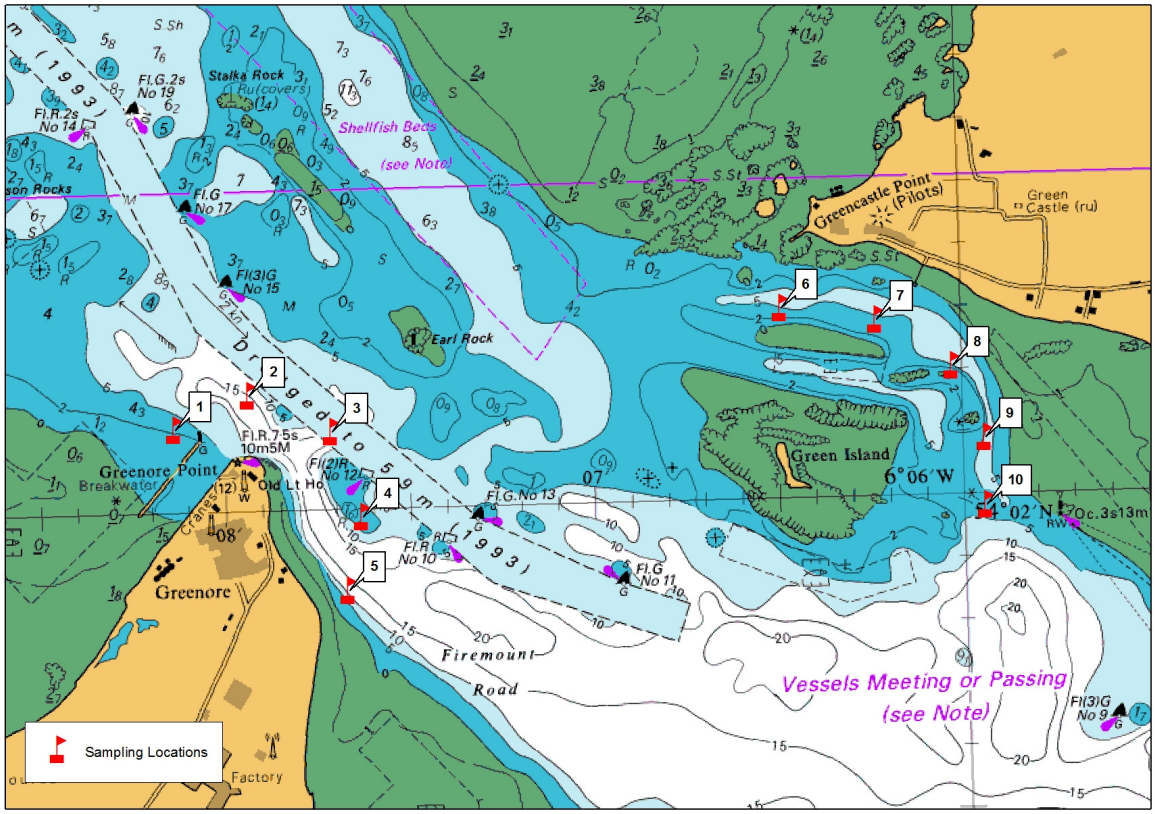

Figure 1; Proposed sample locations for *in situ* monitoring in Carlingord Lough during construction of ferry jetties

2.3 PROPOSED ANALYSIS

The results of the baseline survey are required before a water quality monitoring programme can be finalised. It is recommended that the parameters listed below are monitored *in situ* as part of the programme.

- Temperature
- Salinity
- pH
- Conductivity
- Dissolved Oxygen
- Turbidity

Further parameters above and beyond this list may also be required following consultation with the relevant authorities.

Given the tidal nature of the flow in the lough it is recommended that samples are taken on a twice-daily basis, ideally once during ebb-flow and once during a corresponding period of the flood-flow. This will, however, need to take into account factors which may limit the ability to undertake sampling, i.e. weather events, health and safety issues etc. Consultation on monitoring frequency and locals of proposed monitoring will be required with the statutory agencies in advance of the commencement of construction.

2.4 SITE AUDITS

In addition to a detailed water quality sampling regime, it is proposed that it is recommended that daily visual inspections are undertaken on site to ensure that all control measures put in place are adequate, consistent with the CEMP control measures and are being adhered to. This will include but not be limited to the inspection of;

- any settlement pond/tanks on site and maintenance/cleaning/emptying records of such
- all drainage channels and grates which may have potential for blockage
- the integrity of any sediment control measures such as silt traps or straw bales
- any on site storage facilities for oils, fuels and chemicals to ensure adequate bunding and no leakage
- general housekeeping practices of on-site personnel.
-

3 CONCLUSIONS

Although this report provides the basis of a water quality monitoring programme it can only be fully developed on appointment of the Main contractor and following detailed consultation between the engineer, contractor and the relevant authorities in NIEA, Loughs Agency and Louth County Council.

This consultation is required to design a pre-construction baseline study, and in turn this baseline study is necessary in advance of the beginning of any on-site works in order to finalise a water quality monitoring programme as part of the CEMP. Once a baseline survey has been completed and a contractor has been appointed, this report and its proposals may be adapted and developed accordingly.

APPENDIX F

DUST MANAGEMENT PLAN

DUST MANAGEMENT PLAN

When the overall risk has been determined, the level of dust mitigation measures can be recommended. Providing these mitigation measures are adhered to, the affect of dust on nearby receptors will be minimal. Dust emissions from the proposed construction site will be the sum of a large number of small activities so it is therefore important that the mitigation measures are implemented across the site.

The proposed development includes:

- a reinforced concrete slipway with a narrow jetty along one side to facilitate berthing and tying up of vessels overnight, accessed from a high level concrete pier across the upper beach at Greencastle with a parking and queuing area constructed in the adjacent field;
- a reinforced concrete slipway at Greenore with vertical fender piles on one side to absorb berthing forces from the ferry with a parking and queuing area on land;
- floating navigational marks anchored to the bed of the Lough and laid at the edges of the navigable channel to delineate appropriate channel boundaries or to mark shallow rock outcrops and provide for safety of navigation; and
- upgrade and widening to parts of the Greencastle Pier Road within the existing verges to provide a target width of 5.5m where possible with additional passing bays provided wherever feasible.
- **Duration of works will be detailed within the main CEMP**
- **Haul roads will be the main Greencastle Pier Road & Greenore Port Road**

DUST MINIMISATION SITE PRE CONSTRUCTION CHECK LIST

Surrounding Environment.

Surrounding Environment 1:		
	Possible scores	**Score given**
*Is the site >30m from an Air Quality Management Area?	**5**	
*Is the site <30m from an AQMA?	**10**	
Is the site within an AQMA?	**15**	
**measured from site boundary to nearest AQMA.*		

Surrounding Environment 2:		
	Possible scores	**Score given**
Is the site between 20m-1km from a main road (>10,000vpd)?	**5**	
Is the site <20m from a main road (>10,000vpd)?	**10**	
Is the site within 20m of a busy road junction*?	**15**	
***BUSY ROAD JUNCTION DEFINED AS A COMBINED FLOW OF >10,000VPD FROM ALL DIRECTIONS.**		

Surrounding Environment 3:		
	Possible scores	**Score given**
Are there residents >5m from the site?	**5**	
Are there residents <5m from the site?	**10**	

Surrounding Environment 4:		
	Possible scores	**Score given**
Are there any sensitive receptors within 30m of the site? (i.e. schools, hospitals, care homes etc)		
Yes	**10**	
No	**0**	

Surrounding Environment 5:		
	Possible scores	**Score given**
Is there any other construction work >20m of the site at the same time?	**5**	
Is there any other construction work <20m of the site at the same time?	**10**	

Surrounding Environment Total Score:	

Development of site.

Development of site 1:		
	Possible scores	**Score given**
Is the site to be developed for business use >1000m^2?		
Yes	**7**	
No	**0**	

Development of site 2:		
	Possible scores	**Score given**
Is the site to be developed for residential use >10 dwellings?		
Yes	**7**	
No	**0**	

Development of site 3:		
	Possible scores	**Score given**
Is the site to be developed for mixed use and is either >1000m^2 or >10 dwellings?		
Yes	**7**	
No	**0**	

Development of site 4:		
	Possible scores	**Score given**
Is the site to be developed* in autumn or spring?	**3**	
Is the site to be developed* in winter?	**5**	
Is the site to be developed* in summer?	**7**	
Autumn = Sept, Oct, Nov. Spring = Mar, Apr, May. Winter = Dec, Jan, Feb. Summer = Jun, Jul, Aug. **The term developed is taken to refer to the majority of dust producing activities e.g. demolition and remediation activities*		

Development of site 5:		
	Possible scores	**Score given**
Is the planned length of works <20 weeks?	**3**	
Is the planned length of works between 20 – 52 weeks?	**5**	
Is the planned length of works >52 weeks?	**7**	

Development of site 6:		
	Possible scores	**Score given**
Will solid barriers be erected along the site boundary?		
Yes	**0**	
No	**5**	
Do the site works involve remediation/ earth moving works?		
Yes	**5**	
No	**0**	
Do the site works involve demolition works (including digging up and removal of over site concrete)?		
Yes	**5**	
No	**0**	

Development of Site Total Score:	

Construction Activities.

Construction Activities 1:		
	Possible scores	**Score given**
Will construction traffic (lorry) movements be <5 / day?	**5**	
Will construction traffic (lorry) movements be 5–10 / day?	**10**	
Will construction traffic movements be >10 / day?	**15**	
One lorry movement is defined as entering and leaving the site.		

Construction Activities 2:		
	Possible scores	**Score given**
Will a concrete crusher be used on site?		
Yes	**5**	
No	**0**	
Is there to be cement batching on site?		
Yes	**5**	
No	**0**	
Is Non-road mobile machinery to be used on site?		
Yes	**5**	
No	**0**	
Will there be stockpiles of materials?		
Yes	**5**	
No	**2**	
Will tools such as cement mixers, brick/concrete cutters be used on site?		
Yes	**5**	
No	**0**	

Construction Activities Total Score:	**30**

Surrounding Environment + Development of Site + Construction Activities Total Score:	**Range 33 to 141**	

Risk Category: *High=score of >104,* *Medium=score of 71-103,* *Low=score of 33 – 70*	

Where no information on planned construction strategy is currently available to answer questions, the worst-case points should be assigned. For example, it is assumed that all work will take place during summer months when dust generation is greatest. This may not actually be the case.

The mitigation measures recommended for low, medium and high-risk sites is detailed below.

MITIGATION MEASURES FOR LOW RISK SITES:

- No bonfires.
- Wheel Washing.
- Solid barriers to site boundary.
- Covered lorries leaving site.
- Cleaning road and footpath/pavement directly adjacent entrance to site.
- Water to be used as a suppressant for dust generating activities.

MITIGATION MEASURES FOR MEDIUM RISK SITES:

- Site Planning
- Carry out main dust causing activity in spring /autumn.
- Plan site layout–locate dust activity away from sensitive receptors.
- Erect solid barriers to site boundary
- No bonfires.
- All site personnel to be fully trained.
- Identify responsible person in charge.
- Hard landscape site haul routes.

Construction Traffic

- All vehicles to switch off engines – no idling vehicles.
- Wheel washing on leaving site.
- All loads leaving site to be covered.
- No site runoff of water / mud.
- All off-road vehicles to use ULSD where available.
- On-road vehicles to comply with LEZ requirements as a minimum

Demolition Works

- Use water as dust suppressant.
- Use enclosed chutes and covered skips.
- Wrap building to be demolished.
- Cutting equipment to use water as suppressant or suitable LEV.

Earth Moving Works

- Minimise dust-generating activities on dry or windy days.
- Use water as dust suppressant where applicable.
- Re-vegetate or cover dusty stockpiles.

Implementation of the suggested mitigation measures above will help reduce the impact of the construction activities to low risk.

MITIGATION MEASURES FOR HIGH RISK SITES:

- Site Planning
- Carry out main dust causing activity in spring /autumn.
- Plan site layout–locate dust activity away from sensitive receptors.
- Plan site layout – minimise movement of construction traffic around site.
- Erect solid barriers to site boundary
- No bonfires
- All site personnel to be fully trained
- Trained and responsible manager on site during working times to maintain logbook and site inspections.
- Use of nearby waterways for materials to / from site.
- Put in place dust real-time monitors across site.

Construction Traffic

- All vehicles to switch off engines – no idling vehicles.
- Fixed wheel washing on leaving site and damping down of haul routes
- 5mph speed limit around site.
- Hard landscaping of haul routes.
- On-road vehicles to comply to set emission standards (see slide scale in Section 5)
- Non Road Mobile Machinery (NRMM) should be fuelled by ULSD and fitted with exhaust after-treatment on the approved list where available
- All loads leaving site to be covered.
- No site runoff of water / mud.

Demolition Works

- Use water as dust suppressant.
- Use enclosed chutes and covered skips.
- Wrap building to be demolished.
- Cutting equipment to use water as suppressant or suitable LEV.
- Ensure concrete crusher has permit to operate and that water bowsers are fully operational.
- Earth Moving Works
- Not on dry or windy days.
- Use water as dust suppressant where applicable.
- Re-vegetate earthworks and exposed areas.

Site Activities

- Minimise dust-generating activities on windy and dry days.
- Use water as dust suppressant where applicable.
- Cover seed and fence stockpiles to prevent wind whipping.

Implementation of the suggested mitigation measures above will help reduce the impact of the construction activities to medium or even low risk.

CONSTRUCTION CHECKLIST

Task		Check ✓
1	Site roads will be regularly cleaned and maintained as appropriate. Hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads will be restricted to essential site traffic only.	
2	Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential).	
3	Restriction on hours of operation (to be agreed with each Council Area).	
4	Site stockpiling of materials should be stored to minimise exposure to wind.	
5	Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.	
6	The contractor will be required to ensure that all vehicles are suitably maintained to ensure that emissions of engine generated pollutants is kept to a minimum.	
7	Restriction of drop heights onto HGVs and other demolition/construction equipment.	
8	Provision of appropriate fencing/screening to reduce dust dispersion and lengthen the distance of the public-site interface.	
9	A non-idling policy should be put in place when site vehicles are static and not in use.	
10	The transport of soils or dusty materials should be undertaken in covered vehicles.	

11	Prior to commencement of works on site it is recommended that site management undertake a site-specific air quality risk assessment. A methodology for this assessment is presented in Appendix 12.4 The London Councils and the Greater London Authority developed the London Best Practice Guide (used as a template document throughout the UK) as part of its Air Quality and Planning Guidance.	
12	Reference to Building Research Establishment (BRE) publication *Controlling particles, vapour and noise pollution from construction sites – set of five Pollution Control Guides* (2003).	
13	No overfilling of the bucket leading to spillage on the working areas. No overloading of vehicles.	
14	Keep fall heights of the material into the transport vehicles to a minimum	
15	All vehicles loaded with loose soil must be effectively sheeted before leaving the site	
16	Checks shall be made to ensure that no leakage occurs from damaged vehicles and that tailgates are effectively closed	
17	Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind and will be located as far from receptors as possible. If weather conditions are predicted to increase the risk of dust generation from stockpiled topsoil, they are to be covered with tarpaulins.	
18	Use of well maintained plant, and where possible new plant manufactured under more strict EC guidelines for manufacturers.	
19	A “no idling” policy should be adopted by switching off engines when practicable.	
20	Complaints procedure to be adhered to - dust monitoring measures will be implemented in the event that numerous complaints are received or at the request of relevant authority.	

Full inclusion of measures to be included in the final CEMP after agreement with relevant authorities, statutory consultees and contractor.

APPENDIX G

ECOLOGICAL CLERK OF WORKS

FUNCTION OF THE ECOLOGICAL CLERK OF WORKS (ECOW)

1.0 OVERVIEW

The Ecological Clerk of Works (ECoW) role will be performed by a professionally qualified ecologist, with direct responsibility for monitoring compliance with certain mitigation as committed in the ES/EIS or certain consent conditions. The ECoW be engaged during the construction phase of the ferry berths. Due to the variety of specialist expertise required to fulfil these mitigation measures and conditions, the ECoW function will not always be performed by the same person. By way of example, a JNCC qualified Marine Mammal Observor (MMO) is required for piling activities, whereas an experienced bat ecologist is required prior to structural works at Greenore Port.

2.0 RESPONSIBILITIES

The main contractor shall employ an environmental manager for the duration of construction. It is the responsibility of the contractor's environmental manager to ensure that all mitigation measures are implemented and complied with, and that monitoring, inspection and reporting is undertaken in accordance with this Environmental Management Plan. Part of that role is to ensure that an appropriate ECoW service has been secured well in advance of any works where an ECoW is involved. Table 1 summarises those mitigation measures contained in the ES/EIS where an ECoW plays a role. When planning, marine license or foreshore license conditions are known, they can be included in an iteration of a CEMP to be presented to the Regulators for approval prior to works.

3.0 PROFESSIONAL REQUIREMENTS

It is required that the appointed contractor's environmental manager is a member of a relevant professional institute (e.g. Chartered Institution of Water and Environmental Management; Institute of Environmental Management and Assessment or Chartered Institute of Ecology and Environmental Management) and that the appointed ECoW specialists are members of the Chartered Institute of Ecology and Environmental Management.

Table 1: Mitigation measures requiring input from an ECoW

ES/EIS Chapter	Environmental Commitment	ECoW role	Expertise required
5. Terrestrial Ecology	Temporary lighting during construction		
	Directional Lighting		
	Preconstruction bat survey at Greenore Port.	•	Bats
	No floodlight spill which could affect the derelict two storey building east of the Greencastle footprint.		
	660m of hedgerow comprising native species in keeping with the setting of Greencastle Pier		

ES/EIS Chapter	Environmental Commitment	ECoW role	Expertise required
	Road will be planted		
6. Ornithology	Removal of any vegetation and the demolition (full or part) of any building or wall will be undertaken outside of the breeding bird season	•	Birds
	House Sparrow nesting boxes and Swallow nesting cups will be installed on the retained concrete store at Greenore	•	Birds
	Black Guillemot Nest Tunnels will be installed. Suitable locations include the existing Greencastle Pier, Greencastle Docks, Greenore Breakwater and Greenore Port Quay Wall	•	Birds
	Swift Boxes will be installed on the retained concrete store at Greenore	•	Birds
	Provision of information boards on the ornithological features of Carlingford Lough in consultation with relevant stakeholders for installation at the terminals		
7. Marine Ecology and Fisheries	A qualified and experienced marine mammal observer (MMO) will be appointed to monitor for marine mammals and to log all relevant events using standardised data forms.	•	Cetaceans; Pinnipeds
	Monthly seal counts at the haul out sites in close proximity to the operational ferry route shall be conducted prior to and during operational phase. The Department require at least a 12 month survey period is covered prior to commencement of the operational phase to provide baseline data.[1]	•	Pinnipeds

[1] *This is not a mitigation measure contained within the ES/EIS, but a proposed marine license condition.*

APPENDIX H

SUMMARY OF ENVIRONMENTAL STATEMENT MITIGATION MEASURES

Environmental protection measures listed in the published ES and which will be incorporated into the project CEMP

Chapter 5 Terrestrial Ecology

1. Temporary lighting during construction
2. Directional Lighting
3. Preconstruction bat survey at Greenore Port.
4. No floodlight spill which could affect the derelict two storey building east of the Greencastle footprint.
5. 660m of hedgerow comprising native species in keeping with the setting of Greencastle Pier Road will be planted

Chapter 6 Ornithology

6. Removal of any vegetation and the demolition (full or part) of any building or wall will be undertaken outside of the breeding bird season
7. House Sparrow nesting boxes and Swallow nesting cups will be installed on the retained concrete store at Greenore
8. Black Guillemot Nest Tunnels will be installed. Suitable locations include the existing Greencastle Pier, Greencastle Docks, Greenore Breakwater and Greenore Port Quay Wall
9. Swift Boxes will be installed on the retained concrete store at Greenore
10. Provision of information boards on the ornithological features of Carlingford Lough in consultation with relevant stakeholders for installation at the terminals

Chapter 7 Marine Ecology and Fisheries

11. A detailed Method Statement will be drawn up indicating how the construction traffic will be directed and marshalled on site in order to minimise the damage to adjoining intertidal habitats at both sites.
12. Portable fences and/or tape will be used to confine traffic to agreed routes.
13. If a cement batching plant is required for the project at either site it will be sited as far back from the foreshore as possible on a bunded, hard stand site.
14. Run-off from the batching plant will be subject to (i) settlement to remove solids and (ii) neutralisation for the balancing of pH to within 6-8 pH.
15. All cement pouring operations will require to be constantly monitored to ensure that no spills occur.
16. All equipment used in pumping or pouring cement will need to be checked for defects prior to each use in order to prevent spills arising from the failure of poorly maintained or defective equipment.
17. The security and integrity of all formwork used e.g. for the new deck/platform of the berth will have to be carefully checked in advance of each cement pour to prevent uncured cement spilling into the tide or onto the shore.
18. All surface runoff from the site compounds will be passed through settlement and hydrocarbon interceptors before it reaches the shore in order to remove suspended solids and hydrocarbons that might be present in the run-off.
19. All plant will be equipped with drip-trays to prevent oil leaks reaching the shore.
20. Vehicle re-fuelling will be undertaken within the site compound at least 10m back from the top of the shore.
21. All fuel stored on site will be held in securely locked and bunded enclosures.
22. All re-fuelling of plant on the jack-up barge will be undertaken following an agreed protocol designed to minimise the chance of oil spills.
23. Any fuel stored on the barge will be in a securely locked and bunded enclosure.
24. All operational surface runoff from the vehicle marshalling areas for both births will be directed through grit traps and hydrocarbon interceptors in order to remove solids and oil from the run-off.
25. All hoses and couplings used for re-fuelling the ferry at Greenore and Greencastle will be of suitable recommended specifications in order to avoid hose breakages and spills/leaks through nozzles and couplings.
26. All such equipment will be regularly inspected and maintained to prevent accidental spillages.
27. Fuel storage tanks at Greencastle and Greenore piers will be adequately bunded and tamper-proof locked.
28. The ferry will not undergo operational maintained at the berths in order to prevent anti-fouling or other chemicals entering the marine environment.
29. A qualified and experienced marine mammal observer (MMO) will be appointed to monitor for marine mammals and to log all relevant events using standardised data forms.
30. The MMO will conduct pre-start-up constant effort monitoring at least 30 minutes before the sound-producing activity is due to commence, continuing monitoring during and for 30 minutes following the activity. Sound-producing activity should not commence until at least 30 minutes have elapsed with no marine mammal detections by the on-site MMO.
31. Unless information specific to the location and/or operation/activity is otherwise available to inform the mitigation process (e.g., sound attenuation data), operations will not commence if marine mammals are detected within a specified radial distance of the intended sound source, i.e., within the Monitored Zone.
32. If there is a break in pile striking /drilling activity for a period greater than 30 minutes then all pre-piling monitoring measures and ramp-up (where this is possible) should recommence as for start-up.
33. Full reporting on MMO operations and mitigation undertaken in accordance with NPWS and JNCC guidelines (JNCC 2010 a, b, c; NPWS, 2012) will be provided to the Department of Environment Marine Division and Department of Arts, Heritage and The Gaeltacht to facilitate reporting under Article 17 of the EC Habitats Directive and future improvements to guidance.
34. Subject to agreement with the relevant regulatory authorities it is recommended that speed restrictions of 10 knots be applied to the ferry in Carlingford Lough.
35. Any accidental collision should be reported to the relevant authorities, such as to DOE and DAHG.
36. To monitor potential disturbance/redistribution of seals at haul-out sites, monthly surveys of seal haul-out sites will be conducted prior to and during the operational phase. Surveys shall commence prior to the operational phase to provide baseline data

37. Piling operations associated with construction will be carried out between November and March to avoid interference with these migrations. This will also remove the potential for any disruption to the sandeel spawning period during the summer months.

Chapter 8 Water Environment

38. Preparation of an Emergency Response Plan detailing actions to be taken in the event of an accidental spillage of fuel, chemicals or other hazardous material;
39. The Plan will detail the procedures to be followed if there is a breach in any licence conditions or a non compliance;
40. The Environmental Manager will be notified of all incidents where there has been a breach in agreement environmental management procedures;
41. All works proposed Carlingford Lough will be subject to a detailed method statement, prepared under the CEMP;
42. The CEMP shall include procedures for environmental awareness training and in particular the implementation of the Emergency response Plan and Water Quality Management Plan;
43. The Environmental Manger will generally be responsible for any induction training and environmental tool box talks;
44. Preparation of a Water Quality Monitoring Plan to ensure compliance with the relevant environmental quality standards;
45. A protocol for regular communication with statutory agencies such as NIEA, NPWS, Loughs Agency and Louth County Council;
46. A protocol for communication between site personnel, the engineer's representatives and third parties will also be established and managed by the Contractor's Environmental Manager;
47. Procedures will be identified to ensure that any works which have the potential to impact on the aquatic environment are being carried out in accordance with required permits, licences, certificates and planning permissions.
48. Surface water drainage and proposed discharge points will be mapped on a site plan which should also include the location of existing and proposed measures such as monitoring points, sediment traps, settlement lagoon and oil interceptors.
49. The potential for all types of pollution arising from the construction stage will be managed by method statements being prepared in accordance with guidelines provided by CIRIA and relevant Pollution Prevention Guidelines (PPGs).Technical Guidance C648: Control of Water Pollution from Linear Construction Projects, (CIRIA, 2006)
50. Technical Guidance C532: Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (CIRIA, 2001)
51. PPG 01 – General guide to the prevention of pollution
52. PPG 02 – Above ground oil storage tanks
53. PPG 03 – The design and use of oil separators
54. PPG 04 – Disposal of sewage where no mains drainage is available
55. PPG 05 – Works and maintenance in or near water
56. PPG 06 – Working at construction and demolition sites
57. PPG 13 – Vehicle washing and cleaning
58. PPG 21 – Pollution incident response planning
59. PPG 22 – Incident response – dealing with spills
60. PPG 26 – Storage and handling of drums and intermediate bulk containers

61. A sediment control plan will be prepared well in advance of work commencing on site, to include –
62. Excess material stockpiles will be managed to prevent siltation of water bodies through run-off and overland flow during rainfall events. This will include the establishment of vegetation on exposed soil, and surrounding stockpiles with interception (cut-off) ditches to contain run-off;
63. interception, channelling and/or discharge of surface water from sumps, excavations and exposed soil surfaces to silt traps or settlement lagoons;
64. construction of silt traps, settlement lagoons / ponds, wetlands or hydrocarbon interceptors (either temporary or permanent) at sensitive outfalls at an early stage in the construction programme;
65. construction of cut-off ditches and berms to prevent surface water run-off from entering excavations and the construction area;
66. placing of granular materials over bare soil in the vicinity of watercourses in order to prevent erosion of fines and/or rutting by site traffic;
67. All water bodies that occur in areas proposed for site compounds and storage facilities will be fenced off to a minimum distance of 5m. Appropriate sediment control measures will be installed to ensure silt laden or contaminated surface runoff from the compound does not discharge directly to a water body;
68. Tool Box talks shall be given by the Environmental Manager nominated under the EMP to all contractor's site personnel to inform them of the mitigation measures required to ensure protection and conservation the aquatic environment.
69. Establish vegetation as soon as practical on all areas where soil has been exposed e.g. stockpiles for stripped topsoil;
70. Temporary working areas will be required for access by construction plant on the beach on either side of the slipways.
71. These areas will be subject to trafficking but given the likely plant loads, it is expected that timber mats may be required to support crawler tracks or vehicle wheels and reduce physical disturbance.
72. Timber mats will be moved along the beach to suit the location of works as they progress.
73. Upon completion of all works, the adjacent beach areas will be restored to their original profiles and sand raked to reinstate surface texture.
74. If on-site concrete production is proposed for those sections of the slipways above the high water mark, careful initial siting of concrete mixing facilities is vital.
75. Washing out and cleaning of concrete batching plant or ready mix lorries will be carried out in a contained area as far from the water body as practical.
76. Excess material will be left to settle and removed from site after it has set.
77. For the sections that are under water, pre-cast units will be used for construction however *in-situ* stitching of these will be required. Where concrete is to be placed under water or in tidal conditions it will be designed to provide a cohesive mix to limit segregation and washout of fine material.
78. Plant operating close to water shall be given special consideration in relation to the transport of concrete from the point of discharge from the truck-mixer to final discharge into the delivery pipe (tremie).

79. Care will be exercised when slewing concrete skips or mobile concrete pump booms over open water.
80. Fuel, oil and chemical storage must be sited on an impervious base within a bund and secured.
81. The base and bund walls must be impermeable to the material stored and of adequate capacity.
82. Leaking or empty drums must be removed from the site immediately and disposed of via a registered waste disposal contractor.
83. All valves and trigger guns will be protected from vandalism and unauthorised interference and should be turned off and securely locked when not in use.
84. Any tanks or drums will be stored in a secure container or compound, which will be kept locked when not in use.
85. Bowsers will be stored within site security compounds.
86. Mobile plant will be refuelled in a designated area, on an impermeable surface well away from any drains or water bodies.
87. Spill kits will be plentiful and readily available.
88. Vehicle will not be left unattended during refuelling.
89. Refuelling delivery valves will not be left jammed open.
90. Hoses and valves will be checked regularly for signs of wear, turned off, disconnected and securely stored under lock when not in use.
91. Diesel pumps and similar equipment will be placed on drip trays to collect minor spillages or leaks which will be checked regularly and any accumulated oil removed for appropriate disposal.
92. A contingency plan for the works will be prepared in accordance with PPG 21 Pollution Incident Response Planning. The Emergency Response Plan will detail actions to be taken in the event of an accidental spillage of fuel, chemicals or other hazardous material. The Plan will also detail the procedures to be followed if there is a breach in any licence conditions or a non compliance.
93. The Contractor's Environmental Manager will be notified of all incidents where there has been a breach in agreed environmental management procedures.
94. Suitable training will be provided to relevant personnel detailed within the Emergency Response Plan to ensure that appropriate and timely actions will be taken should an incident occur.
95. MSDS/COSHH documentation will be available for all fuels/chemicals
96. All storage containers will be labelled appropriately, including hazardous markings
97. All bulk tanks will be of material appropriate for fuel/chemical storage
98. All bulk tanks will be double-skinned or bunded to 110% of the maximum tank volume
99. All bulk tanks will be located on impervious base
100. Bunds will be to standard specified in PPG 3 Above Ground Oil Storage Tanks
101. Barrels and IBCs will be stored internally where appropriate and always on drip-trays or sump pallets
102. Appropriate spill kits will be available at all storage locations
103. All fuel/chemical storage facilities will be subject to weekly inspection
104. All deliveries will be authorised before entering site
105. Vehicle drivers will report to designated Main Contractor personnel prior to delivery
106. Vehicle driver will check storage container labelling and capacity prior to commencing delivery
107. Vehicle driver will remain at delivery point until delivery process is completed
108. Vehicle driver will report to designated Main Contractor personnel on completion of delivery
109. Designated personnel will receive appropriate documentation and confirm integrity of storage container.