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NARROW WATER BRIDGE PROJECT

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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ROD
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NARROW WATER BRIDGE PROJECT

Outline Construction Environmental Management Plan

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1. INTRODUCTION

This document sets out the Outline Construction Environmental Management Plan (OCEMP) for the construction of the Narrow Water Bridge Project on behalf of Louth County Council (LCC).

This OCEMP applies to all works associated with the construction of the proposed road and bridge works including advanced works contracts.

As a contractor has not yet been appointed, the Construction Environmental Management Plan (CEMP) has not been formally adopted and further development and commitment to the CEMP will be undertaken following selection of contractors and before commencement of site works unless otherwise agreed. The appointed contractor will consult with the NIEA Water Management Unit Pollution Prevention Team (WMU PP) with respect to the developed CEMP.

The OCEMP, Construction & Demolition Waste Management Plan (CDWMP) and Incident Response Plan (IRP) provide the environmental management framework for the appointed contractors and sub-contractors as they incorporate the mitigating principles to ensure that the work is carried out with minimal impact on the environment. The construction management staff, including the contractors and any sub-contractors staff must comply with the requirements and constraints set forth in the OCEMP in developing their CEMP. The key environmental aspects associated with the construction of the Narrow Water Bridge Project including appropriate mitigation and monitoring controls, are identified in the OCEMP, CDWMP and IRP.

The implementation of the requirements of the OCEMP will ensure that the construction phase of the project is carried out in accordance with the commitments made by Louth County Council in the various application processes for the development, and as required under conditions of the planning approvals. The CEMP is considered a live document that will be updated according to changing circumstances on the project and to reflect current construction activities. The CEMP will be reviewed on an ongoing basis during construction and will include information on the review procedures. Any changes to the CEMP with respect to works in or near, or liable to impact a waterway will be agreed with the WMU PP.

2. SITE DESCRIPTION

The site is situated between the steep Cooley Mountains to the south and the drumlins of Down to the north. The Newry River flows through this valley before widening to form Carlingford Lough. The shoreline is flanked by roads on both sides and a former rail line along the southern shore. In the immediate vicinity of Narrow Water to the south in County Louth, the landscape comprises small fields bounded by hedgerows, whereas to the north in County Down, the immediate landscape is dominated by Warrenpoint Golf Course and the demesne surrounding Narrow Water House.

The Newry River, which is a tidal river leading into Carlingford Lough, can be in excess of 280m wide at high tide. At low tide, the main channel is relatively narrow, approximately 40m wide, exposing mudflats and foreshore to either side.

The site lies within an ecologically sensitive area with deciduous woodland and the foreshore in the south and the inter-tidal mudflats in the north all possessing nature conservation designations as follows:

Republic of Ireland Sites:

- Carlingford Shore candidate Special Area of Conservation (code 02306) This extensive site stretches almost continuously along the southern shore of Carlingford Lough, from the section of the Newry River/ estuary in Co. Louth to

just east of Cooley Point. The outer boundary is generally the low tide limit while the landward boundary is usually just above the shoreline.

- Carlingford Lough Special Protection Area (code 04078) The SPA on the Louth side is relatively restricted in area, extending from the harbour at Carlingford to Greenore Point. It includes all the intertidal flats to the low tide mark.
- Carlingford Lough is also a proposed Natural Heritage Area – the boundary on the landward side is similar to that of the SAC site but on the seaward side the pNHA boundary extends out into the lough to the international boundary.

Northern Ireland Sites

- Carlingford Lough Special Protection Area This SPA lies between Killowen Point and Soldiers Point on the northern shore of Carlingford Lough. It extends from the upper shoreline to the mean low water mark (total area 827.12 ha).
- Carlingford Lough Area of Special Scientific Interest (ASSI no. 0103) This large site (1,105 ha) extends from the inner part of the Newry River to Cranfield Point, which is the entire northern shore of Carlingford Lough. It includes all habitats from the upper shoreline to the mean low water mark.

A bird roost is also located on the southern foreshore approximately 70m southeast of the existing navigational beacon near Ferry Hill.

3. DESCRIPTION OF THE NARROW WATER BRIDGE PROJECT

3.1 Project Description

The proposed Narrow Water Bridge will cross the Newry River approximately 400m south of the Narrow Water Keep. The bridge will connect the R173 Omeath Road south of Ferry Hill and the A2 dual carriageway at the existing A2 road roundabout. The bridge crossing is located approximately 2km and 1km northwest of Omeath and Warrenpoint, respectively.

The scheme will provide a new single carriageway link between Omeath and Warrenpoint. The proposed 6m wide carriageway will connect the R173 and the A2 dual carriageway across the Newry River at Narrow Water. A new roundabout will be constructed at the junction with the R173 Omeath Road while on the northern side, the existing A2 roundabout will be upgraded to accommodate the required additional arm and a dedicated left turn (stacking) lane for N/B traffic approaching the A2 roundabout. The total length of the scheme, including the required bridge crossing is approximately 660m. The proposed bridge is a cable-stayed structure with a rolling bascule opening span. The structure will be supported by asymmetric back-ward inclined towers, with the higher (86m) tower located on the southern side of the crossing. The lower (33m) twin towers on the northern side operate the rolling bascule opening span. The cable-stayed span is supported by a double plane of cable-stays which are anchored to an inclined vertical tower.

A maintenance and control building to operate the opening bridge will be located in the south, on the approach to the proposed bridge structure.

The bridge tower (pylon) and stay cables block the existing leading lights that aid navigation further downriver. A new navigation tower will be constructed immediately east of the bridge and a leading light will be installed to replace the existing lights.

A new roost site will be constructed approximately 200m south-east of existing bird roost. The new site will be made up of stones and cobbles similar to those at the existing island.

3.2 Construction Arrangements

3.2.1 Site Preparation

There is a requirement for the demolition of an existing building and concrete stairs immediately west of the proposed Cornamucklagh roundabout. The project also involves the demolition of twin culvert headwalls at the Milltown stream outfall. Scrub and vegetation removal will be required as part of site preparation. Vegetation cleared from the site to facilitate construction works will be collected and stored on site wherever possible. For any non-reusable vegetation this will be disposed of at an appropriately licensed landfill.

3.2.2 Site Construction Compound

A main site construction compound will be required during the construction phase to provide office, canteen, washroom and toilet facilities. The compound will also provide facilities for materials and plant storage and the maintenance of same. The principal site construction compound will be established at the commencement of the contract and remain in place throughout the construction period. The site for the compound will be within the lands alongside the route of the proposed road and adjacent to the R173. It will be located away from the main body of the Newry River in order to prevent water pollution or contamination (see Appendix A).

A satellite compound will be required for the construction works that will take place on the north side of the river. Temporary lands have been provided to the southwest of the roundabout as shown in Appendix A.

Where compounds are located close to watercourses, the compounds will be designed and managed so that run-off from the compounds is collected and bunded to prevent contamination of any watercourses or the Newry River.

The site compounds are likely to have the following temporary impacts:

- Increase in traffic flows, particularly larger vehicles;
- Increase in local noise levels during working hours;
- Visual intrusion.

Other potential impacts that need to be guarded against include:

- Accidental spillage of pollutants into watercourses;
- Dirt, mud and other materials being dropped from lorries and plant or spread onto approach roads by traffic travelling to and from the site.

Bunded storage units for oil/ fuel/ hydrocarbons/ chemicals will be provided on impermeable surfaces with a 110% capacity in accordance with the Control of Pollution (Oil Storage) Regulations (NI) 2010.

There will be a designation of refuelling points on hard standing areas with no pathway to the storm water system.

Oil interceptors will be provided in order to prevent runoff of pollutants to the river. The use of interceptors will be in compliance with pollution Prevention Guidelines (PPG) 3. No detergents will be discharged to interceptors as this practice renders the interceptor useless.

A designated vehicle wash down area will be identified with consideration to drainage arrangements and will be located away from surface water discharge point. No detergents will be permitted where an interceptor is in use. Wash waster will be diverted to foul sewer or collected and contained for disposal off site. Concrete washout will not be permitted to enter the surface water system.

Where works are proposed alongside waterways, a programme of maintenance of vegetation corridors will be implemented (minimum 10m which may be increased depending on prevailing ground conditions e.g. slope coverage).

The exact location and mode of operation of the site construction compounds selected by the contractor will be subject to approval of Louth County Council and the relevant agencies. There will be an early consideration of location of material stockpiles, which will be covered with geo-textile or similar to prevent mobilisation of suspended solids. A back filled silt fence at the tow will be considered if appropriate. Stockpiles must not be within 10m of a waterway (this may be increased depending on the prevailing ground conditions e.g. slope stability). There will be no dirt, mud and material permitted to enter the waterways/ storm drainage system.

Embankment and cut slopes which are considered at risk from erosion are to be top soiled and seeded as soon as possible to prevent the deterioration due to weather effects. Lining with hessian and maintenance will be considered if required.

Furthermore, the sites of the compounds will be cleared, reinstated and landscaped upon completion of the works to the satisfaction of Louth County Council in the Republic of Ireland and all other relevant bodies in Northern Ireland.

4. CONTRUCTION PROCUREMENT

It is envisaged that the construction of the proposed development will be tendered under a public works contract for civil engineering works designed by the employer.

The new roost site will be constructed as an enabling/ advance works contract in accordance with a condition of planning which states that *"the new man-made island will be constructed before bridge works commence (ideally one full winter beforehand), so that it is available as an alternative high tide roosting site as and when birds are disturbed from the existing roosting sites"*.

To comply with the Wildlife Acts 1976 & 2000 (and the Wildlife (NI) Order 1985), clearance of vegetation in fields and hedgerows which would disturb breeding birds and destroy nests, eggs and chicks, it is proposed that a site clearance enabling works contract will be carried out outside of the nesting season (1st March to 31st August).

It is envisaged that all other works will be procured as one single Main Contract.

5. CONTRUCTION PROGRAMME/ SEQUENCE

5.1 Enabling Works Contracts

Roost Site

The roost site enabling works contract is scheduled to commence in June/ July 2022 and it is envisaged that the works including ancilliary works, such as site clearance, fencing, reinstatement of lands, and all necessary temporary works to facilitate access to the roost site will last approximately 12 weeks. The works are likely to take place in the following sequence:

- Site preparation;
- Construct temporary haulage route;
- Construct the new Bird Roost;
- Removal of temporary haul route.

Water Quality Monitoring will be undertaken 6 weeks prior to commencing the works within the foreshore to establish a baseline for water quality. Monitoring is scheduled to commence in July 2022.

Site Clearance

It is anticipated that the site clearance works will take 3 to 6 weeks to complete and the works will be undertaken in Q1 2023.

5.2 Main Contract

It is estimated that it will take approximately 36 months to complete the construction of the Narrow Water Bridge Project. Construction activities will be phased to accommodate local seasonal environmental sensitivities most particularly the timing of piling in the main river channels. The anticipated phasing of construction works is described on drawings NWB-ROD-GEN-AE-DR-EN-508001 through 508011 included in Appendix A. A non-exhaustive list of constraints are identified on drawing NWB-ROD-GEN-AE-DR-EN-508001.

A summary of the anticipated sequence of the construction works is as follows:

1. Establish site compound;
2. Site clearance;
3. Fencing;
4. Construct haul roads (including control building access);
5. Excavate and replace poor ground;
6. Excavate for north and south abutments;
7. Drive piles;
8. Construct south abutment;
9. Construct middle pier;
10. Construct north abutment;
11. Incrementally construct fixed span and pylon;
12. Construct control/ maintenance building;
13. Install mechanical & electrical equipment for opening span;
14. Assemble opening span;
15. Place opening span;
16. Install parapets;
17. Finish surface water drainage network;
18. Install kerbs;
19. Lay pavement;
20. Install barriers, signs and other finishes;
21. Commence testing;
22. Demobilise and site clearance.

5.2.1 Cable-Stayed Bridge – Indicative Construction Methodology

Cofferdam structures will be required to construct both the north and south bridge abutments. The south abutment piling operations will be completed within the the confines of the cofferdam. The intermediate pier and vessel (bridge) protection piles will be installed via a jack-up barge in the river channel. No cofferdam will be required for the in-river works.

A temporary platform will be constructed to support the permanent bridge deck steelwork during construction. The temporary piles will be required in the Newry River to prop the platform beneath the bridge deck, on which the deck will be constructed. It is envisaged that 11 sets of 4no. temporary piles (diameter less than 300mm) will be installed via a jack-up barge. Once the bridge is completed, the temporary deck will be removed, and the piles removed or cut down to avoid any further impacts.

The piling methodology is outlined below:

- steel casings will be driven down into the river bed to rock level (750mm diameter steel tubular piles with a 20mm wall thickness);

- the material within the casing will be bored out and removed;
- a reinforcement cage will be inserted, and concrete will be pumped into the hollow casing complete the pile construction.

Measures will need to be put in place to ensure any spill during boring or concrete placement is captured on a barge or a working platform. The contractor will need to ensure no spill into the river when removing material within the tube and pouring concrete.

6. ENABLING WORKS CONTRACT

The construction of the roost site will be progressed as an enabling/ advance works contract to allow the site be constructed a wintering season in advance of the main bridge construction works.

Louth County Council will appoint a suitability qualified Ecological Clerk of Works (ECoW) to brief the contractor on the applicable sections of the OCEMP, CDWMP and IRP relevant to the roost site construction. The ECoW will undertake the role and assume the responsibility of the Site Environmental Manager defined in Section 7.3. The ECoW will be present onsite during the roost site construction works to oversee the works and implementation of mitigating measures, and upon completion of works produce an Ecologist Report. The ECoW will ensure that the requirements outlined in the OCEMP (see Section 7) relevant to the proposed works are implemented.

The ECoW will also ensure that toolbox talks are given to the contractor and all personnel onsite to highlight the sensitivities of the site and the measures to be followed. Training on bio-security measures will also be given to avoid the spread of invasive species in line with Section 7.9. The ECoW will monitor the works for compliance with these requirements.

In-stream and bankside works as part of the roost site construction shall be undertaken between 1st May and 31st August, potentially extending to the 30th September, subject to agreement with the relevant authorities.

Where the works are carried out within the waterway outside of the navigation channel, geotextile screens and booms will be installed around the roost site works to prevent the spread of suspended solids. The geotextile screens shall be capable of filtering out all silt, cement and other colloidal matter and preventing these materials from carrying further in the river. The screens shall be supported by floating booms, so that they act as a barrier to floating debris. The geotextile screens shall be anchored to the riverbed by contiguous weights. Sufficient geotextile screens shall be provided to cater for the full flood and tidal range at the roost site location.

7. OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

The CEMP will be developed by the contractor to meet the requirements of ISO 14001 and all site works will be undertaken in compliance with the CEMP. The CEMP shall include details of the topics listed below, further information on which is given in the following section.

- Environmental Policy;
- Environmental Aspects Register;
- Project Organisation and Responsibilities;
- Project Communication and Co-ordination;
- Training;
- Operational Control;
- Checking and Corrective Action;
- Environmental Control Measures;

- Complaints Procedure.

The Construction Environmental Management Plan (CEMP) will detail all the environmental aspects and impacts associated with this contract such as waste management, pollution prevention and protection of flora and fauna with particular emphasis on the Special Area of Conservation (SAC), Area of Special Scientific Interest (ASSI), Special Protection Area (SPA) and Water Quality in the Newry River. The Register of Impacts provides the framework for identifying the potential environmental impacts generated by construction and the associated works. The Environmental Operational Control Procedures and activity specific method statements will detail the working methods necessary for managing and mitigating these impacts, whether it is by prevention or mitigation. Prior to the commencement of construction activities the Environmental Operational Control Procedures and activity specific method statements will be completed so as to conform to precise site-specific requirements at Narrow Water.

7.1 Environmental Policy

The contractor will create an Environmental Policy with consideration for impacts on the natural and built environment. All project personnel will be accountable for the environmental performance of the project and will be made aware of the Environmental Policy at induction. The environmental policy will consider and make commitments with regard to the protection of Natura 2000, ASSI, NHA sites, emissions to the atmosphere, maintenance of water quality, resource usage energy consumption and waste management.

7.2 Environmental Aspect Register

Once appointed, the contractor will prepare a register of all sensitive environmental features which have the potential to be affected by the construction works, together with details of commitments and agreements made within the Environmental Impact Statement, the Natura Impact Statement, the Contract Documentation, planning conditions imposed by the local authorities, and conditions identified by Statutory Authorities with regards mitigation of potential impacts.

The Environmental Aspects Register provides the relevant information for the preparation of construction method statements and will be regularly updated during the works.

The Environmental Aspects Register will consider sensitive environmental features as listed below (please note this list is not exhaustive and will be amended and expanded upon as required by the contractor).

- Identification off all waterways as defined by the Water (NI) Order 1999. This includes dry drains and ditches capable of carrying water, for the protection against ingress of suspended solids or any pollutant.
- Air emissions;
- Noise emissions;
- Light emissions;
- Sanitary and domestic sewage discharge;
- Waste generation;
- Use hazardous materials;
- Energy usage;
- Water usage;
- Discharge of waste water;
- Traffic generation;
- Terrestrial ecology;
- Aquatic ecology;

- Visual impacts;
- Hydrogeology;
- Archaeology and Cultural Heritage.

7.3 Project Organisation and Responsibilities

The CEMP will define the roles and responsibilities of the project team. The overall responsibility lies with the Project Manager whose responsibility it will be to approve key personnel required for employment on the project. The Project Manager will liaise with the Site Environmental Manager.

The Project Manager will lead the works on site. They will be responsible for the management and control of the activities and will have overall responsibility for the implementation of the CEMP. The Project Manager will be assisted by the Site Environmental Manager who will act as his deputy.

The Site Environmental Manager will prepare and implement all aspects of the CEMP.

Project Manager

The Project Managers main duties and responsibilities in relation to the CEMP include liaising with the Project Team in assigning duties and responsibilities in relation to the CEMP to individual members of the main contractor's project staff.

Site Environmental Manager

The main duties and responsibilities of the Environmental Manger include and are not limited to the following:

- Have regard for the Provisions of the Control of Pollution (Oil Storage) Regulations (NI) 2010.
- Liaising with management in preparing and inspection of site specific method statements for activities where there is a risk of pollution or adverse effects on the environment;
- Liaising with NIEA WMU PP on all Method Statements, any alternations to live documents and any other works to ensure protection of water quality;
- Liaising with Loughs Agency on all Method Statements and any works required to ensure protection of the water quality and the aquatic species within the Newry River and Carlingford Lough;
- Being familiar with the information in the pre-construction surveys, construction requirements, An Bord Pleanála and Planning Service decisions and all relevant Method Statements;
- Being familiar with the contents, environmental commitments and requirements contained within the reference documentation listed in this CEMP;
- Being familiar with the baseline data collated during the compilation of the Environmental Impact Statement (EIS);
- Assisting Management in liaising with the Engineers and NIEA WMU PP; and the provision of information on environmental management during the construction of the Narrow Water Bridge Project;
- Liaising with the Project Team in assigning duties and responsibilities in relation to the CEMP, to individual members of the main contractor's project staff;
- Overseeing, ensuring coordination and playing a lead role in third party consultations required statutorily, contractually and in order to fulfil best practice requirements;
- Liaising with Management in agreeing site specific Method Statements with Third Parties;
- Ensuring that all relevant works are undertaken in accordance with the relevant legislation in both Ireland and Northern Ireland;

- Bring any legal constraints that may occur during certain tasks to the attention of Management;
- Hold copies of all permits and licenses provided by waste contractors;
- Ensuring that any operations or activities that require certificates of registration, waste collection permits, waste permits, waste licences, etc have appropriate authorization;
- Gathering and holding documentation with respect to waste disposal;
- Keeping up to date with changes in environmental practices and legislation and advising staff of such changes and incorporating them into the CEMP;
- Liaising with contactors and consultants prior to works;
- Procuring the services of specialist environmental contactors when required;
- Ensuring that all specialist environmental contactors are legally accredited and proven to be competent;
- Coordinating all the activities of the specialist environmental contractors;
- Ensuring that Environmental Induction Training is carried out on all personnel on site and ensuring that tool box talks include aspects of Environmental Awareness and Training;
- Respond to all environmental incidents in accordance with legislation, the CEMP and company policy/ procedures;
- The Site Environmental Manager is responsible for notifying the relevant statutory authority when environmental incidents occur and producing the relevant reports as required;
- Ensuring that all relevant works have (and are being carried out in accordance with) the required permits, licenses, certificates and planning permissions;
- Liaising with the designated licence holders and specific agent defined in the licence with respect to licences granted pursuant to the European Union (Birds and Natural Habitats) (Amendment) Regulations 2021;
- Carrying out regular documented inspections of the site to ensure that work is being carried out in accordance with the Environmental Control Measures and relevant site specific Method Statements;
- The Site Environmental Manager shall be in readiness to implement at all times the Incident Response Plan prepared by the contractor;
- Responsible for reviewing all environmental monitoring data and ensuring that they all comply with stated guidelines and requirements; and
- Have regard for best practice documentation including the precepts of same e.g. NIEA (formally EHS) Pollution Prevention Guidelines: GPP5 and PPG6.

Design Manager

The main duties and responsibilities of the Design Manger having regard to the implementation of the Construction Environmental Management Plan (CEMP):

- Be familiar with the CEMP and relevant documentation referred to within;
- Participate in Third Party Consultations and liaising with Third Parties through the Site Environmental Manager.

Section Managers and Agents

The Section Managers and Agents are responsible for the following:

- Ensuring Forepersons under his/ her control adhere to the relevant Environmental Control Measures and relevant site specific Method Statements, etc.
- Ensuring that the procedures agreed during third party consultations are followed;
- Reporting immediately to the Site Environmental Manager any incidents where there has been a breach of agreed environmental management procedures,

where there has been a spillage of a potentially environmentally harmful substance, where there has been an unauthorised discharge to ground, water or air, damage to habitat, etc.
- Attending Environmental review Meeting and preparing any relevant documentation as required by Management.

Forepersons

The forepersons on site are responsible for the following:

- Ensuring personnel under his/ her control adhere to the relevant Environmental Control Measures and relevant site specific Method Statements;
- Reporting immediately to the Site Agents and Site Environmental Manager any incidents where there has been a breach of agreed procedures e.g. spillages and discharges.

All Project Personnel

All project personnel have the following responsibilities:

- Attend environmental training as required;
- Reporting immediately to the Forepersons/ Site Agents or Site Environmental Manager any spillage incidents or observations regarding adverse effects to the Environment.

7.4 Project Communication and Co-ordination

Environmental issues and performance aspects will be communicated to the workforce on a regular basis. Weekly projected meetings which follow a set agenda incorporating Environment will be held alongside overall management meetings.

All staff and sub-contractors involved in all phases of the project will be encouraged to report environmental issues.

7.5 Training

All employees and subcontractors involved on site will be given a comprehensive induction prior to commencement of the works. This environmental training can be run concurrently with safety awareness training.

Training will include:

- Overview of the Environmental Policy and Environmental Management Plan, goals and objectives;
- Awareness in relation to risk, consequence and methods of avoiding environmental risks as identified within the Register of Aspects and with the planning conditions;
- Awareness of the risk of invasive species and briefing of bio-security methods to be put in place on site to avoid the spread of invasive species as a result of construction works;
- Awareness of roles and individual environmental responsibilities and environmental constrains to specific jobs;
- Awareness of the requirements of the Water (NI) Order 1999; the need for contingency plan development and awareness as well as the importance of mitigation measures and what constitutes an offence under the Order;
- Location of and sensitivity of Special Area of Conservations, Special Protection Areas, protected monuments, structures etc.;
- Location of habitats and species to be protected during construction, how activities may affect them and methods necessary to avoid impacts;

- A record will be kept of a signed register on the project files of all attendees of the environmental induction.

Toolbox talks based on specific activities being carried out will be given to personnel by the nominated project representative. These will be based on specific activities being carried out and will include environmental issues particular to Narrow Water including the impact on bird populations and water quality namely:

- Oil/ Diesel spill prevention and safe refuelling practice;
- Storage of materials including oil/diesels and cement;
- Emergency response processes used to deal with spills;
- Minimising disturbance to wildlife;
- Awareness of the provisions of the Water (NI) Order 1999 re definition of a waterway and what constitutes an offence re-entry of pollutants;
- Storage of materials, including implementation of the provision and requirements of the Control of Pollution (Oil Storage) Regulations (NI) 2010;
- Emergency response to include water pollution hotline to NIEA 0800 80 70 60 for regulator response. Identification of registered/ accredited spill cleanup company for oil etc.;
- Consideration of importance of containment of vehicle washing, containments of concrete/ cement/ grout washout etc, bank protection using hessian to prevent excessive scour and mobilisation of suspended solids, maintenance of vegetation corridors etc.

7.6 Operational Control

Site works will be checked against the CEMP requirements. Any mitigation measures that have been agreed with the Statutory Authorities, or are part of planning conditions, will be put into place prior to the undertaking of the works for which they are required and all relevant staff will be briefed accordingly.

Method statements that are prepared for the works will be reviewed/ approved by the Client Project Manager and were necessary the relevant Environmental Specialist. All method statements for works in, near or liable to impact on a waterway must have prior agreement with NIEA WMU PP.

A Quality Management System (QMS) will also be put into operation for the project.

Document control will be in accordance with this QMS and copies of all audits, consents, licences, etc. will be marinated by the Site Environmental Manager and his team and kept on site for review at any time.

7.7 Checking and Corrective Action

Daily inspections of the site and the works will be undertaken to minimise the risk of environmental damage and to ensure compliance with the CEMP. Any environmental incidents are to be reported immediately to the site Foreperson. The Site Environmental Manager will undertake periodic inspections and complete an assessment of the projects environmental performance with regard to the relevant standards/ legislation and the contents of the CEMP. Following these inspections the Site Environmental Manager will produce a report detailing the findings which will be provided to the Client Project Manager and reviewed at the monthly project meeting.

7.8 Environmental Control Measures

Licensing requirements will be in place and specific procedures to manage the key environmental aspects of the project will be developed by the contractor prior to work commencing. These are based on the conditions outlined as part of the development consent (Appendix B), the Schedule of Commitments (Appendix C) and additional

requirements identified by the NIEA Water Management Unit (Appendix D). Environmental Control Measures may include but are not limited to the following:

Licensed Activities

As part of the Planning Consent for Northern Ireland the licences listed below are required. Prior to commencement of the licensable activity the licence will be in place and the contractor will be obliged to comply with the conditions of the licence.

Licences

- WO1 Application for consent to discharge (Water (Northern Ireland) Order 1999);
- Licence for Marine Construction Works (Marine and Coastal Access Act 2009);
- Licence for carrying out road works at the A2 Newry Road (Dept for Regional Development, Road Services);
- Street Works Licence (Street Works (Northern Ireland) Order 1995).

Consultations and Approvals

The Planning Consent for Northern Ireland has outlined the following required consultations and approvals as part of the planning consent which must be carried out.

Table 5.1 Consultations and Approvals identified as part of the planning consent

Consulting / Approving Authority	Activity	Approval Type (Note 1)
Department for Infrastructure (Northern Ireland) Roads	Details of Construction of the north eastern approach to the bridge structure from the A2 Newry Road.	Certificate in writing
Department for Infrastructure (Northern Ireland) Roads	Programme of works for traffic management proposals	Agreed prior to commencement
Department for Infrastructure (Northern Ireland) Roads	Stacking area on northern approach shall demonstrate by initial trials to operate satisfactorily without interference to through traffic on the A1 Warrenpoint- Newry Road	Agreed prior to commencement
Department for Infrastructure (Northern Ireland) Roads	Details of road markings, advance signs, street lighting etc	Agreed prior to commencement
Department for Infrastructure (Northern Ireland) Roads	Details of Temporary traffic management plan for 4 weeks following opening	Approval
Department for Infrastructure (Northern Ireland) Roads	Detailed plans of highway design	Agreed prior to commencement
Department for Infrastructure (Northern Ireland) Roads	Foundation design and foundation works risk assessment.	Agreed in writing prior to piling works commencing

Consulting / Approving Authority	Activity	Approval Type (Note 1)
Traffic Section; PSNI Road Policing Unit, Department for Infrastructure (NI) Roads	Traffic Management to facilitate the construction of the development and associated road works	Agreed in writing prior to commencement
Carlingford Loughs Commissioners, Warrenpoint Harbour Authority and Commissioner of Irish Lights	Details of Construction, equipment and timing of proposed aids to navigation	Agreed in writing prior to commencement
Loughs Agency	Details of Hydrodynamic modelling to ensure sediment dispersal and resettling does not impinge on public fishery	Agreed in writing prior to commencement
Loughs Agency	Pollution incident response programme	Agreed in writing prior to commencement
NIEA (Northern Ireland Environmental Agency)	Agreement for a Monitoring programme during piling to confirm vibration is within appropriate tolerance levels for historic building	Agreed in writing prior to commencement
NIEA Water Management Unit Pollution Prevention	All method statements for woks in, near or liable to impact a waterway	Agreed in writing prior to commencement
NIEA: Land Resource Management	Assessment report of pollutant linkages on sites in particular groundwater and surface water, including: • CSM to identify potential pollutant linkages • Intrusive site investigations and monitoring information informing human health and hydrogeolgical risk assessment • Remediation strategy including objectives, criteria and management Groundwater and surface water monitoring network, sampling frequency and analytical suite	Agreed in writing prior to commencement
Department of Environment	Works will not commence prior to programme of archaeological works	Agreed in writing prior to commencement

Consulting / Approving Authority	Activity	Approval Type (Note 1)
	including relevant mitigation etc	
Department of Environment	Verification Report on all monitoring and remediation's works for contaminated lands	Agreed in writing after completion of remediation works

Note 1 The approval type is to be confirmed with the respective Approving Authority. The OCEMP will be updated following confirmation of the Approval Type.

Pollution Prevention Guidelines

The requirements of the following Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) will be included as part of the CEMP for Narrow Water Bridge:

GPP 1 General Guide

GPP 2 Above ground oil storage tanks

PPG03 The design and use of oil separators (withdrawn)

GPP 4 Treatment and disposal of wastewater where there is no connection to the public foul sewer

GPP 5 Works and maintenance in or near water

PPG06 Working at construction and demolition sites (withdrawn)

PPG07 Safe Storage – The safe operation of refuelling facilities (withdrawn)

GPP 8 Safe storage and disposal of used oils

GPP13 Vehicle washing and cleaning

PPG18 Managing fire water and major spillages

GPP21 Pollution incident response planning

GPP22 Dealing with spills

PPG27 Installation, decommissioning and removal of underground storage tanks

The PPGs are currently in the process of being replaced with guidance series (GPPs), to provide environmental good practice guidance for the whole UK, and environmental regulatory guidance directly to Northern Ireland, Scotland and Wales only. Guidelines PPG03, PPG06 and PPG07 have been withdrawn. These PPGs shall still be referred to until they have been updated and reprinted as GPPs.

Environmental Management Plans (EMP)

The Environmental Management Plans will be compiled by the contractor in accordance with relevant legislation, the Environmental Impact Statement, the Natura Impact Statement, the Schedule of Commitments and the conditions attached to the Development Planning Consent for the scheme. The Environmental Management Plans to be developed by the contractor will include but are not limited to the following list.

- Traffic Management Plans;
- Dust Minimisation Plan;
- Surface Water Management Plan;

- Incident Response Plan (IRP);
- Construction & Demolition Waste Management Plan (CDWMP).

All final EMPs for works in, near or liable to impact a waterway will have prior agreement with NIEA WMU PP prior to commencement of works to ensure necessary mitigation measures are in place.

Environmental Procedures

As part Environmental Control Measures for the Construction Environmental Management Plan, a set of procedures will be put in place to ensure environmental protection of the sites and compliance with legalisation and planning conditions for the site. The following list identifies but is not exclusive to the environmental procedures required for the management of the site:

- Environmental Training;
- Environmental Reporting;
- Inspections and Audits;
- Monitoring and Measuring;
- Consents and Authorisations;
- Plant Maintenance;
- Refuelling of equipment;
- Pollution Prevention and Control;
- Storage of Materials and Bunding;
- Noise Minimisation;
- Waste Management and Recording;
- Energy Usage;
- Resource Minimisation;
- Soil: Movement, Protection and Disposal;
- Protection of flora and fauna;
- Protection of Archaeological artefacts;
- Discovery of archaeological artefacts;
- General Reinstatement of lands;
- Emergency Response in the event of a pollution release instream;
- Emergency Response in the event of a pollution release on land.

7.9 Bio-security Plan

The contractor will prevent the introduction and spread of invasive species by implementing the following controls:

- Good construction site hygiene will be employed to prevent the introduction and spread of problematic invasive alien plant species (e.g. Himalayan Balsam, Japanese Knotweed, Harpoon Weed etc.) by thoroughly washing vehicles prior to leaving any site;
- All plant and equipment employed on the construction site (e.g. barges, piling equipment etc.) will be thoroughly cleaned down using a power washer unit prior to arrival on site to prevent the spread of invasive plant species;
- All washing must be undertaken in areas with no potential to result in the spread of invasive species;
- Harpoon Weed is present at the site. Instead of attempting to control or manage the established population, the measures should ensure that this species is not spread to new sites through the measures described above;
- Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present;

- The contractor will detail and implement measures to prevent contamination of soil stores with Invasive Alien Species (IAS);
- The contractor will detail and implement (as needed) a procedure for disposal of IAS-contaminated soil;
- All planting and landscaping associated with the proposed development shall avoid the use of invasive shrubs such as Rhododendron and Cherry Laurel;
- Disinfection station(s) should be set up where all staff should clean and disinfect their boots and any tools used during the operations;
- Vessels should adhere to the industry recommended guidelines for preventing the introduction of non-native marine species. UKMarineSAC (2009) recommends that vessels comply with International Maritime Organisation guidance wherever possible;
- Ballast water uptake should be avoided in areas such as near sewage outfalls. The exchange of ballast water should occur in the open ocean and the unnecessary discharge of ballast water in Carlingford Lough should be discouraged/ prohibited.

7.10 Complaints Procedure

A liaison officer will be available to allow for members of the pubic or interested parties to make complaints about the construction works. The CEMP will contain details of the complaints procedures and a monitoring system will be implemented to ensure that any complaints are addressed and satisfactory outcome is achieved for all parties.

7.11 Compliance with Project Consents

An Bord Pleanála (ABP) and the Department of the Environment Northern Ireland (DoENI) granted planning approval for the Narrow Water Bridge Project in October 2012. A full list of all of the planning conditions is included in Appendix B.

8. SUMMARY

This Outline CEMP is indicative only, however, the final CEMP to be prepared by the contractor for the Main Contract will incorporate the items outlined above and ensure that all requirements identified as part of the planning consents will be included in the CEMP.

The final CEMP and method statements will need to be agreed with National Parks and Wildlife Services (NPWS), Loughs Agency and NIEA (DAERA) prior to construction.

APPENDX A
DRAWINGS

Note! The drawings listed below that describe the envisaged construction phasing/ sequence and identify the primary project constraints that affect the phasing of works for the Main Contract will be issued separately.

- NWB-ROD-GEN-AE-DR-EN-508001
- NWB-ROD-GEN-AE-DR-EN-508002
- NWB-ROD-GEN-AE-DR-EN-508003
- NWB-ROD-GEN-AE-DR-EN-508004
- NWB-ROD-GEN-AE-DR-EN-508005
- NWB-ROD-GEN-AE-DR-EN-508006
- NWB-ROD-GEN-AE-DR-EN-508007
- NWB-ROD-GEN-AE-DR-EN-508008
- NWB-ROD-GEN-AE-DR-EN-508009
- NWB-ROD-GEN-AE-DR-EN-508010
- NWB-ROD-GEN-AE-DR-EN-508011

APPENDX B
PLANNING APPROVALS

Our Ref: 15.KA0024

Your Ref:

An Bord Pleanála

Eugene McManus
Louth County Council
County Hall
Millenium Building
Dundalk
Co. Louth

12th October 2012

Re: County Louth Compulsory Purchase (Roads No 1) (Narrow Water Bridge) Order 2012.

Dear Sir,

An order has been made by An Bord Pleanála determining the above mentioned case. A copy of the order is enclosed.

Please be advised that under section 217(5) of the Planning and Development Act, 2000, as amended, a notice of the making of a confirmation order should be published or served as the case may be in accordance with section 78(1) of the Housing Act, 1966 within 12 weeks of the making of the order.

In accordance with section 146(5) of the Planning and Development Act, 2000, as amended, the Board will make available for inspection and purchase at its offices the documents relating to the decision within 3 working days following its decision. In addition, the Board will also make available the Inspector's Report and the Board Direction on the decision on its website (www.pleanala.ie). This information is normally made available on the list of decided cases on the website on the Wednesday following the week in which the decision is made.

The attachment contains information in relation to challenges to the validity of a decision of An Bord Pleanála under the provisions of the Planning and Development Act, 2000, as amended.

If you have any queries in relation to the matter please contact the undersigned officer of the Board.

Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Sinead McInerney
Executive Officer
Direct Line:01-8737295

CH20.LTR

Judicial review of An Bord Pleanála decisions under the provisions of the Planning and Development Act, 2000, as amended

A person wishing to challenge the validity of a Board decision may do so by way of judicial review only. Sections 50, 50A and 50B of the Planning and Development Act 2000 (as substituted by section 13 of the Planning and Development (Strategic Infrastructure) Act 2006 and as amended/substituted by sections 32 and 33 of the Planning and Development (amendment) Act 2010) contain provisions in relation to challenges to the validity of a decision of the Board.

The validity of a decision taken by the Board may only be questioned by making an application for judicial review under Order 84 of The Rules of the Superior Courts (S.I. No. 15 of 1986). Sub-section 50(6) of the Planning and Development Act 2000 requires that subject to any extension to the time period which may be allowed by the High Court in accordance with subsection 50(8), any application for judicial review must be made within 8 weeks of the decision of the Board. It should be noted that any challenge taken under section 50 may question only the validity of the decision and the Courts do not adjudicate on the merits of the development from the perspectives of the proper planning and sustainable development of the area and/or effects on the environment. Section 50A states that leave for judicial review shall not be granted unless the Court is satisfied that there are substantial grounds for contending that the decision is invalid or ought to be quashed. Section 50B contains provisions in relation to the cost of judicial review proceedings in the High Court relating to specified types of development (including proceedings relating to decisions or actions pursuant to a law of the state that gives effect to the public participation and access to justice provisions of Council Directive 85/337/EEC i.e. the EIA Directive and to the provisions of Directive 2001/12/EC i.e. Directive on the assessment of the effects on the environment of certain plans and programmes). The general provision contained in section 50B is that in such cases each party shall bear its own costs.

Disclaimer: The above is intended for information purposes. It does not purport to be a legally binding interpretation of the relevant provisions and it would be advisable for persons contemplating legal action to seek legal advice.

An Bord Pleanála

LOCAL GOVERNMENT (NO.2) ACT, 1960

HOUSING ACT, 1966

PLANNING AND DEVELOPMENT ACTS, 2000 to 2011

Louth County Council

An Bord Pleanála reference number: 15.KA0024

APPLICATION received by An Bord Pleanála on the 20th day of January, 2012 from Louth County Council pursuant to section 76 of, and the Third Schedule to, the Housing Act, 1966 as extended by section 10 of the Local Government (No. 2) Act, 1960 (as substituted by section 86 of the Housing Act, 1966) and the Planning and Development Acts 2000 to 2011, for confirmation of a compulsory purchase order dated the 13th day of January, 2012 authorising compulsory acquisition of lands and entitled **"County Louth Compulsory Purchase (Roads No 1) (Narrow Water Bridge) Order 2012"**.

DECISION

CONFIRM the above compulsory purchase order without modifications for the reasons and considerations set out below.

FOR

REASONS AND CONSIDERATIONS

Having considered the objection made to the compulsory purchase order, and not withdrawn, the report of the person who conducted the oral hearing into the objection, and the purpose of the compulsory acquisition for the proposed bridge and associated works as set out in the form of the compulsory purchase order, and also having regard to:

(i) the provisions of the Louth County Development Plan 2009-2015, and the functions of the Roads Authority, and

(ii) the community need, public interest served and overall benefits to be achieved from use of the acquired lands for the purpose identified in the order,

it is considered that the acquisition of the lands in question by the local authority, and the extinguishment of public rights of way, as set out in the order and on the deposited maps, are reasonable and necessary for the purpose stated and that the objection cannot be sustained having regard to the said necessity and having regard to the purposes of the order.

Fionnuala Regan

Member of An Bord Pleanála
duly authorised to authenticate
the seal of the Board.

Dated this 12th **day of** October **2012.**

Our Ref: 15.HA0037

Your Ref:

An Bord Pleanála

Eugene McManus, Transportation
Louth County Council
County Hall
Millennium Building
Dundalk
Co. Louth

12th October 2012

Re: Proposed new opening bridge across the Newry River at Narrow Water linking Omeath, County Louth and Warrenpoint, County Down.

Dear Sir,

An order has been made by An Bord Pleanála determining the above-mentioned case. A copy of the order and Board Direction are enclosed.

In accordance with section 146(3) of the Planning and Development Act, 2000 the Board will make available for inspection and purchase at its offices the documents relating to the decision within 3 working days following its decision. In addition, the Board will also make available the Inspector's Report and the Board Direction on the decision on its website (www.pleanala.ie). This information is normally made available on the list of decided cases on the website on the Wednesday following the week in which the decision is made.

The attachment contains information in relation to challenges to the validity of a decision of An Bord Pleanála under the provisions of the Planning and Development Act, 2000, as amended.

If you have any queries in relation to the matter please contact the undersigned officer of the Board.

Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

pp Síle Barron

Sinead McInerney
Executive Officer
Direct Line:01-8737295

ADHOC.HA0037/21

Judicial review of An Bord Pleanála decisions under the provisions of the Planning and Development Act, 2000, as amended

A person wishing to challenge the validity of a Board decision may do so by way of judicial review only. Sections 50, 50A and 50B of the Planning and Development Act 2000 (as substituted by section 13 of the Planning and Development (Strategic Infrastructure) Act 2006 and as amended/substituted by sections 32 and 33 of the Planning and Development (amendment) Act 2010) contain provisions in relation to challenges to the validity of a decision of the Board.

The validity of a decision taken by the Board may only be questioned by making an application for judicial review under Order 84 of The Rules of the Superior Courts (S.I. No. 15 of 1986). Sub-section 50(6) of the Planning and Development Act 2000 requires that subject to any extension to the time period which may be allowed by the High Court in accordance with subsection 50(8), any application for judicial review must be made within 8 weeks of the decision of the Board. It should be noted that any challenge taken under section 50 may question only the validity of the decision and the Courts do not adjudicate on the merits of the development from the perspectives of the proper planning and sustainable development of the area and/or effects on the environment. Section 50A states that leave for judicial review shall not be granted unless the Court is satisfied that there are substantial grounds for contending that the decision is invalid or ought to be quashed. Section 50B contains provisions in relation to the cost of judicial review proceedings in the High Court relating to specified types of development (including proceedings relating to decisions or actions pursuant to a law of the state that gives effect to the public participation and access to justice provisions of Council Directive 85/337/EEC i.e. the EIA Directive and to the provisions of Directive 2001/12/EC i.e. Directive on the assessment of the effects on the environment of certain plans and programmes). The general provision contained in section 50B is that in such cases each party shall bear its own costs.

Disclaimer: The above is intended for information purposes. It does not purport to be a legally binding interpretation of the relevant provisions and it would be advisable for persons contemplating legal action to seek legal advice.

An Bord Pleanála

ROADS ACTS 1993 to 2007

PLANNING AND DEVELOPMENT ACTS 2000 to 2011

Louth County Council

An Bord Pleanála reference number: 15.HA0037

APPLICATION by Louth County Council for approval under section 51 of the Roads Act, 1993, as amended, in accordance with documentation, including an environmental impact statement and natura impact statement, lodged with An Bord Pleanála on the 16th day of January, 2012.

PROPOSED ROAD DEVELOPMENT: Narrow Water Bridge providing a new opening bridge at Narrow Water linking County Louth with County Down. The scheme will provide a new single carriageway link between Omeath and Warrenpoint. The bridge will connect the R173 Omeath Road and the A2 dual carriageway across the Newry River at Narrow Water. A new roundabout will be constructed at the junction with the R173 Omeath Road and the existing A2 roundabout will be upgraded to accommodate the required additional arm. The total length of the scheme, including the required bridge crossing, is approximately 660 metres.

DECISION

Approve the above proposed road development in accordance with the said documentation based on the reasons and considerations under and subject to the conditions set out below.

REASONS AND CONSIDERATIONS

In coming to its decision, the Board had regard to the following:

(a) the national, regional and local strategic planning policies and objectives, inclusive of those set out in the National Development Plan 2007-2013, the National Spatial Strategy 2002-2020, the Border Regional Planning Guidelines 2010-2022, and the Louth County Development Plan 2009-2015,

FOR

(b) the Regional Development Strategy for Northern Ireland 2035, and the Banbridge/Newry and Mourne Local Area Plan 2015,

(c) the benefit of the scheme as an important cross-border link between the Mourne area and the Cooley peninsula, resulting in improved connectivity and social cohesion,

(d) the proposal constituting an important element in the development of tourism in the area,

(e) the design of the proposed bridge, which is acceptable in terms of its impacts on the surrounding landscape, and on the cultural heritage and ecological setting of the area,

(f) the range of proposed mitigation measures set out in the environmental impact statement and at the oral hearing,

(g) The submissions made by the Department of the Environment Planning Office of Northern Ireland in response to transboundary consultation, and

(h) the report of the Inspector who held the oral hearing, and the submissions on file generally.

Having regard to the nature, scale and design of the proposed development, the environmental impact statement submitted with the application, the submissions on file and the Inspector's assessment of environmental impacts, which is noted, the Board completed an environmental impact assessment and concluded that the proposed development would not be likely to have significant adverse effects on the environment.

Having regard to the nature, scale and design of the proposed development, the natura impact statement submitted with the application, the submissions on file and the Inspector's assessment, which is noted, the Board completed an appropriate assessment of the impacts of the proposed development on the Carlingford Shore Special Area of Conservation (site code 002306) and Carlingford Lough Special Protection Area (site code 004078). The Board concluded that the proposed development, in itself or in combination with other plans or projects, would not adversely affect the integrity of the European sites in view of the conservation objectives for those sites.

It is considered that, subject to compliance with the conditions set out below, the proposed development would not seriously injure the residential amenity of the area or of property in the vicinity, would be acceptable in terms of resulting visual and landscape impacts, would be acceptable in terms of traffic safety and convenience, would not be detrimental to the safe navigation of vessels on the waterway, would not adversely affect the character or setting of protected structures, a historic monument or historic buildings, and would not be likely to have significant adverse effects on the environment in a transboundary state. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

FOR

CONDITIONS

1. The proposed development shall be carried out in accordance with the plans, drawings and documentation, including the environmental impact statement and natura impact statement, submitted with the application on the 16th day of January 2012, and the mitigation measures set out therein, as supplemented by the final schedule of commitments submitted by the roads authority to An Bord Pleanála at the oral hearing on the 27th day of June 2012.

   Reason: In the interest of clarity.

2. Prior to commencement of development, the proposed roost site shall be constructed and completed as set out in Section 7.2.8(b) (Volume 2) and Figure 7.3 (Volume 3) of the environmental impact statement.

   Reason: To mitigate potential impacts on local bird species.

Fiona O'Regan

Member of An Bord Pleanála
duly authorised to authenticate
the seal of the Board.

Dated this 12th **day of** October **2012**

An Bord Pleanála

Board Direction

Ref: 15.HA0037

At a further meeting of all available Board Members held on 10th October 2012, the Board considered:

(a) the objections made to the proposed development,

(b) the report of the Inspector who held the oral hearing and

(c) the documents and submissions on file generally.

The Board Members had previously visited the site in the company of the Inspector on 26th September 2012. The Board decided by a majority of 6:1 to approve the proposed development, in accordance with the reasons, considerations and conditions set out below.

REASONS AND CONSIDERATIONS

In coming to its decision, the Board had regard, *inter alia*, to the following:

(a) the national, regional and local strategic planning policies and objectives, inclusive of those set out in the National Development Plan 2007 - 2013, the National Spatial Strategy 2002 - 2020, the Border Regional Planning Guidelines 2010 - 2022, and the Louth County Development Plan 2009 - 2015;

(b) the Regional Development Strategy for Northern Ireland 2035, and the Banbridge/Newry and Mourne Local Area Plan 2015;

(c) the benefit of the scheme as an important cross-border link between the Mourne area and the Cooley peninsula, resulting in improved connectivity and social cohesion;

(d) the proposal constituting an important element in the development of tourism in the area;

(e) the design of the proposed bridge, which is acceptable in terms of its impacts on the surrounding landscape, and on the cultural heritage and ecological setting of the area;

(f) the range of proposed mitigation measures set out in the environmental impact statement and at the oral hearing;

(g) The submissions made by the Department of the Environment Planning Office of Northern Ireland in response to transboundary consultation; and

(h) the report of the Inspector who held the Oral Hearing, and the submissions on file generally.

Having regard to the nature, scale and design of the proposed development, the environmental impact statement submitted with the application, the submissions on file and the Inspector's assessment of environmental impacts, which is noted, the Board completed an environmental impact assessment and concluded that the proposed development would not be likely to have significant adverse effects on the environment.

Having regard to the nature, scale and design of the proposed development, the natura impact statement submitted with the application, the submissions on file and the Inspector's assessment, which is noted, the Board completed an appropriate assessment of the impacts of the proposed development on the Carlingford Shore Special Area of Conservation (site code 002306) and Carlingford Lough Special Protection Area (site code 004078). The Board concluded that the proposed development, in itself or in combination with other plans or projects, would not adversely affect the integrity of the European sites in view of the conservation objectives for those sites.

It is considered that the proposed development, subject to the conditions set out below, would not seriously injure the residential amenity of the area or of property in the vicinity, would be acceptable in terms of resulting visual and landscape impacts, would be acceptable in terms of traffic safety and convenience, would not be detrimental to the safe navigation of vessels on the waterway, would not adversely affect the character or setting of protected structures, a historic monument or historic buildings, and would not be likely to have significant adverse effects on the environment in a transboundary State. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

CONDITIONS

1. The proposed development shall be carried out in accordance with the plans, drawings and documentation, including the environmental impact statement and natura impact statement, submitted with the application on 16th day of January 2012, and the mitigation measures set out therein, as supplemented by the final schedule of commitments submitted by the roads authority to An Board Pleanála at the oral hearing on the 27th day of June 2012.

   Reason: In the interest of clarity.

2. Prior to commencement of development, the proposed roost site shall be constructed and completed as set out in Section 7.2.8(b) (Volume 2) and Figure 7.3 (Volume 3) of the environmental impact statement.

   Reason: To mitigate potential impacts on local bird species.

Notes:

a) The Board had regard to concerns raised in relation to the impact of the proposed bridge on traffic on the A2, but considered that the potential effects would not be so significant as to merit refusal of permission.

b) The Board gave consideration to whether it might be appropriate to attach a planning condition in relation to controlling the use of the proposed bridge by heavy commercial vehicles, so as not to impair the benefits of the bridge as an amenity/tourism link, but took the view that this would not be necessary. Nevertheless, the Board considered that the Roads Authority might give consideration to monitoring such usage.

c) The Board noted the Inspector's suggestion (02/10/12) that further consultation with the Northern Ireland authorities be undertaken prior to making a determination on the case. The Board also noted that, subsequently, the Schedule of Environmental Commitments submitted at the Oral Hearing on 27/06/12 had been circulated to the Northern Ireland Planning Service, and furthermore, that the Department of the Environment Planning Office of Northern Ireland had already indicated that, subject to condition, they had no further comment to make in relation to transboundary consultation. The Board therefore considered that no further consultation was necessary.

Please issue a copy of this Direction with the Board Order.

Board Member: Fionna O'Regan Date: 12th October 2012

Fionna O' Regan

DOE

Department of the Environment
www.doeni.gov.uk

APPROVAL OF PLANNING PERMISSION

Planning (Northern Ireland) Order 1991

Application No: **P/2012/0121/F**

Date of Application: **9th February 2012**

Site of Proposed Development: **Narrow Water, Newry Road, Warrenpoint, County Down Cornamucklagh, Omeath, County Louth, RoI**

Description of Proposal: **New single carriageway cable stayed opening bridge across the Newry River tying into the existing A2 Roundabout. Associated works include a control building and a new navigation beacon.**

Applicant:	Louth County Council	Agent:	Roughan & O'Donovan
Address:	County Hall Millenium Centre Dundalk	Address:	Arena House Arena Road, Sandyford Industrial Estate Dublin D 18

Drawing Ref: 06, 10, 09, 08, 05, 11, 07, 04, 03, 02, 01,

The Department of the Environment in pursuance of its powers under the above-mentioned Order hereby

GRANTS PLANNING PERMISSION

for the above-mentioned development in accordance with your application subject to compliance with the following conditions which are imposed for the reasons stated:

1. As required by Article 34 of the Planning (Northern Ireland) Order 1991, the development hereby permitted shall be begun before the expiration of 5 years from the date of this permission.

   Reason: Time Limit.

2. Construction works on the road formation of the north eastern approach to the bridge structure from the A2 Newry Road, Warrenpoint shall not be commenced until the developer has submitted to and received approval from the Department for the highway alterations indicated generally on Drawing No 11 dated 27 July 2012.

   Reason: In the interests of traffic safety and progression.

3. The Bridge shall not become operational until the works comprised in the above highway alterations have been fully completed and so certified by the Department in writing.

   Reason: In the interests of traffic safety and progression.

4. Prior to commencement of any road works the developer shall submit and agree a detailed programme of such works and associated traffic management proposals with the Department.

   Reason: In the interests of traffic safety and progression.

5. The bridge shall not become operational until the hard surfaced area required for queuing traffic on the northern bridge approach has been constructed within the site and permanently marked to provide an area for waiting vehicles in accordance with Drawing No 11 dated 27 July 2012.

   Reason: In the interests of traffic safety and progression.

6. The bridge shall not become operational until the above stacking area on the northern approach has been demonstrated by initial trials to the satisfaction of Roads Service to operate satisfactorily without interference to through traffic on the A1 Warrenpoint-Newry Road.

   Reason: In the interests of traffic safety and progression.

7. Details of road markings, advance signs, street lighting gantries and variable message signs shall be agreed with Roads Service Traffic Management prior to the commencement of any road works.

   Reason: In the interests of traffic safety and progression.

8. A temporary traffic management plan for the initial 4 weeks period following opening of the bridge shall be submitted to the Department for approval prior to the Bridge becoming operational.

Reason: In the interests of traffic safety and progression.

9. Detailed plans shall be submitted indicating highway design in accordance with the current relevant standards of the Design Manual for Roads and Bridges. All details shall be submitted to Roads Service prior to commencement of any road works.

Reason: In the interests of traffic safety and progression

10. All construction plant and materials shall be stored within the curtilage of the site.

Reason: In the interests of traffic safety and progression.

11. The construction, equipment and timing of the proposed aids to navigation must be agreed in writing with Carlingford Lough Commissioners, Warrenpoint Harbour Authority and the Commissoners of Irish Lights prior to commencement of works.

Reason: In the interests of navigational safety

12. All storm water from the development site should not be discharged to nearby watercourses unless first passed through pollution interception and flow attenuation measures.

Reason: to prevent pollution of surface waters.

13. Hydrodynamic modelling must be undertaken in the vicinity of the proposed bridge and agreed in writing with Loughs Agency, prior to commencement of works to ensure that any sediment dispersal and resettling does not impinge on the public fishery.

Reason: to ensure no detrimental impacts to the public fishery.

14. There shall be no piling undertaken between 1st March to 30th June or between 1st September to 28th February.

Reason: to ensure the works do not significantly affect a nearby nest site or the movements of salmon smolts or adult salmon migration.

15. There shall be uplighting of the cables at night time

Reason: to ensure the cables are visible at night

16. There shall be no light spillage, or light facilities erected below the deck of the bridge

Reason: to minimise the impact of the proposal on bats and to protect the riparian corridor of the Newry River

17. A monitoring programme should be put in place during piling works for this

development to confirm that vibrations caused through construction works are within appropriate tolerance levels for historic buildings. The applicant should contact NIEA: Historic Monuments Unit prior to piling works to agree a schedule whereby NIEA can review the levels of vibrations caused by construction works at regular intervals.

Reason: To ensure that vibrations caused by construction works are within appropriate tolerance levels and to prevent any potential impact upon Narrow Water Castle.

18. No site works of any nature or development shall take place until a programme of archaeological work, has been implemented, in accordance with a written scheme and programme prepared by a qualified archaeologist, submitted by the applicant and approved by the Department. The programme should provide for the identification and evaluation of archaeological remains within the site, for mitigation of the impacts of development, through excavation recording or by preservation of remains, and for preparation of an archaeological report.

Reason: to ensure that archaeological remains within the application site are properly identified, and protected or appropriately recorded.

19. Access shall be afforded to the site at all reasonable times to any archaeologist nominated by the Department to observe the operations and to monitor the implementation of archaeological requirements.

Reason: to monitor programmed works in order to ensure that identification, evaluation and appropriate recording of any archaeological remains, or any other specific work required by condition, or agreement is satisfactorily completed.

20. A Construction Environmental Management Plan (CEMP) must be submitted to the Department, for consultation with NIEA Water Management Unit, at least 8 weeks prior to the commencement of construction.

Reason: To ensure effective avoidance and mitigation measures have been planned for the protection of the water environment.

21. No development shall commence until the Department has received in writing an assessment of pollutant linkages present at the site, particularly with regards to sensitive groundwater and surface water receptors identified. This assessment shall include;

a) A conceptual site model (CSM) which informs a preliminary risk assessment (desk study) to identify potential pollutant linkages at the site, particularly with regards to the water environment

b) Additional intrusive site investigation and monitoring information to inform site specific human health and hydrogeological risk assessments for the proposed development.

c) A remediation strategy should unacceptable risks be identified. This strategy should include the remediation objectives and criteria and demonstrate the

management of all unacceptable risks identified.

d) Details of the groundwater and surface water monitoring network, sampling frequency and analytical suite to be employed before, during and post piling and construction work to inform further revisions of the risk assessment and management of potential risks.

Reason: Protection of health and environmental receptors to ensure the site is suitable for use.

22. The proposed foundation design and a foundation works risk assessment, which is informed by the site data generated under condition 20, should be completed and submitted in writing to the Department for its agreement, prior to any piling works commencing. The assessment should follow the methodology in the Environment Agency (2001) document, "Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention", reference NC/99/73.

Reason: Protection of health and environmental receptors to ensure the site is suitable for use.

23. If during the development works, new contamination is encountered which has not previously been identified, works should cease and the Department shall be notified immediately. This new contamination shall be fully investigated in accordance with the Model Procedures for the Management of Land Contamination (CLR11). In the event of unacceptable risks being identified, a remediation strategy shall be agreed with the Department in writing, and subsequently implemented and verified to its satisfaction.

Reason: Protection of health and environmental receptors to ensure the site is suitable for use.

24. After completing all monitoring and any remediation works under conditions 20-22, a verification report needs to be submitted in writing and agreed with the Department. This report should be completed by competent persons in accordance with the Model Procedures for the Management of Land Contamination (CLR11). The verification report should present all the remediation and monitoring works undertaken and demonstrate the effectiveness of the works in managing all risks and achieving the remedial objectives.

Reason: Protection of health and environmental receptors to ensure the site is suitable for use

Informatives

1. This permission does not alter or extinguish or otherwise effect any existing or valid right of way crossing, impinging or otherwise pertaining to these lands.

2. This permission does not confer title. It is the responsibility of the developer to ensure

that he controls all the lands necessary to carry out the proposed development.

3. Notwithstanding the terms and conditions of the Departments approval set out above, the developer is required to enter into a licence agreement with the Department for Regional Development, Roads Service for the carrying out of the road works at A2 Newry Road prior to the commencement of any works on the public road network. Final details of the highway improvements directly related to the development referred to in Condition 2, should be agreed with the Department for Regional Development's Roads Service prior to the issue of the licence, which can take 3-4 months to process.

4. Notwithstanding the terms and conditions of the Department's approval set out above, the applicant is required under the Street Works (Northern Ireland) Order 1995 to be in possession of a Street Works Licence before any work is commenced which involves making any opening or placing of any apparatus in the public roadway.

5. The development hereby permitted shall not be commenced until a Street Lighting scheme design has been submitted and approved by the Department for Regional Development's Street Lighting Section.

6. The Street Lighting scheme, including the provision of all plant and materials and installation of same, will be implemented as directed by the Department for Regional Development's Street Lighting Section.
(These works will be carried out entirely at the developer's own expense.)

7. The developer will be required to ensure that the road works associated with the northern approach to the bridge have been subject to the Safety Audit process in accordance with the Department's guidelines.

8. Traffic Management arrangements to facilitate the construction of the development and associated road works hereby approved shall comply with the requirements of the Safety at Street Works and Road Works Code of Practice issued by the Department for Regional Development (Northern Ireland) under Article 25 of the Street Works (Northern Ireland) Order 1995. Detailed proposals shall be agreed with Traffic Section, Rathkeltair House in advance of the commencement of any works that may affect the public road network and, where appropriate, shall be subject to the approval of the PSNI Road Policing Unit.

9. The applicant should contact the Section Engineer to agree haulage routes and the reinstatement of the public road prior to commencement of work on site.

10. No development shall take place until vehicle wheel cleansing facilities have been installed and brought into operation on the site, the design and siting of which shall be subject to the prior approval of the Section Engineer.

11. The use of cement/concrete on site will require careful management. While they are versatile building materials and must be kept out of all drains and watercourses.

12. The applicant is advised to ensure that all plant and equipment, and in particular the diesel generator for powering the bridge within the development is so situated, operated and maintained as to prevent the transmission of noise to nearby residents.

13. The bridge will be required to conform to recognised standards in terms of navigational lights. The Carlingford Lights Commission will make all decisions in this regard.

14. During the construction phase there is the potential for an increase in sediments being released into watercourses. An environmental monitoring programme must be implemented.

15. There must be no blockage of the main channel during the construction phase that would impede free passage for migratory fish species. The Loughs Agency has noted the applicant's intention to discuss the methodology of construction and timing of works and looks forward to receiving formal notification of same.

16. Throughout the project, the applicant should demonstrate best environmental practice when working close to watercourses. The potential for deleterious matter to enter a watercourse is of primary concern. Impacts on the aquatic environment such as a decrease in water quality can cause a significant impact upon various life history stages of fish species.

17. The applicant should also be aware that it is an offence under section 41 of the Foyle Fisheries Act (1952) to cause pollution which is detrimental to fisheries interests.

18. A Discharge Consent, issued under the Water (Northern Ireland) Order 1999, is required for any discharges to the aquatic environment. Any proposed discharges not directly related to the construction of the road, such as from septic tanks or wash facilities, will also require separate Discharge Consent applications.

19. The proposed scheme will involve abstractions (e.g. dewatering of an excavation) or an impoundment (a pool of water formed by a dam or pit) an appropriate abstraction/impoundment licence issued under the Water Abstraction and Impoundment (Licensing) Regulations (Northern Ireland) 2006 may be required.

20. NIEA is the Licensing Authority in Northern Ireland controlling construction/deposition or removal of materials below the Mean High Water Spring tide mark, under Part 4 (Marine Licensing) of the Marine and Coastal Access Act 2009. A Marine Licence will be required for this proposal.

21. The definition of a 'waterway' used in the contract(s) for the scheme, the Construction Environmental Management Plan (CEMP) and any relevant method statements should be as defined under the Water (Northern Ireland) Order 1999.

22. The area is a public fishery and the applicant must recognise this and be aware that there may still be access issues for boats that dredge in that area. Furthermore,

vessels access for seed mussel and utilise the area for adult mussels. Operating procedures will need to be prepared to ensure access for vessels.

23. The applicant's attention is drawn to Article 4 of the Wildlife (Northern Ireland) Order 1985 (as amended) under which it is an offence to intentionally or recklessly kill, injure or take any wild bird. It is also an offence to intentionally or recklessly: take, damage or destroy the nest of any wild bird while that nest is in use or being built; or take or destroy an egg of any wild bird. If any person intentionally or recklessly disturbs any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or disturbs dependent young of such a bird they shall be guilty of an offence. Any person who knowingly causes or permits to be done an act which is made unlawful by any of these provisions shall also be guilty of an offence.

24. The applicant's attention is drawn to the fact that the site includes Carlingford Area of Special Scientific Interest and is upstream of Carlingford Special Protection Area precautions should be taken to ensure its integrity will not be damaged by construction vehicles, deposited materials, contaminated run-off, or any other activity during the construction period or thereafter. Any works occurring within the designated site but outside the red line planning application boundary are subject to The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) and Environment (Northern Ireland) Order 2002 (as amended) and require consent from the Northern Ireland Environment Agency, Conservation, Designations and Protection Unit, Klondyke Building, Gasworks Business Park, Belfast BT7 2JA.

25. The applicant's attention is drawn to The Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended), which states that it is an offence to deliberately capture, injure or kill a wild animal of a European protected species included in Schedule II of these Regulations, which includes otters and all species of bat. It is also an offence;
(a) Deliberately to disturb such an animal while it is occupying a structure or place which it uses for shelter or protection;
(b) Deliberately to disturb such an animal in such a way as to be likely to;
(i) affect the local distribution or abundance of the species to which it belongs;
(ii) Impair its ability to survive, breed or reproduce, or rear or care for its young; or
(iii) Impair its ability to hibernate or migrate;
(c) Deliberately to obstruct access to a breeding site or resting place of such an animal; or
(d) To damage or destroy a breeding site or resting place of such an animal.
If there is evidence of bat and/or otter activity on the site, all works must cease immediately and further advice must be sought from the Wildlife Team, Northern Ireland Environment Agency, Klondyke Building, Cromac Avenue, Gasworks Business Park, Belfast BT72JA. Tel. 028 905 69605

26. The applicant should be informed that it is an offence under the Water (Northern Ireland) Order 1999 to discharge or deposit, whether knowingly or otherwise, any poisonous, noxious or polluting matter so that it enters a waterway or water in any underground strata. Conviction of such an offence may incur a fine of up to £20,000 and / or three months imprisonment.

27. The applicant should ensure that measures are in place to prevent pollution of surface or ground water as a result of the activities on site, both during construction and thereafter.

28. Under the terms of Schedule 6 of the Drainage (Northern Ireland) Order 1973 the applicant must submit to Rivers Agency for its consent any proposal to carry out alteration works on the Milltown Stream Culverts. This should be addressed to Rivers Agency, Ravarnet House, Altona Road, Lisburn, BT27 5QB.

29. Both the earthworks operations involved in the construction of the roads and the construction works related to the bridge should be compliant with Roads Service procedures for adoption, especially with regard to the Design Manual for Road and Bridges and the various approvals required within.

30. For guidance on the preparation of the Written Scheme and Programme of Archaeological Work, which should be submitted for approval at least 4 weeks before work is due to begin, contact:
Northern Ireland Environment Agency - Historic Monuments Unit
5 - 33 Hill St, Belfast BT1 2LA

Tel: 028 9054 3140

Quote reference: SM11/1 DOW 54:01 S and D/041

31. Application for the excavation licence, required under the Historic Monuments and Archaeological Objects(NI) Order 1995, should be submitted at least 4 weeks before work is due to begin, by a qualified archaeologist responsible for the project, to Northern Ireland Environment Agency – Historic Monuments Unit, Excavation Licensing, Waterman House, 5 - 33 Hill St, Belfast BT1 2LA

32. A pollution incident response programme should be agreed with Loughs Agency

33. Loughs Agency has requested that during piling or the building of coffer dams, continuous monitoring be undertaken of any sediment changes.

34. The purpose of conditions 20-23 is to ensure that the risk assessment and remediation work is undertaken to a standard that enables safe development and end-use of the site such that it would not be determined as contaminated land under the forthcoming Contaminated Land legislation i.e. Part 3 of the Waste and Contaminated Land Order (NI) 1997. It remains the responsibility of the developer to undertake and demonstrate that the works have been effective in managing all risks.

35. The applicant should ensure that the management of all waste are suitably authorized through the Waste Management Regulations (NI) 2006 and/or the Water Order (NI) 1999. This should be demonstrated through a Site Waste Management Plan (see http://www.netregs.gov.uk)

36. LRM recommend that the applicant consults with the Water Management Unit within the NIEA regarding any potential dewatering that may be required during the redevelopment works including the need for discharge consent. Discharged waters should meet appropriate discharge consent conditions.

37. A Pre-Construction Environmental Management Plan must be submitted to the Department, for consultation with NIEA Water Management Unit, at least 8 weeks prior to the commencement of any works, including pre-construction earthworks related to contaminated land or archaeological investigation near or liable to affect any waterway (as defined by the Water (Northern Ireland) Order 1999).

38. Method of Works Statements, for works in, near or liable to affect any waterway as defined by the Water ((Northern Ireland) Order 1999, must be submitted to the Department, for consultation with NIEA Water Management Unit, at least 8 weeks prior to the commencement of the works or phase of works.

39. An Environmental Manager must be designated for the scheme. Contact details of the designated Environmental Manager must be submitted to the Department, and submitted to NIEA Water Management Unit, at least 8 weeks prior to the commencement of pre-construction or construction works. This information may be contained within a Construction Environmental Management Plan (CEMP).

Dated: 24th October 2012 Authorised Officer [redacted]

APPENDX C
SCHEDULE OF COMMITMENTS

Schedule of Commitments

1. General

Mitigation measures are the measures proposed in order to avoid, reduce or where possible remedy the significant adverse environmental effects of the proposed development. From the outset mitigation measures have been incorporated into the design of the proposed road and bridge. For example, Chapter 4 'Alternatives Considered' highlights that one significant reason for the choice of bridge design was the lack of interference it will have on the sensitive environment of the Newry River estuary and associated foreshore.

This section of the Environmental Impact Statement/Environmental Statement provides a summary of the mitigation measures/environmental commitments proposed. These measures cover both the construction and operational phases and will ensure that project does not have any significant negative environmental impact.

2. Traffic and Transport

The Narrow Water Bridge will not adversely affect the existing road network on the southside. The bridge is expected to beneficial to the R173 Omeath Road as the proposed Cornamucklagh Roundabout will act to calm traffic in the vicinity of the crossing. However, it is anticipated that, without management, traffic queuing on the north side when the bridge is open could extend onto the A2 roundabout. In order to remedy this situation and ensure the maintenance of a free flowing roundabout and A2 carriageway traffic management measures have been agreed with the Roads Service (Northern Ireland). These measures include road markings, signs and VMS signage (refer to Chapter 5).

The existing lay-by on the northbound carriageway of the A2 dual-carriageway is capable of accommodating any additional parking demand arising from the provision of the bridge, however, due to the difficulty in accurately assessing the parking demand associated with the scheme, it is recommended that the parking should be monitored by local authorities following completion of the bridge.

The proposed development will not result in any significant adverse impacts on traffic and transport during the construction or operational phases. Traffic management measures will be required at certain locations to mitigate against any construction impacts. The site entrances will be managed such that vehicles can access the site safely. Furthermore, temporary diversions will be required for the construction of the new roundabout on the R173 and the diversion of the existing culverts under the roundabout on the A2.

Bridge construction adjacent or over the navigational channel of the Newry River will need to be highlighted to marine vessels in accordance with the requirements of Warrenpoint Harbour Authority. In addition, the navigational channel will need to be closed while the opening span is being installed. It is intended to minimise this period of closure by assembling the rolling bascule section off site and transporting it directly to the site through Carlingford Lough. This minimises the time period to install the opening span over the navigational the channel and therefore, the period that the channel will be closed.

3. Human Beings

No specific socio-economic related mitigation measures are required for this project. Specific mitigation measures to protect the residential amenity of adjacent dwellings and sensitive receptors are proposed in other sections of the EIS/ES under all the various the chapters. Also at Detailed Design stage Louth County Council will continue to consult with the fishermen to ensure that opening times of the bridge are optimised to minimise disruption to their operations.

4. The Natural Environment

4.1 Terrestrial Ecology

The ecological impact assessment identified that the proposed road and bridge at Narrow Water is in an area of high nature conservation value. The area of foreshore is a candidate SAC in County Louth and an Area of Special Scientific Interest in County Down. Carlingford Lough SPA also occurs further up the lough.

The primary potential impacts highlighted by this study include minor loss of poor quality saltmarsh habitat on the Omeath foreshore, the temporary loss of a high tide waterbird roost site on the Omeath foreshore and the potential for avian collision against the bridge cables. There is no impact on the qualifying interest of the candidate SAC (refer Section 7.2).

The following comprehensive mitigation measures are proposed to minimise and avoid all such impacts:

Habitats

While the salt marsh at this site is of low quality and is not a qualifying habitat of Carlingford Shore cSAC, salt marsh is an Annex I habitat and therefore care is required to minimise loss and disturbance.

At the commencement of construction, the area required for the works will be identified and marked (by fencing) so that incursions by machinery or storage of materials on adjoining areas does not happen.

If entry to the site is required over adjoining intact salt marsh, the salt marsh will be covered with appropriate matting to minimise damage to the surface vegetation.

In general, salt marsh habitats are sensitive to erosion, which can result in slippage and release of sediments to the estuarine waters. Monitoring is required during and after construction in order to establish that no negative impacts in this regard have occurred. If this is the case then some remedial measures would be needed, possibly in the form of bunding or vegetation re-establishment. The salt marsh beneath the footprint of the bridge foundations on the Louth side will be cut out in sods, stored, and later used, as necessary, to repair the disturbed edges of the remaining salt marsh habitat and to encourage salt marsh regeneration. Storage of the sods should be at a nearby location (at an appropriate tidal height) and with vegetation side up.

Hedgerows and Trees

It will be necessary to compensate for the loss of trees and hedgerows through the planting of substitutes. These will be of native shrubs and trees and preferably of

those species which have been lost. The following species are recommended for replacement planting:-

- Shrubs: hawthorn, broom, wild cherry, blackthorn
- Trees: sessile oak, rowan (mountain ash), whitebeam, ash, grey willow

(refer Chapter 8 for Landscape Planting detail and **Figure 8.7** Landscape Planting)

Birds

Creation of New High Tide Roost

As the proposed scheme will affect regular roosting sites for wintering waterbirds in this part of the Carlingford system, it is best practice to provide an alternative high tide roost.

In order to encourage the speedy adoption by the waterbirds of the man-made alternative island, it is recommended that the "new" island has the following characteristics:-

- is located within sight of the existing roosts;
- is in relatively sheltered waters, to reduce wave erosion of the substrate and provide roosting birds with protection from strong winds;
- is approximately the same size as the combined existing island and spit;
- is cut off from the mainland shore at high tides (neaps and springs);
- is flat-topped with gently graded edges;
- is constructed with a base of stones and cobbles similar in size to those at the existing island, with a top layer of silt planted/seeded with similar saltmarsh vegetation.

Furthermore, the constructed island should not occupy intertidal substrates which are themselves of value as feeding areas for waterbirds or of ecological value from a habitats perspective.

Taking into account the above criteria, it is proposed to construct the new roost site on the shore immediately to the south-west of the small beacon and at the landward side of the beacon. This intertidal area is stony, with a partial covering of fucoid seaweed, and was found in the 2008 and 2009 surveys to support few feeding waterbirds. Also, this part of the Newry River estuary is relatively sheltered and is close to and within sight of the existing roost sites. This location is such that the constructed island will be cut off from the mainland at high neap and spring tides.

The elevation of the constructed island should vary between 0.5 and 1.0 m above mean high spring tides, so that the waterbirds are not forced to move elsewhere during very high tides. This is the situation present on the existing saltmarsh island.
To reduce wave and current erosion of the edges of the constructed island, it is recommended that larger stones/cobbles be placed around the perimeter, while smaller material can be used to fill the interior.

The new man-made island will be constructed before bridge works commence (ideally one full winter beforehand), so that it is available as an alternative high tide roosting site as and when birds are disturbed from the existing roosting sites.

Disturbance During Construction

It is inevitable that some disturbance will be caused to birds during the construction period. It is considered that the nesting Grey Herons are the most sensitive species – to minimise the risk of significant disturbance to the herons and indeed the other breeding birds in Cillin Wood any necessary pile-driving operations will be carried out outside the early breeding season of the Grey Herons (March - May).

In order to minimise the disturbance of the overwintering waterbirds the construction of the northern and southern abutments, which will require direct access on to the foreshore, shall be completed outside of the main overwintering period.

Removal of Vegetation

To comply with the Wildlife Acts 1976 & 2000 (and the Wildlife (NI) Order 1985), clearance of vegetation in fields and hedgerows which would disturb breeding birds and destroy nests, eggs and chicks, will be carried out outside of the nesting season (1st March to 31st August).

Landscaping

Suitable native trees and shrubs shall be planted close to the link road to provide compensatory nesting, feeding and sheltering habitat for birds displaced by vegetation clearance. This planting shall be co-ordinated with the bat and landscaping mitigation measures.

Minimisation of Collision Risk

To reduce the risk to waterbirds (and other species) from collision with the bridge itself, and the towers, suspension cables and other fittings associated with the bridge, the entire structure will be lit at night (refer Chapter 3, Section 3.5.5) so that all elements of the structure are clearly visible to nocturnal flying birds. This will be provided in the form of architectural up-lighting which will be focused on the bridge structure and away from the river and adjoining areas of vegetation.

To minimise the potential collision risk to flying birds posed by the suspension cables during daylight, the cables will be light in colour (off-white) so that they are visible to flying birds.

Provision should be made to alter the lighting arrangements and/or add cable markers, should casualties be reported due to collisions.

Mammals

Mammal underpasses

Badgers typically follow the same pathways between setts, feeding areas and latrines. In most cases these pathways occur along features such as hedgerows, treelines, woodland edges and watercourses. To avoid unnecessary badger road casualties mammal underpasses will be constructed adjacent to regular crossing points on the proposed link road (refer **Figure 7.3**). Underpasses will be constructed in accordance with the NRA *Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes (2006).*

Badger/mammal fencing

Mammal resistant fencing will be required to guide badgers and other mammals to passage facilities and to prevent animals crossing the new link road. The specification for mammal resistant fencing is given in the NRA *Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes (*2006*)*. The location of the mammal resistant fencing required is shown on **Figure 7.3** in

Volume 3. Fencing will be recessed and tied into culvert and mammal underpass locations to guide badgers and other mammals safely under the road and prevent them accessing the road carriageway.

Bats

The trees which are present within hedgerows along the route are primarily immature Ash and as such are unlikely to contain the required hollows or crevices which bat species utilise as roost sites. Despite this, all such trees shall be inspected and surveyed by a bat ecologist in the Spring of 2011 to ascertain usage by bats and, where required, any necessary derogation licence shall be requested from NPWS and the licence conditions adhered to.

Linear features such as hedgerows and tree lines serve as commuting corridors for bats and the severance of such features by a new road can prevent movement of these animals between roosts or between roosts and foraging areas. As the planned link road will present a barrier between any bats in the southeast and the large woodland in the northwest, which is an obvious foraging area, both road sides shall be planted with hedgerows/tree lines and woodland copses (refer Chapter 8 for Landscape Planting detail). One area of planting will be allowed to develop to a minimum height of 4m to act as a 'fly-over' to ensure that commuting bats can cross high over the road avoiding collisions with traffic (refer to **Figure 7.3** in Volume 3).

Monitoring

As the works will affect habitats and species that are within an area designated for nature conservation and/or are listed in the Habitats Directive, monitoring is required both during and after construction.

Construction Phase Monitoring

A project ecologist shall be appointed to oversee the works during construction. At the commencement of works, the ecologist shall walk the site with the Project Engineer to highlight the conservation issues and to discuss implementation of the mitigation measures contained within the EIS.

The ecologist will visit the site, as considered necessary, when works are in progress. The main purpose of this will be to ensure that adjoining habitats are not being affected by the works.

A site survey will be carried out by the ecologist when works are near completion. Attention will be given to adjoining salt marsh areas to check for disturbance etc. – if necessary, remedial measures will be undertaken at this stage.

A report should be prepared by the ecologist to record the state of the site after works are complete.

Operation Phase

Habitats

The project ecologist shall inspect the site twice a year for 3 years period to determine the success of the mitigation measures and direct additional planting and maintenance as required. This shall be included for in the construction contract. Particular attention shall be given to recovery of shoreline vegetation and establishment of new plantings (as required).

Birds

The success of the new roost site shall be monitored for 3 years following construction. This shall involve two high tide counts per year to coincide with the review of the success of planting measures. If necessary, adjustments will be made to the design/construction of the roost to ensure it is serving its purpose.

Any reports of bird strikes with the bridge structure should be followed up and if these are regular, then remedial measures will be necessary and will be directed by a qualified ornithologist.

Badgers

The success of the mitigation measures for badgers will be monitored for a period after construction, and measures taken to enhance use of underpasses where required. Quarterly monitoring will be carried out to determine the success of the measures employed. Monitoring shall be continued for two years after construction ceases, in accordance with the *NRA Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes*.

In order to ensure that the long term effectiveness of badger resistant fencing and underpasses, these will require periodic maintenance in accordance with the *NRA Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes.*

Liaison with Statutory Bodies

NPWS and NIEA will be notified when works are due to commence and shall be informed if any unexpected issues arise during the course of the works. An annual monitoring report will be issued to both bodies with respect to the success of the mitigation measures and any further actions taken.

4.2 Aquatic Ecology

The issues of concern in terms of aquatic ecology were identified as water quality / aquaculture and fish migration.

Water Quality and Aquaculture

Carlingford Lough is a designated shellfish production site and as such contains licenced shellfish beds. The quality of the water is thus protected by the EC (Quality of Shellfish Waters) Regulations 2006, the essence of which makes it imperative that the construction and operation of the bridge does not result in significant sediment release which could impair water quality.

The cable-stayed bridge requires only a single small in-river pier and as such has minimal impact water velocity and sediment transport. In addition the construction methodology allows the bridge to be built in sections from the southern shore. These issues combine to direct that there is no requirement for specific mitigation measures in this instance.

Fishery Migration

The issue in this instance is the requirement to avoid preventing salmonids, eels or lamprey species migrating upstream. The piling required for the construction of the central pier could prevent this migratory movement. These operations will only be undertaken during normal working hours and as such will allow fish movement during at least half of the 24 hour tidal cycle. However in order to minimise any impact on fish movements, the in-river piling shall be undertaken outside of the main migratory periods. With respect to this, the contractor shall be required to submit their methodology and timing to and receive the agreement of the Loughs Agency.

Mitigation Measures

The following mitigation measures are proposed to prevent the occurrence of any pollution incidents:

- Throughout all stages of the construction phase of the project the contractor shall ensure that good housekeeping is maintained at all times and that all site personnel are made aware of the importance of the associated aquatic environment and the requirement to avoid pollution of all types.
- The storage of oils, hydraulic fluids, etc will be undertaken in accordance with current best practice for oil storage.
- Oil interceptors will be provided in order to prevent runoff of pollutants to river.
- An emergency plan to deal with accidental spills will be drafted.
- Any land drains or pipes served along the route will be connected into new pipes or ditches.
- The pouring of concrete, sealing of joints, application of water-proofing paint or protective systems, curing agents, etc will be completed in the dry to avoid pollution of the freshwater environment.
- All machinery operating in-stream will be steam-cleaned in advance of works and routinely checked to ensure no leakage of oils or lubricants occurs. All fuelling of machinery will be undertaken within the site compound. Steam cleaning will also ensure no accidental spread of invasive species into the river system or Carlingford Lough.
- The timing of In-stream works (including cofferdam erection and dismantling) shall be agreed with the Loughs Agency and will arranged to avoid impacting on the main estuarine migratory movements of salmon and lamprey (main upstream movement through the estuary considered as being June through October).
- Dredged spoil will be removed off site and disposed of under appropriate licence or permissions to an authorised spoil depository location.

4.3 Noise and Vibration

The Noise and Vibration Impact assessment identified that two properties in County Louth and one property in County Down would suffer minor increases in noise levels as a result of traffic using the road and bridge.

The use of ‘low noise road surface’ will reduce the noise impact by between 3 and 5 decibels which in each case brings the noise levels to within the recommended limits.

There are a number of mitigation measures which are considered appropriate and of good working practice for all construction contracts. These measures are detailed in BS5228 (1997), *Noise and Vibration Control on Construction and Open Sites*, and are summarised below. These guidelines should form the basis of control and limiting of potential impact to noise sensitive locations.

Choice of Plant

The contractor should take note of the control measures for relevant plant listed in BS5228 and apply the appropriate measures where practicable. These measures should include:

- Positioning of static plant as far as possible from residential properties, and utilising available screening by temporary structures, stock piles, etc.

- Use of well maintained plant, and where possible new plant manufactured under more strict EC guidelines for manufacturers.
- Substitution of unsuitable plant.
- Maintenance of silencers and moving components.

Screening

Temporary screening using sandbags, 20mm plywood sheeting or similar dense boarding may be required to reduce impact of static machinery or extensive works close to noise sensitive locations. Such measures can be best assessed during the contract by monitoring.

Monitoring

It would be appropriate to conduct noise monitoring of construction during noisy or extensive works at locations close to residential properties. Where the permitted noise levels are exceeded the appropriate screening will be put in place. Measurements should be conducted using a Type 2 or better sound level meter to check on the continuing impact of the works.

With regard to vibration, vibration levels will be monitored at the beginning of the pile driving process to ensure that levels at the most proximate properties and structures does not cause damage.

Appointment of a Responsible Person

It is recommended that the contractor should appoint or delegate a 'responsible person' who will be present on site and who will be willing to answer and act upon queries from the local public.

Night Works

It is not anticipated that the contract will require any construction works to take place outside normal hours. However there may be items of plant (e.g. dewatering pumps and similar) in use during night-time hours. They should be chosen, sited and enclosed such that levels at the nearest properties do not exceed 45 dB L_{Aeq}. This level is based on the World Health Organisation criteria for undisturbed sleep, and assumes a resident may have a partially open window.

4.4 Air Quality and Climate

Construction Phase

Due to the size and nature of the construction activities exhaust emissions will have a negligible impact on local air quality and on climate.

A dust minimisation plan will be formulated for the construction phase to control and minimise potential dust emissions.

Operational Phase

In relation operational aspects of road schemes, emissions of pollutants from road traffic can be controlled most effectively by either diverting traffic away from heavily congested areas or ensuring free flowing traffic through good traffic management plans. No mitigation measures are thus required or recommended.

4.5 Soils, Geology and Hydrogeology

In general, the temporary and permanent impacts on soils, geology and hydrogeology are considered minimal and will be managed by a number of best practice control measures including:

- All suitable material excavated within the cut sections shall be used to the greatest possible degree as fill material on the development.
- All unsuitable material excavated shall be disposed of in accordance with legislative requirement with due regard for the impact on the disposal site. Where possible this material will be utilised in landscaping of the development.
- Embankment and cut slopes which are considered at risk from erosion are to be topsoiled and seeded as soon as possible to prevent the deterioration due to weathering effects.
- Potential pathways for surface pollution by road surface water runoff will be mitigated by means of a suitable drainage system, from approximately Chainage 250 to 300 in particular.
- It is likely that a clay liner or geosynthetic membrane could be utilised between Chainage 250 and 300 to reduce the potential for contamination of soils and groundwater by petrol or other contaminants.
- All topsoil and any pockets of organic material will be removed from the proposed route prior to construction. Where construction of earthworks on soft ground is required at the northern riverbank, excavation of soft soil materials will be required prior to placing any embankment fill materials.
- Topsoil will be removed from all temporary access roads in advance of construction and stored. For the permanent condition reinstatement the underlying soil will be scarified and the topsoil will be replaced and seeded following the removal of temporary works.
- Appropriate drainage will be provided to collect seepage water and slope angles provided suitable for materials in side slopes.
- Monitoring of groundwater installations to be undertaken at construction stage.
- A geotextile screen and boom with oil barrier will be required around marine works to prevent runoff, silt, oil or other deposits generated by construction activities such as boring in overburden or rock from polluting the river.
- A monitoring programme for sampling and testing of suspended solids and turbidity in the Newry River during any such construction activities.
- Replacement of soils in tidal ranges with general granular Class 1 or select granular Class 6A fill is proposed, with appropriate geotextile separation and rock armour shoulders to the embankment.
- Avoidance of excavation and removal of potentially contaminated soils where alternative engineering solutions can be used in the proposed development to ensure the existing ground is capable of providing adequate formation to access roads over potentially contaminated ground.
- Where soft cohesive alluvium, gravels and boulders are present, proof-rolling may be used to confirm whether the soils need to be removed or if they may remain in place subject to detailed design.

5. Landscape and Visual Impact

Bridge Design

Given the nature of the project, consideration of mitigation has been a significant aspect of the project design and as such the proposal incorporates a number of design elements to minimise the landscape and visual impact of the project. These elements include:

- An alignment that is near perpendicular to the river centerline, which is thereby shorter and a more visually natural bridging
- A tie-in to an existing roundabout on the A2 on the northern side of the river, thereby reducing impact on shore and surrounding area;
- Siting the bridge adjacent to and avoiding impact on the wooded promontory of Ferry Hill. In this way the wooded hill provides a visual foreground/background anchor for the main tower on the southern side of the bridge. This effect is clearly illustrated in the Photomontages;
- Minimising and down-sizing the number of piers and apparent mass of the structural components, thereby decreasing adverse visual impacts on views along the river/lough; and
- Incorporation of a signature bridge design with inclined towers and a unique opening mechanism.

As such cognisance was taken of the significance of the landscape setting and it was considered that the landmark bridge best:

- acknowledges and reflects the recognised scenic and visual qualities of its wider setting;
- provides an iconic structure that will assist in the development and realisation of co-ordinated and focused amenity, landscape and recreation objectives and policies for the significant landscape resource of the Cooley Peninsula and the South Down landscapes;
- marks a location of a clear transition between inland river valley and open coastal inlet;
- defines a boundary to westward extension of visually detracting port, port-related and mixed-use development along the shore towards Narrow Water Castle at Warrenpoint;

The visual profile of the bridge is fundamental to how the bridge will be perceived within the landscape. At a basic level the bridge comprises two towers with a thin cable-stay supported deck. Undoubtedly, the most significant physical elements of the proposal are the towers, which have been designed to reflect the nature of the adjoining landscape. The main tower located on the south shore is a tall structure inclined back towards the higher uplands of Anglesey Mountain. By contrast the northern tower is low and more in-keeping with the rolling hills of the northern shore. Between them the towers frame an open vista east ‘to the sea’ and west to the ‘incised river valley’. This open vista is enhanced by the thin cable-stay supported deck, which requires only a single thin pier within the river channel.

The proposed location was selected for a variety of reasons, including its proximity to the wooded promontory of Ferry Hill, which provides a visual anchor for foreground and background views, (views east and west respectively) of the base of the main tower.

Treatment of Bridge Embankments

The bridge embankments on the northern side of the crossing are open in views from the A2 and Narrow Water Castle. The areas shall be sensitively contoured into tie-ins with the retained shoreline and seeded to a coastal and locally appropriate grass seed. Locally appropriate planting shall also be use to soften the engineered aspects of the embankment and to provide for added diversity.
On the southern embankments it is proposed to plant groups of scrub/shrub within a locally appropriate grassland mix on the slope. This will help to anchor the end of the bridge and low scrub is already a characteristic of the shores of Carlingford Lough.

Treatment of Approach Road

While the bridge ties-in directly to the existing roundabout on the A2 on the northern shore, a section of approach road is required to be constructed across pasture lands on the southern side. The southern approach road is located to the east of the wooded Ferry Hill and passes close to existing residential property. The full extent of cut and fill slopes along the road will be planted as a ribbon copse of low-canopy woodlands interlinked with locally appropriate thorn hedgerows. A more mature planting is to be provided as a bat 'flyover' where the scheme severs a hedgerow on the southern side of the lough.

Planting specification

The proposed planting will generally be established with 'bare root transplants', 'whips' and 'feathered trees' which adapt readily to disturbed ground conditions. The low-canopy woodland shall comprise 60% tree and 40% shrub species. The tree mix shall be 50% transplants, 50 and 75cm high; 30% whips, 100 to 120cm high; and 20% feathered trees of between 175 and 200cm high. All tree species shall be planted at 120cm centres. The shrub mix shall use locally appropriate thorn, willow etc. of between 40 and 60cm high. All shrub species shall be planted at 90cm centres.

Tree species utilised will be selected from a list, which will include alder, birches, ash, oak, scot's pine and willows and other plants found naturalised in the locality. Shrub planting species utilised will be selected from a list, which will include blackthorn, hawthorn, hazel, willows, gorse and other plants found naturalised in the locality.

Hedge planting will be primarily of blackthorn and hawthorn at 90 – 120cm high planted at 50cm centres within two staggered rows The hedge shall be planted with ash trees of 'standard size' to be randomly-spaced but averaging 1 tree / linear metre.

Shrub planting areas on the bridge embankments shall be of locally appropriate species, 50-75cm high, planted at 90cm centres, planted so as to cover a minimum of 50% of the slope.

General grass seeding areas to be topsoiled and seeded with a low maintenance mix. Otherwise locally appropriate seed mixes shall be used.

6. Material Assets

Agricultural

Four agricultural holdings will be affected by the proposed Narrow Water Bridge Project. However on none of these the agricultural impact will be severe or major.

Measures to compensate farmers due to land acquisition, drainage works and loss of facilities will be agreed by the valuer following planning approval.

Commercial

Leading Lights

The link road and bridge abutment in County Louth has the potential to have an impact on the operation of this leading light navigation system by interrupting views of one of a pair of stone navigation beacons (see **Figure 3.2** in Volume 3). To mitigate this impact Carlingford Lough Commission and Warrenpoint Harbour Authority have been consulted with respect to the acceptability of relocating this light and to the proposed location and design of any new required structure. Louth County Council therefore proposes to construct a new leading light to the south of the bridge and to the satisfaction of WHA and CLC prior to the construction of the southern tower. See **Figure 3.2** in Volume 3.

Carneyhaugh Properties Ltd.

Carneyhaugh Properties Ltd control the land shown in Plate 9.1 below and in 2010 received outline planning permission for a mixed use development. The proposed development as described within the outline application includes for provision of a hotel and restaurant, residential units and office and retail units. The property group have stated their full support of the project and have cooperated in the design of the Control Building and access as the proposed scheme will enhance their development. *(It should be noted that leave has been sought by Warrenpoint Harbour Authority for a judicial review of the decision to grant outline permission).*

The location and construction of the control building and access (refer to **Figure 3.2** in Volume 3) will result in a minor loss of lands over which outline planning permission has been granted for the proposed mixed-use development. The design and location of the Control Building and the access has been agreed with Carneyhaugh Properties Ltd. Finishes will be as per **Figure 3.16 to 3.19** in Volume 3 and will be sympathetic to the proposed development.

Foreshore

Two small areas of foreshore are required for construction of the two main bridge embankments. In both instances the foreshore is not occupied for any financial purpose and as such the impact is not considered significant.

In County Louth these land are deemed to be in the control of the state (Department of the Environment, Community and Local Government have been identified as owner or reputed owner in the Compulsory Purchase Order.).

Further works on the foreshore in County Louth is required for the construction of the new Leading Light and for the proposed new roost site.

In County Down the Foreshore is owned by The Crown Estates. In this instance the area of foreshore is under lease to Newry and Mourne District Council. This area of foreshore will be acquired under a Vesting Order issued by Roads Service NI, or by agreement where possible.

7. Cultural Heritage

Given the archaeological sensitivity of the environs of the line of the proposed bridge, non-invasive pre-development testing has been carried out in accordance with mitigation measures as stipulated by the Heritage authorities in NI and ROI. This pre-development testing took the form of geophysical, non-invasive surveys within the riverine line of the proposed route and within the terrestrial line of the project. These surveys have been carried out by appropriate specialists who have made recommendations for further work.

Marine Investigations

The marine geophysical survey carried out within the riverine line of the proposed route revealed several target features of interest. These include upstanding features and buried metallic objects. The nature of these target features is currently unknown and it is recommended that they are subject to archaeological diver inspection prior to construction work commencing (ADCO, 2010).

Additionally, the geophysical survey cannot claim to fully identify material of archaeological significance as the ability for different materials, both buried and exposed, to provide a suitable reflection for deployed geophysical devices does vary. Given this, it is recommended that archaeological diver inspection takes place within the section of river bed selected for development.

It should be noted that the marine geo-physical survey did not cover the mudflats and inter-tidal areas on either bankside. These areas will be impacted upon by the proposed development and, as such, it is recommended that these areas are subject to intertidal survey. Any features observed during the inter-tidal survey should be measured and described in detail with the archaeological record supported by photographic and metrically-accurate survey.

The construction of the embankment on the County Louth side of the proposed bridge has the potential to impact on part of the 19th century training wall within that location. It is, therefore, recommended that this section of the training wall is recorded by photography and metrically-accurate survey prior to disturbance.

The line of the proposed new bridge may interrupt views between the existing leading lights (LHS002-007 & LHS002-008). The leading lights are operational navigational beacons constructed during the 1880s which have since been included on the Record Protected Structures for County Louth. Neither leading light (LHS002-007 & LHS002-008) will be impacted upon by the proposed development though the leading light (LHS002-008) is located in close proximity to the north of the proposed bridge.

The siteworks associated with the construction of the bridge could potentially impact upon the leading light (LHS002-008). As such, it is recommended that appropriate mitigation measures are put in place to protect the leading light (LHS002-008). These mitigation measures should be agreed in advance with the appropriate statutory bodies but will include an exclusion zone being created around the leading light (LHS002-008). This exclusion zone would be defined by semi-permanent fencing which would physically prevent access to the immediate environs of the leading light (LHS002-008) thereby protecting the feature against accidental damage during siteworks.

Given the impact upon the line of sight between the navigational beacons, it is proposed that a new navigational beacon will be constructed to the south of the

bridge to fufill the function currently carried out by leading light (LHS002-008). The construction of the new navigational beacon will involve groundworks within the intertidal zone that have the potential to impact upon any archaeological features or artefacts that may exist within the footprint of the beacon. Given this, it is recommended that groundworks associated with the new navigational beacon are carried out under the constant supervision of a suitably qualified archaeologist under licence to DoAHG.

Terrestrial Investigations

The terrestrial line of the project was also subject to geophysical survey which revealed a number of responses across the survey area (Leigh, 2010). The nature of these responses is uncertain and it is possible that they represent archaeological features.

Given this, it is recommended any potential features noted by geophysical survey should be resolved with archaeological testing prior to development work starting. This should include the broad area of magnetic disturbance associated with the former railway line as this modern disturbance could potentially mask the magnetic responses of archaeological features.

As with marine geophysical survey, terrestrial geophysical survey cannot claim to fully identify material of archaeological significance with the result that unidentified sub-surface archaeological features could potentially exist in situ. Given this, it is also recommended that the terrestrial line of the proposed link road and compound be top soil stripped under archaeological supervision before development work commences.

This top soil stripping should be carried out by a backacting excavator equipped with a toothless bucket which is under the constant supervision of a suitably qualified archaeologist under licence to DoAHG (formerly DoE: HLG).

Topsoil should be removed until either glacial subsoil or the top of archaeological features are encountered.

8. Construction Phase

The contract for the construction of the road scheme will include provisions to minimise any temporary nuisance that may occur and the management of the construction site. The undertaking of the works will be monitored to ensure compliance with the requirements of the contract. Such measures will include restricting site working hours and noise levels (refer to the mitigation measures outlined in Section 7.4 Noise and Vibration) and provision of engineered temporary traffic management schemes.

Temporary Traffic Management

In order to minimise inconvenience to road users, the contract will require the contractor to put in place measures to maintain all roads and accesses affected by the works, or their replacements, and to maintain traffic flows and existing accesses until such time as the permanent works have been completed. As the proposed road and bridge are primarily off line there should be minimal severance or disruption for the local community.

The most significant impacts to traffic flows will occur at the tie-ins at both ends of the scheme, where new road construction / roundabouts etc. could cause disruption to traffic. Temporary traffic management and careful planning of the works will be required to minimise this disruption. This will be agreed with the relevant authorities prior to commencement (Louth County Council; The Roads Service).

Temporary Community Severance

As stated the primary impact will occur during construction of the roundabouts at the tie-ins. It is envisaged that it will be possible to manage the construction process so as not to cause any temporary severance or separation of communities from existing facilities or services. Disruption due to traffic management will occur but this will be minimized as far as possible.

Temporary Land Severance

As outlined in Chapter 9, a number of farms will be affected by the scheme. However no severance, either permanent or temporary, will occur as a result of the land acquisition (refer **Figure 9.1** in Volume 3).

Site Security and Public Health

Both the site compound and the bridge construction site will be provided with permanent boundary treatment from the outset or where this is not possible with temporary secure fencing. This is essential to protect the public from the works which will, at stages, be highly dangerous elevated structures over the Newry River and inter-tidal area.

Impact of Construction on Public Utility Services

As highlighted above (11.3.5) some alterations and diversion works will be required to the existing utility services as a result of the scheme. This may cause a small interruption to some local services and in the case of the diversion of the drainage culverts, significant traffic management. These will be planned in advance and agreed with the authorities directly affected.

Impact on Navigation

Prior to the main tower construction works on the southern shore it is important that the new navigation beacon is constructed so that navigation into Warrenpoint Harbour and up the Newry River is not affected by the obstruction of the existing beacon. The new beacon has been designed to imitate the existing beacon whose function it will replace, however Warrenpoint Harbour Authority and Carlingford Loughs Commission will be consulted through the design and construction process to ensure their requirements are met.

Mitigation Measures for Construction Operations

The main mitigation measures to minimise impacts arising from construction will be:

- Disturbance for Terrestrial Ecology: Construction activities will involve disturbance of a roosting area for Waterbirds and limited impact on inter-tidal habitat. Mitigation measures will be adopted as outlined in Section 7.2 of Chapter 7.
- Aquatic Ecology: Pollution control measures as outlined in Section 7.3 of Chapter 7.

- Construction Noise and Vibration: Controls on noise and vibrations from heavy earthmoving equipment and rock excavation as outlined in Section 7.4 of Chapter 7.
- Earthworks and Waste: Measures to reduce the amount of construction waste generated and the potential impact of contaminated materials on the project is dealt with in Chapter 7.6.
- Air Quality: Dust Minimisation Plan as outlined in Section 7.5 of Chapter 7.
- Disturbance of Existing Drainage Culverts: Temporary drainage will be provided until such time as the permanent drainage facilities are in place.
- Cultural Heritage: Mitigation measures as outlined in Chapter 10.

The contractor will be required to prepare a Waste Management Plan and an Environmental Operating Plan prior to construction commencing. In addition the appointed contractor will be required to prevent, as far as is possible dirt being released onto public roads. In the event that site traffic leaves dirt on the road the Contractor will be required to clean the road.

All of the above mitigation measures will be tied into all contract documents and it will be a requirement of the Main Contractor to adhere to all of these mitigation measures and any further measures required as part of the planning conditions.

13.1 Other Commitments Made by Louth County Council at Oral Hearing

I. Retain hedgerows along CPO boundary from R173 running to the Newry River.

II. Louth County Council commit to consult with Loughs Agency, Northern Ireland Environment Agency (NIEA): Natural Heritage and National Parks and Wildlife Service (NPWS) on the approval of all relevant construction method statements and management plans including but not limited to the:

- Waste Management Plan;
- Environmental Operating Plan; and
- Environmental Management Plan.

to the level of involvement to their satisfaction.

III. Louth County Council will develop a programme of water quality monitoring in the vicinity of the works in consultation with Loughs Agency. This will be developed for an agreed period prior to construction commencing to establish a baseline, and for the full duration of the construction phase. The Loughs Agency will be consulted at all stages of the construction phase.

IV. All water quality monitoring results will be made publicly available on a website.

V. Louth County Council will develop an Incident Response Plan in consultation with the Loughs Agency, NIEA Natural Heritage and NPWS.

VI. Louth County Council commit to undertake hydrodynamic modelling at the Detailed Design Stage, the results of which will be provided to Loughs Agency, NIEA Natural Heritage and NPWS.

VII. In addition to hydrodynamic modelling, a programme of monitoring will include pre-construction monitoring, construction phase monitoring and post-construction monitoring for a period of not less than 10 years.

VIII. Scour protection will be provided around the bridge piers as identified in the detailed design hydrodynamic model.

IX. The design of any scour protection and the sourcing of material for such protection measures will be developed in consultation with Loughs Agency, NPWS, NIEA Natural Heritage and Warrenpoint Harbour Authority.

X. Louth County Council commit to finishing the cables in the same matt white finish as that used on the Samuel Beckett Bridge in Dublin.

XI. Night time illumination of the fender system will be discrete and focussed lighting to ensure that the fender is lit to aid navigation while minimising light spill onto the water and/or the surrounding environment.

XII. Provision will be made by Louth County Council in consultation with NPWS and Northern Ireland Environment Agency: Natural Heritage to alter the lighting arrangements should bird casualties be identified.

XIII. Piling in the main river channel will be undertaken in the month of February to minimise impact on fisheries and avian interests.

XIV. Louth County Council commit to constructing the new navigation beacon prior to construction of any elements of the bridge which could affect visibility of the existing beacon. This will be done prior to disestablishment of the existing rear leading light.

XV. Louth County Council commits to maintaining the sustainable urban drainage system and all drainage which does not drain to the sewer on the A2.

XVI. The Works Requirements will be developed in consultation with the Loughs Agency, NIEA Natural Heritage and National Parks and Wildlife Service.

XVII. Louth County Council will provide all consents and licences to Loughs Agency for review and comment.

XVIII. Louth County Council will agree with the Commissioner of Irish Lights and Warrenpoint Harbour Authority the exact location and dimensions of the new Navigation Beacon.

XIX. Louth County Council commit to upgrading the light system in the existing front leading light to match the new GPS synchronised system being included in the new navigation beacon.

XX. Louth County Council commit to providing marine traffic signals at the central pier in accordance with IALA standards.

XXI. The vessel collision protection piles will be painted to increase visibility as channel markers.

XXII. The cables will be illuminated with pale blue up lighting to highlight the presence of the cables for night-time bird flight. The exact details of the lighting shall be agreed with Louth County Council, Warrenpoint Harbour Authority, the Commissioner of Irish Lights and Newry and Mourne District Council.

XXIII. The footways and cycleways on the bridge will be lit at a low level.

XXIV. The central pier will be constructed without the use of a cofferdam in the navigational channel.

XXV. The exact opening procedures will be agreed between all necessary parties including Louth County Council, Warrenpoint Harbour Authority, Carlingford Loughs Commission, the Commissioner of Irish Lights and Newry and Mourne District Council.

XXVI. The maintenance building shall be screened by the landscape design and integrated into the landscape.

XXVII. Vibration monitoring will be undertaken at the existing rear leading light to ensure structural protection during the construction phase.

APPENDX D
ADDITIONAL REQUIREMENTS OF NIEA WMU PP

Appendix A4 Additional Requirements of NIEA WMU PP

- The pouring of concrete, sealing of joints, application of water-proofing paint or protective systems, curing agents, etc will be completed in the dry to avoid pollution of the freshwater environment. Method statements for these activities will be agreed prior to commencement with NIEA WMU PP.
- All machinery operating in-stream will be steam-cleaned in advance of works and routinely checked to ensure no leakage of oils or lubricants occurs. All fuelling of machinery will be undertaken within the site compound. Steam cleaning will also ensure no accidental spread of invasive species into the river system or Carlingford Lough. Checks for oils leeks etc will be carried out twice daily for all machinery working near waterway
- The contractor will ensure minimisation of exposed earth over land flow and control of surface water discharges from the site. This will be managed in a manner to prevent entry of suspended solids and contaminants to the waterway. Cut off channels along with check dams may also serve to minimise the amount of surface runoff from the site and assist in the settlement of suspended solids
- surface water flow containing suspended solids must be treated prior to entry to any waterway. This will require surface water flow to be channelled towards settlement systems.
    - Silt settlement ponds will be constructed in a manner that adheres to industry best practice with respect to length : width ratios and depth.
    - A washed stone dam in the middle of each pond will be considered to help settlement.
    - There will be a management/ maintenance programme for such settlement systems in place to ensure effective functioning.
    - The client will ensure that adequate land is available to accommodate appropriately sized settlement systems (preferably in series) to effectively deal with particle sizes encountered on site. This will be taken into consideration at an early planning/ design stage.
- Any runoff contaminated by cement will be directed via an impermeable pathway to purpose built impermeable containment for tankering away.
- Regular inspections of machinery working near any waterway will be made to prevent pollution by fuel/oil. Once the position of cofferdams has been established no other machinery will be permitted to enter any waterway at any time. Any work in a waterway will be conducted in the dry.
- The use of material for road construction will be in accordance with the specifications identified for each section of roadway. In sensitive areas (e.g. in proximity to watercourses) fill material will be specified to ensure select granular fill.
- Checks for Oil leaks etc must be carried out twice daily for all machinery working near to a waterway.
- No machinery will be permitted to enter the main river channel at any time or the intertidal area at high tide. All works within the main river channel will be carried out from jack-up-barge.