

# Habitat Regulations Assessment: Stage 1 Screening and Stage 2 Appropriate Assessment

A4 Enniskillen Bypass  
Department for Infrastructure Roads

March 2018



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# Executive Summary

This Habitat Regulations Assessment identified the following International Sites within 10 km of the proposed Enniskillen Bypass Scheme:

- Upper Lough Erne Special Area of Conservation (SAC), 3.8 km south;
- Upper Lough Erne Ramsar site, 3.8 km south;
- Upper Lough Erne Special Protection Area (SPA), 7.6 km south;
- Fardrum and Roosky Turloughs SAC, 8.5 km north-west;
- Fardrum and Roosky Turloughs Ramsar site, 8.5 km north-west; and
- Cladagh (Swanlinbar) River SAC, 9.8 km south.

At Stage 1 (Screening) it was considered that the Scheme would have a likely significant effect on the following features of three of the International Sites:

- Otter populations of the Upper Lough Erne SAC due to disturbance during construction and habitat severance during operation;
- Wintering whooper swan populations of the Upper Lough Erne SPA and Upper Lough Erne Ramsar site due to disturbance during construction and permanent loss of functional land.

The Stage 2 Appropriate Assessment determined that the Scheme would have no effect on the integrity of the International Sites provided the following mitigation was implemented for otter. No mitigation is required for whooper swan as it has been shown that there will be no adverse effects on the conservation objectives relating to whooper swan.

## Otter

- Retaining all otter holts where possible;
- An otter holt or couch requires a 30m protection zone;
- Otter fencing will be installed along the boundary of roads bordering rivers and also at tie in points to river crossings. The fencing will be positioned either side of the Erne and Sillees crossing, extending for 100 m at both sides to prevent otter accessing the road;
- Inclusion of a suitable mammal pass/ledge where necessary. This will allow the passage of otter and other species during flood events to reduce the barrier effect and minimise collision risk with vehicles;
- Appropriate landscape design associated with tunnels and fencing;
- Avoiding night-time working (30 min before sunset to 30 min after sunrise) and illumination of the river bank to minimise disturbance to foraging otters;
- Ensure provision of suitable otter escape pathways through construction sites, e.g. provision of ramps or mammal ladders to enable egress from construction SuDS features, excavations etc.;
- Undertake preconstruction surveys; and
- Obtain appropriate licences.

# 1. Introduction

## 1.1. The Scheme Proposals

The proposed scheme will provide a new link for traffic between the A4 Dublin Road and the A4 Sligo Road (via the A509 Derrylin Road) to the south of the town of Enniskillen, County Fermanagh. The proposed scheme aims to alleviate traffic congestion within the town and provide improved journey times for strategic through traffic.

The proposed bypass consists of a new highway link approximately 2 km in length. The corridor transects (by overbridge) the River Erne and the Sillees River at the eastern and western extents of the proposed bypass respectively. It is located approximately between grid references H 244 429 and H 226 420<sup>1</sup>.

For the purposes of this assessment, the proposed bypass will be referred to as 'the proposed scheme'.

The location of the proposed scheme is shown on the Scheme Location (Figure 1.1) in Appendix A.

Two new roundabout junctions are to be provided on the A4 Dublin Road and the A509 Derrylin Road, connecting the new highway link to the existing infrastructure.

The current scheme proposals also include:

- A new ghost island junction;
- New underpasses that form part of new access to land surrounding the proposed scheme;
- The carriageway cross section is to be a 2+1 including an overtaking lane;
- A combined footway and cycleway.

The layout of the proposed bypass is shown on the Proposed Scheme drawing in Appendix B.

The scheme is proposed to commence early/mid- 2019, dependent on funding, and take between 18 and 24 months to complete.

The standard statutory procedure for the construction of trunk roads will be followed, whereby an Environmental Impact Assessment Report (EIAR), Direction Order and Vesting Order (EIA Report and Draft Orders) are published by DfI Roads. Statutory bodies and interested parties have six weeks to respond. All the responses are considered by DfI Roads and the proposed scheme may be approved for construction or a public inquiry may be recommended.

A commitment will be made by the contractor to follow good practice construction guidelines, with particular reference to preventing pollution of the River Erne and the Sillees River. A draft Construction Environmental Management Plan (CEMP) outlining the specific measures to control potentially harmful releases to air and water is provided in Appendix 19.1 of the EIAR.

## 1.2. Background to Habitat Regulations Assessment

In Northern Ireland, the European Habitats Directive (Directive 92/42/EEC) has been transposed into national legislation through The Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2015 (referred to hereafter as the Habitats Regulations). Under this legislation, assessment is required to meet the requirements of Article 6.3 of the Directive for Habitats Regulations Assessment (HRA) of a project or plan. Such an assessment is required where a plan or project under consideration could have a significant effect on a Special Area of Conservation (SAC) or Special Protection Area (SPA). According to Planning Policy Statement 2: Planning and Nature Conservation (PPS2), in such assessments, consideration is also given to sites designated as Wetlands of International Importance (Ramsar sites) and

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<sup>1</sup> <http://www.gridreference.ie/>

Sites of Community Importance (candidate SACs)<sup>2</sup>. Hereafter, these sites are collectively referred to as 'International Sites'.

HRA must be completed by the Competent Authority, in this case *Department for Infrastructure Roads (DfI)*. This report comprises the information required by DfI, as Competent Authority, to undertake a Stage 1 Screening HRA to test whether the proposed scheme, either alone or in combination with other plans and projects, is likely to have a significant effect on these International Sites. Where likely significant effects have been identified, this report goes on to provide the information required for full Appropriate Assessment.

In England and Wales, the Conservation of Habitats and Species Regulations 2010 (as amended) are being replaced by the Conservation of Habitats and Species Regulations 2017 from 30 November 2017. The revised regulations consolidate previous amendments and correct drafting errors in the original legislation<sup>3</sup>. It is considered unlikely that the new Regulations would result in any substantive changes to this HRA, were they to be implemented in Northern Ireland.

### 1.3. Outline of this Report

Following this introduction:

- Section 2 outlines the methodology used for this HRA screening and Appropriate Assessment;
- Section 3 to 8 contain the HRA Screening Matrices;
- Section 9 provides the conclusions of the HRA screening;
- Section 10 contains the Appropriate Assessment.

### 1.4. HRA Competencies

This report has been written and reviewed by Atkins ecologists who are experienced in Habitat Regulations Assessment and therefore deemed to be competent. Statements of competence are provided below:

#### **Paula Wakelin Senior Ecologist MCIEEM**

Paula has over ten years' experience in ecological consultancy and has been working on Habitat Regulations Assessments since 2009. She has gained experience in completing assessment for both plans and projects across the north and north-west. This includes different scales of project affecting different habitats, from coastal to upland. In 2013 she completed the CIEEM Habitat Regulations for Projects (England and Wales) training course led by David Tyldesley FCIEEM. Paula has a good understanding of the HRA process, can communicate effectively with project managers and liaise with NCOs such as Natural England to achieve the end goal. Paula's largest HRA to-date was for the Fairhaven to Church Scar Coastal Protection Scheme at Lytham St. Anne's, where mitigation at Stage 2 included appropriate timing of the works, dog walking restrictions and creation of temporary roost sites. Paula has also provided a HRA mentoring session for junior staff in her local team and is also member of the Atkins internal HRA Network.

#### **Jules Price Associate Ecologist MCIEEM**

Jules has over 20 years' experience in ecological consultancy and is the Professional Head of Ecology. She has worked on HRA since 2005 and has produced HRAs for plans and projects across the north, Scotland and Northern Ireland. Recent projects include the production and co-ordination of HRAs for a number of road widening schemes on the A9, including Kincaig to Dalraddy, Tomatin to Moy and Dalraddy to Slochd. She is a lead reviewer of HRAs for Atkins and regularly provides senior technical input to the scope and content of HRAs across the UK, for a range of projects including road, rail and power.

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<sup>2</sup> [http://www.planningni.gov.uk/index/policy/planning\\_statements\\_and\\_supplementary\\_planning\\_guidance/pps02/pps02\\_statutory\\_framework/pps02\\_policy\\_designated\\_sites.htm](http://www.planningni.gov.uk/index/policy/planning_statements_and_supplementary_planning_guidance/pps02/pps02_statutory_framework/pps02_policy_designated_sites.htm)

<sup>3</sup> Explanatory memorandum to the Conservation of Habitats and Species Regulations 2017 No. 1012

## 2. Methodology

### 2.1. Determination of the International Sites included in the HRA

An initial review of the proposed scheme in light of the Habitat Regulations has been undertaken as part of the HRA process. This initial review looked at the geographic extent or zone of influence of any impacts which could arise as a result of the proposed scheme. It was recommended in the consultation response from the Department for Agriculture, Environment and Rural Affairs (DAERA) that the HRA include:

*“Identification of all sensitive environmental receptors/designated sites within 10 km of the proposed development”.*

There are six International Sites within 10 km of the proposed scheme:

- Upper Lough Erne SAC, 3.8 km south;
- Upper Lough Erne Ramsar site, 3.8 km south;
- Upper Lough Erne SPA, 7.6 km south;
- Fardrum and Roosky Turloughs SAC, 8.5 km north-west;
- Fardrum and Roosky Turloughs Ramsar site, 8.5 km north-west; and,
- Cladagh (Swanlinbar) River SAC, 9.8 km south.

The location of the International Sites in relation to the proposed scheme is shown in Figure 9.1 in Appendix C.

The proposed scheme is not located within any of the above named International Sites. The closest sites are Upper Lough Erne SAC and Upper Lough Erne Ramsar site, which are located 3.8 km south of the proposed scheme. Upper Lough Erne SPA has a slightly different footprint as it does not include Mill Lough, which is located 3.8 km south of the proposed scheme. The SPA is located 7.6 km south of the proposed scheme.

In addition to DAERA’s request to include all International Sites within 10 km of the proposed scheme in the screening exercise, DAERA also requested that effects on air quality be considered up to 7 km from the scheme for nitrogen deposition onto highly sensitive peatland and lichen sites. None of the International Sites listed above have these habitats as qualifying features. Therefore, the air quality assessment was carried out according to standard DMRB methodology.

### 2.2. Obtaining Information on International Sites

Gathering the information on the International Sites to be included in the HRA involved a desk based review of the Joint Nature Conservation Committee (JNCC) data sheets<sup>4</sup> as well as a review of information available on the DAERA website<sup>5</sup>.

Consultation was undertaken with a number of bodies to inform the HRA screening and appropriate assessment. A summary table of consultee responses is provided in Appendix D.

### 2.3. Other Projects and Plans

As part of the HRA screening process, information on other projects and plans that have been subject to HRA in relation to the Upper Lough Erne SAC, Upper Lough Erne SPA, Upper Lough Erne Ramsar site, Fardrum and Roosky Turloughs SAC, Fardrum and Roosky Turloughs Ramsar site and Cladagh (Swanlinbar) River SAC is required to allow an assessment of any ‘in combination’ effects of the project with other schemes that may affect the International Sites.

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<sup>4</sup> <http://jncc.defra.gov.uk/Default.aspx>

<sup>5</sup> <https://www.daera-ni.gov.uk/topics/biodiversity-land-and-landscapes/protected-areas>

The following bodies were contacted for information; further details are provided in Appendix D:

- Department of Agriculture, Environment and Rural Affairs (DAERA);
- Department for Infrastructure (including searching the website)<sup>6</sup>;
- Shared Environmental Service;
- Fermanagh and Omagh District Council – planning and biodiversity;
- Northern Ireland Environment Agency;
- Rivers Agency;
- Northern Ireland Water;
- Waterways Ireland;
- RSPB Northern Ireland; and
- Lough Erne Breeding Wader Project.

The following is a summary list of the plans and projects identified as part of the in-combination assessment. The potential for in-combination effects with the proposed scheme is assessed in the tables in Sections 3 to 8:

- Other road schemes; and
- Gas to the West.

## 2.4. Assessing the Impacts of the Proposed Scheme

The assessment of likely significant effects is based on the conservation objectives of the International Site. If any plan or project causes the qualifying features of an International Site to fall into unfavourable condition, they can be considered to have had a significant adverse effect upon the International Site.

Plans or projects can adversely affect an International Site by:

- Causing delays in progress towards achieving the conservation objectives of the site;
- Interrupting progress towards achieving the conservation objectives of the site;
- Disrupting those factors that help to maintain the favourable conditions of the site; and
- Interfering with the balance, distribution and density of key species that are the indicators of the favourable condition of the site.

The Stage 1 Screening HRA:

- Provides information on the reasons for designation and on the conservation objectives and the sensitivities of the International Sites;
- Identifies the elements of the proposed scheme that could give rise to impacts on the International Sites, or result in changes to the sites;
- Includes information on other projects and plans in the area that could give rise to cumulative effects – information about any other plan or project that had also undergone assessment under the Habitat Regulations for potential impacts on the same International Sites was requested. Whereupon receiving this information, an assessment of likely in-combination effects is made by virtue of distance, timing, severity etc.; and
- Determines whether the proposed works will lead to likely significant effects on the International sites, either alone or in combination with other plans or projects.

The Appropriate Assessment:

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<sup>6</sup> <https://www.infrastructure-ni.gov.uk/topics/road-improvement-schemes>



- Outlines the elements of the proposed scheme that were identified as having a likely significant effect on one or more qualifying features of an International Site;
- Obtains additional desk study data as necessary and characterises the likely significant impacts, e.g. whether short/long term, reversible or irreversible, and in relation to the proportion/importance of the interest affected, and the overall effect on the site's conservation objectives. This has been done in sufficient detail to ensure all impacts have been considered and sufficiently appraised;
- Assesses the effects of the proposed scheme on the conservation objectives of the relevant qualifying features; and,
- Determines whether or not the integrity of the International Site(s) will be affected. At this stage, avoidance and mitigation measures are taken into account.

### 3. The Upper Lough Erne SAC Screening Matrix

<b>Site Designation Status</b>	Upper Lough Erne SAC
<b>Location of International Site</b>	The Upper Lough Erne SAC covers a total area of 5,751 ha in Northern Ireland. The main component of the SAC is approximately 7.6 km south of the proposed scheme (14 km upstream); however, the closest point of the whole designated area is Mill Lough, which is approximately 3.8 km south.
<b>Brief Description of the International Site</b>	The Upper Lough Erne SAC comprises natural eutrophic lakes, old sessile oak woods and alluvial forests with alder and ash. For these habitats, the SAC is considered to be one of the best areas in the United Kingdom. It also supports a population of otter, of which the population is considered to be in a favourable condition. Sources indicate that the habitat associated with Lough Erne support a “dense and large population of otters” <sup>7</sup> .
<b>Qualifying Features and Conservation Objectives</b>	<p><b>Annex I habitats that are a primary reason for selection of this site:</b></p> <p>Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i>-type vegetation.</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles.</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) *Priority feature.</p> <p><b>Annex II species that are a primary reason for selection of this site:</b></p> <p>Otter <i>Lutra lutra</i></p> <p><b>The Conservation Objectives for this site are:</b></p> <p>To maintain (or restore where appropriate) the habitats and species in favourable condition.</p> <ul style="list-style-type: none"> <li>• Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i>-type vegetation <ul style="list-style-type: none"> <li>- Maintain and enhance water quality.</li> <li>- Maintain a natural hydrological regime.</li> <li>- Maintain the extent of existing characteristic aquatic and emergent community types.</li> <li>- Maintain and enhance species diversity within each community including populations of rare and endangered species.</li> <li>- Maintain purity of the natural and characteristic species composition.</li> <li>- Minimal sediment load.</li> </ul> </li> </ul>

<sup>7</sup> River Basin Management Plan, Water Dependent Features of Natura 2000 sites (SACs & SPAs) in North Western River Basin District, December 2009 – In Upper Lough Erne SAC otter, as a feature, are in a favourable condition and for Upper Lough Erne SPA (<https://www.daera-ni.gov.uk/sites/default/files/publications/doe/natura-2000-protected-areas-nwrbd.PDF>).

JNCC website: ‘The province holds one of the strongest populations of otters in the UK. Upper Lough Erne consists of a large eutrophic lake with very extensive associated wetland habitats that holds a dense and large population of otters. In addition, the surrounding countryside is rich in relatively unpolluted rivers and lakes and has a high density of semi-natural habitats, especially wetlands, supporting the otter population within the site’ (<http://jncc.defra.gov.uk/ProtectedSites/SACselection/sac.asp?EUCode=UK0016614>).

Natura 2000 Standard Data Form for Upper Lough Erne SAC (updated Dec 2015) states that for otter this is ‘one of the best areas in the UK’ (<http://jncc.defra.gov.uk/ProtectedSites/SACselection/n2kforms/UK0016614.pdf>).

- Substrate should be natural & characteristic of lake type.
- Minimal environmental disturbance i.e. minimal negative impact from recreation and artificial structures and no fish farming.
- Instigate cross border monitoring mechanism between the relevant authorities to monitor water quality.
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
  - Maintain and expand the extent of existing oak woodland but not at the expense of other SAC features (there are areas of degraded heath, wetland and damp grassland which have the potential to develop into oak woodland).
  - Maintain and enhance oak woodland species diversity including the presence of notable or rare species.
  - Maintain and enhance oak woodland structure.
  - Maintain the diversity and quality of habitats associated with the oak woodland, e.g. fen meadow, grasslands, wet heath, wet woodland and scrub, especially where these exhibit natural transition to oak woodland.
  - Seek nature conservation management over adjacent forested areas outside the SAC where there may be potential for woodland rehabilitation.
  - Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for woodland expansion.
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion alvae*)
  - Maintain and expand the extent of existing alluvial forests but not at the expense of other SAC features (there are areas of wetland and damp grassland which have the potential to develop into alluvial woodland).
  - Maintain and enhance alluvial forests species diversity including the presence of notable or rare species.
  - Maintain and enhance alluvial forests structure.
  - Maintain the diversity and quality of habitats associated with the alluvial forests, e.g. fen meadow, grasslands, wet heath, wet woodland and scrub, especially where these exhibit natural transition to alluvial forests.
  - Seek nature conservation management over adjacent forested areas outside the SAC where there may be potential for woodland rehabilitation.
  - Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for woodland expansion.
- Otter *Lutra lutra*
  - Population numbers and distribution to be maintained and if possible, expanded.
  - Maintain the extent and quality of suitable otter habitat, in particular the chemical and biological quality of the water, and all associated wetland habitats.

**Sensitivities of the**

The site is vulnerable to<sup>8</sup>:

<sup>8</sup> Natura 2000- Standard Data Form, Upper Lough Erne Special Area of Conservation - <http://jncc.defra.gov.uk/ProtectedSites/SACselection/n2kforms/UK0016614.pdf>

<p><b>International Site</b></p>	<ul style="list-style-type: none"> <li>• Air pollution, air-borne pollutants (nitrogen input);</li> <li>• Invasive non-native species;</li> <li>• Grazing in forest/woodland;</li> <li>• Human induced change in hydraulic conditions;</li> <li>• Pollution of surface waters (from outside the site);</li> <li>• Sport and leisure structures;</li> <li>• Hunting and collection of wild animals; and,</li> <li>• Outdoor sports and leisure activities, recreational activities.</li> </ul>
<p><b>Describe the individual elements of the Project likely to give rise to impacts on the International Site</b></p>	<p>The following elements have been considered and are discussed in detail below:</p> <p><u>During construction</u></p> <ul style="list-style-type: none"> <li>• Decline in water quality;</li> <li>• Non-physical disturbance (noise, light, visual) to species;</li> <li>• Introduction and spread of invasive non-native species.</li> </ul> <p><u>During operation</u></p> <ul style="list-style-type: none"> <li>• Decline in air quality;</li> <li>• Non-physical disturbance (noise, light, visual) to species.</li> </ul>
<p><b>Describe any likely direct, indirect or secondary impacts of the Project on the International Site by virtue of:</b></p> <ul style="list-style-type: none"> <li>• Size and scale;</li> <li>• Land take;</li> <li>• Resource requirements</li> <li>• Emissions (disposal to land, water or air);</li> <li>• Excavation requirements; and</li> <li>• Duration of construction, operation, decommissioning etc.</li> </ul>	<p><b>Size and scale</b></p> <p>The size and scale of the project does not give rise to impacts on the SAC. The proposed bypass is approximately 2 km in length. All works will be confined to an estimated footprint/working area of 14 ha.</p> <p><b>Land take</b></p> <p>No land take is required within the International Site boundary. The closest part of the SAC to the proposed scheme is Mill Lough ASSI, which is located 3.8 km to the south. The land which will be affected by the proposed works is outside the SAC and comprises improved and semi-improved grassland (grazed) and arable. The proposed bypass crosses two rivers (the Sillees River and River Erne). The river crossings will cause some disturbance and require a small amount of land take (two piers in the River Erne and scour protection in the Sillees River) within the watercourses.</p> <p><b>Resource requirements</b></p> <p>No resources other than land will be utilised by the proposed scheme, with the exception of an electricity supply, which may be required for lighting, and surface water will need to be accommodated within the drainage system.</p> <p><b>Emissions</b></p> <p>There will be some emissions to air and water. The proposed scheme will reduce the amount of traffic passing through Enniskillen and speed up east-west traffic. However, the introduction of a new road is an additional source of air pollutants. The results of the air quality assessment<sup>9</sup> indicated that due to the distance of the proposed scheme from this SAC, there would be no impacts as a result of air pollution.</p> <p>Mill Lough is linked to the River Erne via a small unnamed watercourse (between H 24356 38711 and H 24291 39149) and is therefore hydrologically linked to the proposed scheme. Mill Lough is approximately 6.5 km upstream of the proposed scheme. Although the SAC is linked to the proposed scheme by the River Erne, it is approximately 7.6 km south and 14 km upstream. Therefore, there is no potential pathway for water borne pollutants to reach the SAC.</p> <p><b>Excavation</b></p> <p>No excavations will be undertaken within the International Site. Excavations</p>

<sup>9</sup> Chapter 7: Air Quality, A4 Enniskillen Southern Bypass, Environmental Impact Assessment (EIA) Report

will be limited to footings of bridge piers and the road itself. These are unlikely to result in indirect hydrological impacts on the International Site by virtue of altering the water-table etc. due to the distance from the International Site.

**Duration**

The proposed scheme will take between 18 and 24 months to construct and will be operational for the foreseeable future. It is not considered that the duration of this operation will have any impact on qualifying features of the SAC.

During the operational phase the routine maintenance of road surfaces, lighting/signage, structural inspections of the bridge and SUDS features (a key part of pollution prevention and control) will be required. These activities are not considered to result in any impacts on features of the International Sites as they are likely to involve small-scale or short-term works primarily on the bridge deck where there will be daily traffic disturbance. As the SAC is upstream of the proposed scheme, there is no potential pathway for water borne pollutants from maintenance and management operations to reach the SAC. However, it is possible that structures at water crossings could sever other commuting routes and should be considered as an operational impact.

The decommissioning of the bypass is not considered within this assessment as it will be operational for the foreseeable future. However, it will be necessary to remove site compounds and access roads created to enable the construction of the scheme. The requirement, location and nature of these will be decided by the contractor. It is possible that this decommissioning element could contribute to impacts on the International Sites by virtue of emissions to air and water, visual disturbance and noise pollution, but this is likely to be a very minor contribution. To ensure that likely significant impacts on International Sites are avoided, the contractor will be requested to sensitively locate the site compound and access roads, to consider the materials used and the method of construction and removal. The locations will be subject to HRA screening.

**Describe any likely changes to the International Site arising as a result of:**

- Reduction of habitat area;
- Disturbance to key species;
- Habitat or species fragmentation;
- Reduction in species density;
- Changes in key indicators of conservation value (e.g. water quality); and,
- Climate change.

**Reduction of habitat area**

There will be no land take or loss of habitat within the Upper Lough Erne SAC as the proposed scheme is located outside the International Site boundary.

**Disturbance to key species**

There will be no disturbance to key species within the SAC. It is possible that there will be localised disturbance of otter on the River Erne and the Sillees River during the works and that these animals may be part of the SAC population.

**Habitat or species fragmentation**

The proposed scheme is outside the International Site and is not predicted to cause any habitat or species fragmentation to the SAC. However, there is potential for impacts on otters outside the SAC. During construction there may be disturbance to otters commuting and foraging along the River Erne and the Sillees River as a result of lighting and noise. This severance is likely to be localised and temporary, caused by construction works at river crossings. Whilst during operation, a lack of terrestrial habitat continuity along the riparian zone of the River Erne and the Sillees River resulting in habitat severance, may further cause mortality for otters. Provision will be made for otters to safely pass under structures following completion of the works, restoring habitat connectivity in the long-term.

**Reduction in species density**

The potential for habitat disturbance to reduce species density of otters must be considered.

**Changes in key indicators of conservation value**

The works are not predicted to cause changes to water quality due to the hydrological location of the proposed scheme (downstream of the SAC) and the fact that the work will be undertaken following the CEMP, which will layout measures to ensure water quality will be maintained.

Local air quality is likely to be altered once the bypass is operational and further assessment is required to determine whether or not the change in air

	<p>quality will affect qualifying features of the SAC.</p> <p>During construction, a 'clean-in, clean out' policy shall be adopted for site plant and personnel. Working methods shall be developed by the contractor to avoid the introduction and spread of aquatic invasive species, with reference to latest best practice control guidance available via the GB non-native species secretariat (<a href="http://www.nonnativespecies.org/home/index.cfm">http://www.nonnativespecies.org/home/index.cfm</a>). Species that may be transferred include: crayfish plague (<i>Aphanomyces astaci</i>), zebra mussel, floating pennywort, fringed waterlily, alligator weed, water fern, Nuttall's waterweed, curly waterweed, water-primrose, parrot's feather, broadleaf watermilfoil, fanwort, Chilean rhubarb, Persian hogweed, American skunk cabbage, water hyacinth, non-native crayfish, Chinese mitten crab, Japanese knotweed, giant hogweed and Indian balsam<sup>10</sup>.</p> <p><b>Climate change</b></p> <p>The proposed scheme is not likely to result in increased traffic, only freer flowing traffic. This considered, it is highly unlikely that climate change of the degree required to alter habitats, can be attributed to the construction of the proposed scheme.</p>
<p><b>Describe whether the Project will lead to likely significant effects on the International Site alone or in-combination</b></p>	<p><b>The proposed scheme alone has potential likely significant effects on the following conservation objective of the SAC: otter, as a result of disturbance during construction and habitat severance during operation.</b></p> <p>The following information about other plans and projects was received from the bodies and sources consulted. The information about road schemes was obtained from the Department for Infrastructure website<sup>6</sup>. Shared Environmental Service informed us of the Gas to the West Scheme, no details of other major projects or planning applications were received. A summary table of consultee responses is provided in Appendix D.</p> <p><b>Road Schemes</b></p> <p>Many of the future road schemes are either in preliminary development (progression subject to future budget) and therefore no assessments have been undertaken, or where they have been assessed, the schemes considered different International Sites. Likewise, the current road schemes that have undergone assessment under the Habitat Regulations, have considered different International Sites. Additionally, some of the current schemes are at early stages of development (no HRA yet if required) or have been completed. Therefore, there are not considered to be any in-combination effects on qualifying features of this SAC with the proposed scheme.</p> <p><b>Gas to the West</b></p> <p>A major scheme involving the construction of a cross-country high and intermediate pressure gas pipeline, known as 'Gas to the West'. Construction is underway with the Strabane section having been completed and work on-going in Fermanagh and Tyrone<sup>11</sup>. Given the scale of the scheme, it is likely to run concurrently with construction of the bypass. The pipeline will be constructed in proximity to the Upper Lough Erne SAC at four discrete locations within a 5 km section of the route.</p> <p>The HRA screening for the Gas to the West project<sup>12</sup> identified potential impacts on natural eutrophic lakes and otters and these features were taken forward to Stage 2 Appropriate Assessment. It was concluded that with mitigation, proposals would not have an adverse effect on integrity of the SAC. Mitigation includes ensuring the site is carefully assessed and a suitable method detailed and implemented through a Construction Method Statement. Works should be managed to allow for contingency to be implemented in the event of accidental pollution. The potential disturbance impact on otters was</p>

<sup>10</sup> With reference to Invasive Species Ireland website (<http://invasivespeciesireland.com>) and the Consolidated List of invasive alien species of Union concern (<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Consolidated%20List%20of%20Invasive%20Alien%20Species%20of%20Union%20concern.pdf>)

<sup>11</sup> <http://gastothewest.com/>

<sup>12</sup> Habitat Regulations Assessment by SES, Appendix 4 of the Development Management Report available via NI Planning Portal (LA08/2016/1328). Reference also made to Gas to the West Environmental Statement, Appendix 10.6 Habitat Regulations Assessment Report, RPS, September 2016.

not considered to affect the integrity of the site due to the likely short-term disturbance of low numbers of otter.

The RPS HRA assessed the project for potential in-combination effects with the A4 Enniskillen Bypass and concluded that 'there is no pathway of additive effect for significant cumulative or in-combination effects which can be considered to adversely affect the qualifying interests of conservation objectives of the European sites being considered as a result of the Gas to the West project and the Enniskillen Southern Bypass project. Accordingly, there is no appreciable in combination effect from both projects'. This HRA screening assessment of the Enniskillen Bypass has found a Likely Significant Effect (LSE) on otter, which will be taken forward to Appropriate Assessment. However, this assessment has not found any pathway for in-combination effects with the Gas to the West scheme.

#### **Waterways Ireland Projects**

Waterways Ireland provided information about a number of projects undertaken and proposed within the Erne system.

The schemes proposed 2018 onwards are listed below with details:

Castle Museum Jetty – a proposed new jetty on the River Erne, approximately 1.6 km downstream of the proposed scheme. The HRA considered the potential impacts on Upper Lough Erne SAC to be temporary disturbance of otter, but only if they pass through the jetty works area during the works. The proposed jetty is small-scale and located downstream of the SAC (Mill Lough, part of the SAC, lies c.5.1 km to the south).

Bellenaleck Jetty and Slipway refurbishment – located approximately 3.3 km upstream of the proposed scheme. A HRA is currently being completed. It is not known when the works will be undertaken. No further details were provided.

Tullyinishmore Jetty and Cloonatrig Jetty refurbishments – assessments to be commissioned in 2018. It is not known when the works will be undertaken. The sites are located at least 3 km (direct distance) upstream of the proposed scheme.

Proposed maintenance dredging at Inishcorkish at the mouth of the Colebrook River near Lisnaskea – located approximately 14.2 km upstream of the proposed scheme. A habitat assessment to inform a HRA is to be commissioned in 2018. It is not known when the works will be undertaken.

The HRA of the Castle Museum Jetty identified potential temporary effects on otter. However, it is considered that even in-combination, the scheme and this project will not have a LSE on the otter population of the SAC, as any otters affected will be over 5 km (direct distance) from the SAC boundary and the impacts are minimal in both cases. In-combination effects with projects that are still being assessed will be part of the assessment for that project.

**Based on information available, the proposed scheme will not result in any additional likely significant effects on the conservation objectives of the SAC in-combination with any other scheme.**

## 4. Upper Lough Erne SPA Screening Matrix

<b>Site Designation Status</b>	Upper Lough Erne SPA
<b>Location of International Site</b>	The Upper Lough Erne SPA covers a total of 5,762 ha and is located to the south of Enniskillen, Northern Ireland. The SPA lies approximately 7.6 km south of the proposed scheme. The proposed scheme crosses the River Erne approximately 14 km downstream of the SPA.
<b>Brief Description of the International Site</b>	Upper Lough Erne is a very large and complex freshwater system located in the south of Northern Ireland. It lies within the catchment of the River Erne. A series of flooded drumlins in the course of the River Erne give rise to a complex of islands, bays and many lakes bordered by damp pastures, fens, reed swamp, alder <i>Alnus glutinosa</i> -willow <i>Salix</i> sp. carr, and oak <i>Quercus</i> sp. woodland. The site supports a wide range of breeding and wintering waterbirds, but is especially important for wintering whooper swan <i>Cygnus cygnus</i> .
<b>Qualifying Features and Conservation Objectives<sup>13</sup></b>	<p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of international importance of the following species listed on Annex I of the Directive:</p> <p>Over winter the area regularly supports: whooper swan <i>Cygnus cygnus</i> 3.4% of the all-Ireland population 5-year peak mean, 1991/2-1995/6.</p> <p><b>The Conservation Objectives for this site are:</b></p> <ul style="list-style-type: none"> <li>• To maintain or enhance the population of the qualifying species;</li> <li>• To maintain or enhance the range of habitats utilised by the qualifying species;</li> <li>• To ensure that the integrity of the site is maintained;</li> <li>• To ensure there is no significant disturbance of the species; and,</li> <li>• To ensure that the following are maintained in the long term: <ul style="list-style-type: none"> <li>- Population of the species as a viable component of the site.</li> <li>- Distribution of the species within site.</li> <li>- Distribution and extent of habitats supporting the species.</li> <li>- Structure, function and supporting processes of habitats supporting the species.</li> </ul> </li> </ul>
<b>Sensitivities of the International Site</b>	<p>The site is vulnerable to<sup>13</sup>:</p> <ul style="list-style-type: none"> <li>• Outdoor sports and leisure activities, recreational activities;</li> <li>• Pollution of surface waters;</li> <li>• Grazing;</li> <li>• Modification of cultivation practices;</li> <li>• Changes in abiotic conditions;</li> <li>• Changes in biotic conditions; and,</li> <li>• Utility and service lines.</li> </ul>
<b>Describe the individual elements of the Project likely to give rise to impacts on the</b>	<p>The following elements have been considered and are discussed in detail below:</p> <p><u>During construction</u></p> <ul style="list-style-type: none"> <li>• Decline in water quality;</li> </ul>

<sup>13</sup> <http://jncc.defra.gov.uk/pdf/SPA/UK9020071.pdf>



<p><b>International Site</b></p>	<ul style="list-style-type: none"> <li>• Loss or disturbance of functional land<sup>14</sup>;</li> <li>• Non-physical disturbance (noise, light, visual) to species;</li> <li>• Introduction and spread on invasive non-native species.</li> </ul> <p><u>During operation</u></p> <ul style="list-style-type: none"> <li>• Decline in air quality;</li> <li>• Non-physical disturbance (noise, light, visual) to species.</li> </ul>
<p><b>Describe any likely direct, indirect or secondary impacts of the Project on the International Site by virtue of:</b></p> <ul style="list-style-type: none"> <li>• Size and scale;</li> <li>• Land take;</li> <li>• Resource requirements;</li> <li>• Emissions (disposal to land, water or air);</li> <li>• Excavation requirements; and,</li> <li>• Duration of construction, operation, decommissioning etc.</li> </ul>	<p><b>Size and scale</b></p> <p>The size and scale of the project does not give rise to impacts on the SPA. The proposed bypass is approximately 2 km in length. All works will be confined to an estimated footprint/working area of 14 ha.</p> <p><b>Land take</b></p> <p>No land-take or disturbance is required within the International Site, so there will be no reduction in extent as a result of the proposed scheme.</p> <p>However, whooper swans are known to graze on farmland surrounding the SPA in winter months. As the land within the footprint of the bypass is a mixture of arable and pasture there is potential for land within the proposed scheme to be used by whooper swans. If significant numbers of the SPA population use these fields, they could be considered to be functional land of the SPA.</p> <p><b>Resource requirements</b></p> <p>No other resources other than land will be utilised by the proposed scheme, with the exception of an electricity supply, which may be required for lighting, and surface water will need to be accommodated within the drainage system.</p> <p><b>Emissions</b></p> <p>There will be some emissions to air and water. The proposed scheme will reduce the amount of traffic passing through Enniskillen and speed up east-west traffic. However, the introduction of a new road is an additional source of air pollutants. The results of the air quality assessment<sup>9</sup> indicated that due to the distance of the proposed scheme from this SPA, there would be no impacts as a result of air pollution.</p> <p>Although the SPA is linked to the proposed scheme by the River Erne, it is 14 km upstream (7.6 km south as the crow flies). Therefore, there is no potential pathway for water borne pollutants to reach the SPA.</p> <p><b>Excavation</b></p> <p>No excavations will be undertaken within the International Site. Excavations will be limited to footings of bridge piers and the road itself. These are unlikely to result in indirect hydrological impacts on the International Site by virtue of altering the water-table due to the distance from the International Site.</p> <p><b>Duration</b></p> <p>The works will take between 18 and 24 months and will span winter months when whooper swan are present within the SPA.</p> <p>During the operational phase the routine maintenance of road surfaces, lighting/signage, structural inspections of the bridge and SUDS features (a key part of pollution prevention and control) will be required. These activities are not considered to result in any impacts on features of the International Sites as they are likely to involve small-scale or short-term works primarily on the bridge deck where there will be daily traffic disturbance. As the SPA is upstream of the proposed scheme, there is no potential pathway for water borne pollutants from maintenance and management operations to reach the SPA. However, it is possible that structures at water crossings could sever other commuting routes and should be considered as an operational impact.</p> <p>The decommissioning of the bypass is not considered within this assessment as it will be operational for the foreseeable future. However, it will be necessary to remove site compounds and access roads created to enable the construction of the scheme. The requirement, location and nature of these will be decided by the contractor. It is</p>

<sup>14</sup> Functional land is land not designated as part of the internationally designated ecological site but which is considered to provide vital habitat for maintenance of a qualifying species at a favorable conservation status, i.e. for maintaining the integrity of the site.

	<p>possible that this decommissioning element could contribute to impacts on the International Sites by virtue of emissions to air and water, visual disturbance and noise pollution, but this is likely to be a very minor contribution. To ensure that likely significant impacts on International Sites are avoided, the contractor will be requested to sensitively locate the site compound and access roads, to consider the materials used and the method of construction and removal. The locations will be subject to HRA screening.</p>
<p><b>Describe any likely changes to the International Site arising as a result of:</b></p> <ul style="list-style-type: none"> <li>• Reduction of habitat area;</li> <li>• Disturbance to key species;</li> <li>• Habitat or species fragmentation;</li> <li>• Reduction in species density;</li> <li>• Changes in key indicators of conservation value (e.g. water quality); and</li> <li>• Climate change.</li> </ul>	<p><b>Reduction of habitat area</b> There will be no land take/reduction of habitat area within the International Site.</p> <p><b>Disturbance to key species</b> Whooper swan may be disturbed if they are using land within the footprint for grazing in winter months.</p> <p><b>Habitat or species fragmentation</b> There will be no SPA habitat or species fragmentation due to the distance from the proposed scheme (approximately 7.6 km).</p> <p><b>Reduction in species density</b> A reduction in density of the qualifying species is not anticipated as a result of the proposed scheme. However, loss of a winter grazing site and potential disturbance of whooper swan in winter may affect the health of individuals and affect reproductive success the following spring.</p> <p><b>Changes in key indicators of conservation value</b> The works are not predicted to cause changes to water quality due to the hydrological location of the proposed scheme (downstream of the SPA) and the fact that the work will be undertaken following the CEMP, which will layout measures to ensure water quality will be maintained. Local air quality is likely to be altered once the bypass is operational and further assessment is required. However, aquatic habitats are not vulnerable to changes in air quality and in any case, changes in air quality are not likely to affect habitats within the SPA habitats 7.6 km away, that qualifying features rely on. The results of the air quality assessment<sup>9</sup> indicated that due to the distance of the proposed scheme from this SPA, there would be no impacts as a result of air pollution. During construction, a 'clean-in, clean out' policy shall be adopted for site plant and personnel. Working methods shall be developed by the contractor to avoid the introduction and spread of aquatic invasive species, with reference to latest best practice control guidance available via the GB non-native species secretariat (<a href="http://www.nonnativespecies.org/home/index.cfm">http://www.nonnativespecies.org/home/index.cfm</a>). Species that may be transferred include: crayfish plague (<i>Aphanomyces astaci</i>), zebra mussel, floating pennywort, fringed waterlily, alligator weed, water fern, Nuttall's waterweed, curly waterweed, water-primrose, parrot's feather, broadleaf watermilfoil, fanwort, Chilean rhubarb, Persian hogweed, American skunk cabbage, water hyacinth, non-native crayfish, Chinese mitten crab, Japanese knotweed, giant hogweed and Indian balsam<sup>10</sup>.</p> <p><b>Climate change</b> The proposed scheme is not likely to result in increased traffic, only freer flowing traffic. This considered, it is highly unlikely that climate change of the degree required to alter habitats, can be attributed to the construction of the proposed scheme.</p>
<p><b>Describe whether the Project will lead to likely significant effects on the international site alone or in combination</b></p>	<p><b>The proposed scheme alone has potential likely significant effects on the following conservation objectives of the SPA: whooper swan, as a result of disturbance and loss of functional land.</b></p> <p>The following information about other plans and projects was received from the bodies and sources consulted. The information about road schemes was obtained from the Department for Infrastructure website<sup>10</sup>. The Shared Environmental Service informed us of the Gas to the West Scheme, no details of other major projects or planning applications were received. A summary table of consultee responses is provided in Appendix D.</p> <p><b>Road Schemes</b> Many of the future road schemes are either in preliminary development (progression subject to future budget) and therefore no assessments have been undertaken, or</p>

where they have been assessed, the schemes considered different International Sites. Likewise, the current road schemes that have undergone assessment under the Habitat Regulations, have considered different International Sites. Additionally, some of the current schemes are at early stages of development (no HRA yet if required) or have been completed. Therefore, there are not considered to be any in-combination effects on qualifying features of this SAC with the proposed scheme.

#### **Gas to the West**

A major scheme involving the construction of a cross-country high and intermediate pressure gas pipeline, known as 'Gas to the West'. Construction is underway with the Strabane section having been completed and work on-going in Fermanagh and Tyrone<sup>12</sup>. Given the scale of the scheme, it is likely to run concurrently with construction of the bypass. The pipeline will be constructed in close proximity to the Upper Lough Erne SPA at four discrete locations within a 5 km section of the route. The HRA screening for the Gas to the West project<sup>12</sup> identified potential impacts on whooper swan, as works taking place in winter may disturb whooper swan feeding areas at Tamlaght and near Lisnaskea. This feature was taken forward to Stage 2 Appropriate Assessment. It was concluded that with mitigation, proposals would not have an adverse effect on integrity of the SPA. Mitigation includes avoiding working during winter months (mid-October to 31<sup>st</sup> March) to avoid impacts or providing suitable screening between works and areas being used by swans.

The RPS HRA assessed the project for potential in-combination effects with the A4 Enniskillen Bypass and concluded that 'there is no pathway of additive effect for significant cumulative or in-combination effects which can be considered to adversely affect the qualifying interests of conservation objectives of the European sites being considered as a result of the Gas to the West project and the Enniskillen Southern Bypass project. Accordingly, there is no appreciable in combination effect from both projects'. This HRA screening assessment of the Enniskillen Bypass has found LSE on whooper swan, which will be taken forward to Appropriate Assessment. However, this assessment has not found any pathway for in-combination effects with the Gas to the West scheme.

#### **Waterways Ireland Projects**

Waterways Ireland provided information about a number of projects undertaken and proposed within the Erne system.

The schemes proposed 2018 onwards are listed below with details:

Castle Museum Jetty – proposed new jetty on the River Erne, approximately 1.6 km downstream of the proposed scheme. The HRA considered the potential impacts on the Upper Lough Erne SPA to be temporary disturbance of wintering birds (specifically Whooper swan), but only if they pass through the jetty works area during the works. The proposed jetty is small-scale and located downstream of the SPA (c. 20 km downstream, c.10 km direct distance).

Bellenaleck Jetty and Slipway refurbishment – located approximately 3.3 km upstream of the proposed scheme. A HRA is currently being completed. It is not known when the works will be undertaken. No further details were provided.

Tullyinishmore Jetty and Cloonatríg Jetty refurbishments – assessments to be commissioned in 2018. It is not known when the works will be undertaken. The sites are located at least 3 km (direct distance) upstream of the proposed scheme.

Proposed maintenance dredging at Inishcorkish at the mouth of the Colebrook River near Lisnaskea – located approximately 14.2 km upstream of the proposed scheme. A habitat assessment to inform a HRA is to be commissioned in 2018. It is not known when the works will be undertaken.

The HRA of the Castle Museum Jetty identified potential temporary effects on whooper swan. However, it is considered that even in-combination, the scheme and this project will not have a LSE on the whooper swans of the SPA, due to the amount of alternative habitat in the wider area and the impacts are minimal in both cases. In-combination effects with projects that are still being assessed will be part of the assessment for that project.

**Based on information available, the proposed scheme will not result in any additional likely significant effects on the conservation objectives of the SPA**

**in-combination with any other scheme.**

## 5. Upper Lough Erne Ramsar Site Screening Matrix

<b>Site Designation Status</b>	Upper Lough Erne Ramsar site.
<b>Location of International Site</b>	The Upper Lough Erne Ramsar site covers a total area of 5,818 ha in Northern Ireland. The main component of the Ramsar site is approximately 7.6 km south of the proposed scheme (14 km upstream); however, the closest point of the whole designated area is Mill Lough, which is approximately 3.8 km south.
<b>Brief Description of the International Site</b>	Upper Lough Erne is a very large and complex freshwater system located in the south of Northern Ireland. It lies within the catchment of the River Erne, a river shared with the Irish Republic. A series of flooded drumlins in the course of the River Erne give rise to a complex of islands, bays and many lakes bordered by damp pastures, fens, reed swamp, alder <i>Alnus glutinosa</i> -willow <i>Salix</i> sp. carr, and oak <i>Quercus</i> sp. woodland. The site supports a wide range of breeding and wintering waterbirds, but is especially important for wintering whooper swan <i>Cygnus cygnus</i> .
<b>Qualifying Features and Conservation Objectives<sup>15</sup></b>	<p><b>The qualifying features of the Ramsar site are as follows:</b></p> <p><u>Ramsar criterion 1</u> The site is a particularly good representative example of a eutrophic lake and associated swamp, fen and wet grassland.</p> <p>The site is a particularly good representative example of a wetland which plays a substantial hydrological, biological and ecological system role in the natural functioning of a major river basin which is located in a trans-border position with the Republic of Ireland.</p> <p><u>Ramsar criterion 2</u> The site supports an appreciable assemblage of rare, vulnerable or endangered species or subspecies of plant and animal. Plant species in published or draft Irish Red Data Books include: fen violet <i>Viola stagnalis</i>, Irish lady's tresses <i>Spiranthes romanzoffiana</i>, pointed stonewort <i>Nitella mucronata</i> and the moss <i>Fissidens monguillonii</i>. Vertebrate species in the Irish Vertebrate Red Data Book include whiskered bat <i>Myotis mystacinus</i>, shoveler <i>Anas clypeata</i>, pochard <i>Aythya farina</i> and brook lamprey <i>Lampetra planeri</i>. Rare or vulnerable invertebrate species include white-clawed crayfish <i>Austropotamobius pallipes</i>, lunar hornet moth <i>Sesia bembeciformis</i>, a pondskater <i>Limnopus rufoscutellatus</i>, the water beetles, <i>Donacia aquatica</i>, <i>D. bicolora</i>, <i>Gyrinus distinctus</i>, <i>G. natator</i> and <i>Hydroporus glabriusculus</i> and the carabid <i>Lebia cruxminor</i>.</p> <p><u>Ramsar criterion 3</u> The site is of special value for maintaining the genetic and ecological diversity of Northern Ireland because of the quality and peculiarities of its flora and fauna. Furthermore, a large number of plant and animal species are confined or almost confined to this area within Northern Ireland including most of the rare species listed in Criterion 2.</p> <p>The site regularly supports substantial numbers of individuals from particular groups of waterfowl which are indicative of wetland values, productivity and diversity. Wintering wildfowl species which occur in at least nationally important numbers include great crested grebe <i>Podiceps cristatus</i>, cormorant <i>Phalacrocorax carbo</i>, whooper swan <i>Cygnus cygnus</i>, mute swan <i>Anser olor</i>, tufted duck <i>Aythya fuligula</i>, wigeon <i>Anas penelope</i>, teal <i>Anas crecca</i>, goldeneye <i>Bucephala clangula</i>, coot <i>Fulica atra</i> and mallard <i>Anas platyrhynchos</i>.</p>

<sup>15</sup> As for Upper Lough Erne SPA and SAC (where applicable) – no specific Ramsar site conservation objectives - <http://jncc.defra.gov.uk/pdf/SPA/UK9020071.pdf> & <http://jncc.defra.gov.uk/pdf/RIS/UK12024.pdf>

	<p><u>Ramsar criterion 6</u> The site regular supports internationally important numbers of wintering whooper swan <i>Cygnus cygnus</i>. The birds using the site form the core of a population of birds which use both the site and the extensive improved agricultural grassland in the surrounding area.</p> <p><b>Ramsar criterion 6 – species/populations occurring at levels of international importance</b></p> <p><b>Qualifying Species/populations (as identified at designation):</b></p> <p><b>Species with peak counts in winter:</b> Whooper swan, <i>Cygnus cygnus</i>, 875 individuals, representing an Iceland/UK/Ireland average of 4.1% of the population (5 year peak mean 1998/9-2002/3).</p> <p><b>The Conservation Objectives<sup>15</sup> for this site are:</b></p> <ul style="list-style-type: none"> <li>• To maintain (or restore where appropriate) the habitats and species in favourable condition</li> <li>• To maintain or enhance the population of the qualifying species;</li> <li>• To maintain or enhance the range of habitats utilised by the qualifying species;</li> <li>• To ensure that the integrity of the site is maintained;</li> <li>• To ensure there is no significant disturbance of the species; and</li> <li>• To ensure that the following are maintained in the long term:             <ul style="list-style-type: none"> <li>- Population of the species as a viable component of the site.</li> <li>- Distribution of the species within site.</li> <li>- Distribution and extent of habitats supporting the species.</li> <li>- Structure, function and supporting processes of habitats supporting the species.</li> </ul> </li> </ul>
<p><b>Sensitivities of the International Site</b></p>	<p>The site is vulnerable to<sup>16</sup>:</p> <ul style="list-style-type: none"> <li>• Eutrophication;</li> <li>• Introduction/invasion of non-native animal species; and,</li> <li>• Pollution – agricultural fertilisers (pollution/fertilisers, land runoff from surrounding intensively managed agricultural land).</li> </ul>
<p><b>Describe the individual elements of the Project likely to give rise to impacts on the International Site</b></p>	<p>The following elements have been considered and are discussed in detail below:</p> <p><u>During construction</u></p> <ul style="list-style-type: none"> <li>• Loss or disturbance of functional land;</li> <li>• Decline in water quality;</li> <li>• Non-physical disturbance (noise, light, visual) to species;</li> <li>• Whiskered bat roosts could be damaged or destroyed during construction and individual whiskered bats could be disturbed when foraging or commuting;</li> <li>• Introduction and spread on invasive non-native species.</li> </ul> <p><u>During operation</u></p> <ul style="list-style-type: none"> <li>• Decline in air quality;</li> <li>• Non-physical disturbance (noise, light, visual) to species;</li> <li>• Severance of significant commuting routes between roosts and high-quality foraging habitat and between breeding and hibernation roosts;</li> </ul>

<sup>16</sup> Information Sheet on Ramsar Wetland, Upper Lough Erne UK12024 - <http://jncc.defra.gov.uk/pdf/RIS/UK12024.pdf>

<p><b>Describe any likely direct, indirect or secondary impacts of the Project on the International Site by virtue of:</b></p> <ul style="list-style-type: none"> <li>• Size and scale;</li> <li>• Land take;</li> <li>• Resource requirements</li> <li>• Emissions (disposal to land, water or air);</li> <li>• Excavation requirements; and</li> <li>• Duration of construction, operation, decommissioning etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Collision risk to whiskered bats.</li> </ul> <p><b>Size and scale</b></p> <p>The size and scale of the project does not give rise to impacts on the Ramsar site. The proposed bypass is approximately 2 km in length. All works will be confined to an estimated footprint/working area of 14 ha.</p> <p><b>Land take</b></p> <p>No land take or disturbance is required within the International Site, so there will be no reduction in extent as a result of the proposed scheme.</p> <p>However, whooper swans are known to graze on farmland surrounding the Ramsar site in winter months. As the land within the footprint of the proposed scheme is a mixture of arable and pasture there is potential for land within the proposed scheme to be used by whooper swans. If significant numbers of the Ramsar population use these fields, they could be considered to be functional land of the Ramsar <sup>Error! Bookmark not defined.</sup>. It is not considered that the proposed scheme supports habitats that are likely to be used by other qualifying features of the Ramsar site.</p> <p><b>Resource requirements</b></p> <p>No other resources other than land will be utilised by the proposed scheme, with the exception of an electricity supply, which may be required for lighting, and surface water will need to be accommodated within the drainage system.</p> <p><b>Emissions</b></p> <p>There will be some emissions to air and water. The new road will reduce the amount of traffic passing through Enniskillen and speed up east-west traffic. However, the introduction of a new road is an additional source of air pollutants. The results of the air quality assessment<sup>9</sup> indicated that due to the distance of the proposed scheme from this Ramsar site, there would be no impacts as a result of air pollution.</p> <p>Mill Lough is hydrologically linked to the River Erne via a small unnamed watercourse (between H 24356 38711 and H 24291 39149) and is therefore hydrologically linked to the proposed scheme. Mill Lough is approximately 3.8 km south of the proposed scheme, but 6.5 km upstream. Although the Ramsar site is linked to the proposed scheme by the River Erne, it is approximately 7.6 km south and 14 km upstream. Therefore, there is no potential pathway for water borne pollutants to reach the Ramsar site.</p> <p><b>Excavation</b></p> <p>No excavations will be undertaken within the International Site. Excavations will be limited to footings of bridge piers and the road itself. These are unlikely to result in indirect hydrological impacts on the International Site by virtue of altering the water-table etc. due to the distance from the International Site.</p> <p><b>Duration</b></p> <p>The proposed scheme will take between 18 and 24 months and will span winter months when whooper swan are present within the Ramsar site.</p> <p>During the operational phase the routine maintenance of road surfaces, lighting/signage, structural inspections of the bridge and SUDS features (a key part of pollution prevention and control) will be required. These activities are not considered to result in any impacts on features of the International Sites as they are likely to involve small-scale or short-term works primarily on the bridge deck where there will be daily traffic disturbance. As the Ramsar is upstream of the proposed scheme, there is no potential pathway for water borne pollutants from maintenance and management operations to reach the Ramsar. However, it is possible that structures at water crossings could sever otter commuting routes and should be considered as an operational impact.</p> <p>The decommissioning of the bypass is not considered within this assessment as it will be operational for the foreseeable future. However, it will be necessary to remove site compounds and access roads created to enable the construction of the scheme. The requirement, location and nature of these will be decided by the contractor. It is possible that this decommissioning element could contribute to impacts on the International Sites by virtue of emissions to air and water, visual disturbance and noise pollution, but this is likely to be a very minor contribution. To ensure that likely significant impacts on International Sites are avoided, the contractor will be requested to sensitively locate the site compound and access roads, to consider the materials</p>
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	<p>used and the method of construction and removal. The locations will be subject to HRA screening.</p>
<p><b>Describe any likely changes to the international site arising as a result of:</b></p> <ul style="list-style-type: none"> <li>• Reduction of habitat area;</li> <li>• Disturbance to key species;</li> <li>• Habitat or species fragmentation;</li> <li>• Reduction in species density;</li> <li>• Changes in key indicators of conservation value (e.g. water quality); and</li> <li>• Climate change.</li> </ul>	<p><b>Reduction of habitat area</b></p> <p>The proposed scheme will not require land take from within the Ramsar site. Therefore, there will be no reduction of habitat area within the International Site.</p> <p><b>Disturbance to key species</b></p> <p>Whooper swan may be disturbed if they are using land within the proposed scheme for grazing in winter months.</p> <p>Bat surveys undertaken in spring, summer and autumn 2017 as part of the Environmental Impact Assessment Report (EIAR) have not recorded whiskered bats in any of the bat roosts identified and although <i>Myotis</i> species were detected, they were considered to be Daubenton's bat rather than whiskered bat, and were recorded along the two rivers but not using the hedges that cross the proposed scheme for commuting and foraging. However, both whiskered bat and Daubenton's bat are associated with rivers so it is possible that some of the records were whiskered bats. The scheme design includes new bridges and bankside vegetation that will allow bats to continue to commute and forage along the Sillees River and the River Erne as well as underpasses that will be designed provide suitable bat crossing points. Further, there is optimal habitat for foraging within the Ramsar site and the distance between the scheme and the Ramsar site is likely to preclude potential impacts on whiskered bats of the Ramsar site. Therefore, even if whiskered bats do occasionally forage along the Sillees River and the Erne River, it is considered unlikely that there will be likely significant effects on this species.</p> <p><b>Habitat or species fragmentation</b></p> <p>There is no anticipated habitat or species fragmentation to the Ramsar site due to the distance from the proposed scheme (approximately 7.6 km from the main component, 3.8 km from Mill Lough).</p> <p><b>Reduction in species density</b></p> <p>A reduction in density of the qualifying species is not anticipated as a result of the proposed scheme. However, loss of a winter grazing site and potential disturbance in winter may affect the health of individual whooper swans and affect reproductive success the following spring.</p> <p><b>Changes key indicators of conservation value</b></p> <p>The works are not predicted to cause changes to water quality due to the hydrological location of the proposed scheme (downstream of the Ramsar site) and the fact that the work will be undertaken following the CEMP, which will layout measures to ensure water quality will be maintained.</p> <p>Local air quality is likely to be altered once the bypass is operational and further assessment is required. However, aquatic habitats are not considered vulnerable to changes in air quality and in any case, changes in air quality are not likely to affect Ramsar habitats 3.8 km or 7.6 km away and which are away from the prevailing wind.</p> <p>During construction, a 'clean-in, clean out' policy shall be adopted for site plant and personnel. Working methods shall be developed by the contractor to avoid the introduction and spread of aquatic invasive species, with reference to latest best practice control guidance available via the GB non-native species secretariat (<a href="http://www.nonnativespecies.org/home/index.cfm">http://www.nonnativespecies.org/home/index.cfm</a>). Species that may be transferred include: crayfish plague (<i>Aphanomyces astaci</i>), zebra mussel, floating pennywort, fringed waterlily, alligator weed, water fern, Nuttall's waterweed, curly waterweed, water-primrose, parrot's feather, broadleaf watermilfoil, fanwort, Chilean rhubarb, Persian hogweed, American skunk cabbage, water hyacinth, non-native crayfish, Chinese mitten crab, Japanese knotweed, giant hogweed and Indian balsam<sup>10</sup>.</p> <p><b>Climate change</b></p> <p>The proposed scheme is not likely to result in increased traffic, only freer flowing traffic. This considered, it is highly unlikely that climate change of the degree required to alter habitats, can be attributed to the construction of the proposed scheme.</p>
<p><b>Describe whether the Project will lead to likely significant</b></p>	<p><b>The proposed scheme alone has potential likely significant effects on the following conservation objectives of the Ramsar site: whooper swan, as a result of disturbance and loss of functional land.</b></p>



**effects on the international site alone or in combination**

The following information about other plans and projects was received from the bodies and sources consulted. The information about road schemes was obtained from the Department for Infrastructure website<sup>6</sup>. The Shared Environmental Service informed us of the Gas to the West Scheme, no details of other major projects or planning applications were received. A summary table of consultee responses is provided in Appendix D.

**Road Schemes**

Many of the future road schemes are either in preliminary development (progression subject to future budget) and therefore no assessments have been undertaken, or where they have been assessed, the schemes considered different International Sites. Likewise, the current road schemes that have undergone assessment under the Habitat Regulations, have considered different International Sites. Additionally, some of the current schemes are at early stages of development (no HRA yet if required) or have been completed. Therefore, there are not considered to be any in-combination effects on qualifying features of this SAC with the proposed scheme.

**Gas to the West**

A major scheme involving the construction of a cross-country high and intermediate pressure gas pipeline, known as 'Gas to the West'. Construction is underway with the Strabane section having been completed and work on-going in Fermanagh and Tyrone<sup>11</sup>. Given the scale of the scheme, it is likely to run concurrently with construction of the bypass. The pipeline will be constructed in close proximity to the Upper Lough Erne Ramsar site at four discrete locations within a 5 km section of the route.

The HRA screening for Gas to the West<sup>12</sup> identified potential impacts on wetland and aquatic habitats and species including whiskered bat and wildfowl (whooper swan considered under SPA). These features were taken forward to Stage 2 Appropriate Assessment. It was concluded that with mitigation, proposals would not have an adverse effect on integrity of the Ramsar site. Mitigation includes ensuring the site is carefully assessed and a suitable method detailed and implemented through a Construction Method Statement. Works should be managed to allow for contingency to be implemented in the event of accidental pollution. The potential disturbance impact on whiskered bats was not considered to affect the integrity of the site due to the likely short-term disturbance of low numbers of bats (if found they will be subject to other protective measures).

The RPS HRA assessed the project for potential in-combination effects with the A4 Enniskillen Bypass and concluded that 'there is no pathway of additive effect for significant cumulative or in-combination effects which can be considered to adversely affect the qualifying interests of conservation objectives of the European sites being considered as a result of the Gas to the West project and the Enniskillen Southern Bypass project. Accordingly, there is no appreciable in combination effect from both projects'. This HRA screening assessment of the Enniskillen Bypass has found LSE on whooper swan, which will be taken forward to Appropriate Assessment. However, this assessment has not found any pathway for in-combination effects with the Gas to the West scheme.

**Waterways Ireland Projects**

Waterways Ireland provided information about a number of projects undertaken and proposed within the Erne system.

The schemes proposed 2018 onwards are listed below with details:

Castle Museum Jetty – proposed new jetty on the River Erne, approximately 1.6 km downstream of the proposed scheme. The HRA considered the potential impacts on the Upper Lough Erne SPA to be temporary disturbance of wintering birds (specifically Whooper swan), but only if they pass through the jetty works area during the works. The proposed jetty is small-scale and located downstream of the SPA (c. 20 km downstream, c.10 km direct distance).

Bellenaleck Jetty and Slipway refurbishment – located approximately 3.3 km upstream of the proposed scheme. A HRA is currently being completed. It is not known when the works will be undertaken. No further details were provided.

Tullyinishmore Jetty and Cloonatriq Jetty refurbishments – assessments to be

commissioned in 2018. It is not known when the works will be undertaken. The sites are located at least 3 km (direct distance) upstream of the proposed scheme.

Proposed maintenance dredging at Inishcorkish at the mouth of the Colebrook River near Lisnaskea – located approximately 14.2 km upstream of the proposed scheme. A habitat assessment to inform a HRA is to be commissioned in 2018. It is not known when the works will be undertaken.

The HRA of the Castle Museum Jetty identified potential temporary effects on whooper swan. However, it is considered that even in-combination, the scheme and this project will not have a LSE on the whooper swans of the Ramsar site, due to the amount of alternative habitat in the wider area and the impacts are minimal in both cases. In-combination effects with projects that are still being assessed will be part of the assessment for that project.

**Based on information available, the proposed scheme will not result in any additional likely significant effects on the conservation objectives of the Ramsar site in-combination with any other scheme.**

## 6. The Fardrum and Roosky Turloughs SAC Screening Matrix

<b>Site Designation Status</b>	Fardrum and Roosky Turloughs SAC
<b>Location of International Site</b>	The Fardrum and Roosky Turloughs SAC covers a total of 43 ha and is located near Monea on the western side of Lower Lough Erne, Northern Ireland. In relation to the proposed scheme, it lies 8.5 km north-west.
<b>Brief Description of the International Site</b>	Turloughs are a low-lying area on limestone, which becomes flooded in wet weather through the welling up of groundwater from the rock. This is one of only two known outstanding localities in the United Kingdom; it is considered to be rare as its total extent in the United Kingdom is estimated to be less than 10 ha.
<b>Qualifying Features and Conservation Objectives</b>	<p>Annex I habitats that are a primary reason for selection of this site:</p> <p>Turloughs * Priority feature</p> <p>There are three turloughs in this group, west of Lower Lough Erne: Fardrum Lough, Roosky Lough, and Green Lough, all within a basin formed in the Carboniferous Ballyshannon limestone. They are the only turloughs in Northern Ireland, and represent the most northerly occurrence of this habitat in Ireland and the UK. All three contain distinctive vegetation communities associated with their inundation zone, including the bryophytes <i>Cinclidotus fontinaloides</i> and <i>Fontinalis antipyretica</i>. In addition, Green Lough supports the nationally rare fen violet <i>Viola persicifolia</i> and a very rich ground-beetle fauna including the carabids <i>Blethisa multipunctata</i> and <i>Pelophila borealis</i>.</p> <p><b>The Conservation Objectives for this site are:</b></p> <p>To maintain (or restore where appropriate) the turloughs in a favourable condition.</p> <ul style="list-style-type: none"> <li>• Maintain, or restore if necessary, the extent of the turlough community.</li> <li>• Maintain hydrological system relating to the turloughs.</li> <li>• Maintain and enhance species diversity within the turlough community, including presence of the rare plant species e.g. fen violet <i>Viola persicifolia</i> and notable invertebrates e.g. the beetles <i>Blethisa multipunctata</i> and <i>Pelophila borealis</i>.</li> <li>• Maintain the diversity and quality of habitats associated with the turloughs, e.g. wet grasslands, swamp, neutral grasslands and scrub, especially where these exhibit natural transitions to the turlough communities.</li> </ul>
<b>Sensitivities of the International Site</b>	<p>The site is vulnerable to<sup>17</sup>:</p> <ul style="list-style-type: none"> <li>• Biocenotic evolution, succession</li> <li>• Human induced changes in hydraulic conditions</li> <li>• Pollution to groundwater (point sources and diffuse sources)</li> <li>• Grazing</li> <li>• Pollution to surface waters (limnic &amp; terrestrial, marine &amp; brackish)</li> </ul>
<b>Describe the</b>	It is considered that there are no elements of the proposed scheme that are likely to

<sup>17</sup> Natura 2000 Standard Data Form, Fardrum and Roosky Turloughs Special Area of Conservation UK0030068 - <http://jncc.defra.gov.uk/ProtectedSites/SACselection/n2kforms/UK0030068.pdf>

<p><b>individual elements of the Project likely to give rise to impacts on the International Site</b></p>	<p>give rise to impacts on the International Site. The SAC is not hydrologically linked to the proposed scheme. The SAC is too distant (8.5 km) from the proposed scheme to be affected by possible sources of air pollution.</p>
<p><b>Describe any likely direct, indirect or secondary impacts of the Project on the International Site by virtue of:</b></p> <ul style="list-style-type: none"> <li>• Size and scale;</li> <li>• Land take;</li> <li>• Resource requirements</li> <li>• Emissions (disposal to land, water or air);</li> <li>• Excavation requirements; and</li> <li>• Duration of construction, operation, decommissioning etc.</li> </ul>	<p>There are no likely direct, indirect or secondary impacts on the qualifying features of the Fardrum and Roosky Turloughs SAC as a result of the proposed scheme, either during construction or operation.</p> <p><b>Size and scale</b></p> <p>The size and scale of the project does not give rise to impacts on the SAC. The proposed bypass is approximately 2 km in length. All works will be confined to an estimated footprint/working area of 14 ha.</p> <p><b>Land take</b></p> <p>No land take is required within the International Site boundary. There will be no reduction of habitat area within the International Site.</p> <p><b>Resource requirements</b></p> <p>No other resources other than land will be utilised by the proposed scheme, with the exception of an electricity supply, which may be required for lighting, and surface water will need to be accommodated within the drainage system.</p> <p><b>Emissions</b></p> <p>There will be some emissions to air and water. The proposed scheme will reduce the amount of traffic passing through Enniskillen and speed up east-west traffic. However, the introduction of a new road is an additional source of air pollutants. The results of the air quality assessment<sup>9</sup> indicated that due to the distance of the proposed scheme from this SAC (8.5 km), there would be no impacts as a result of air pollution.</p> <p><b>Excavation</b></p> <p>No excavations will be undertaken within the International Site. Excavations will be limited to footings of bridge piers and the road itself. These are unlikely to result in indirect hydrological impacts on the International Site by virtue of altering the water-table due to the distance from the International Site.</p> <p><b>Duration</b></p> <p>The proposed scheme will take between 18 and 24 months to construct and will be operation for the foreseeable future. It is not considered that the duration of this operation will have any particular impact on qualifying features of the SAC.</p> <p>During the operational phase the routine maintenance of road surfaces, lighting/signage, structural inspections of the bridge and SUDS features (a key part of pollution prevention and control) will be required. These activities are not considered to result in any impacts on features of the International Sites as they are likely to involve small-scale or short-term works primarily on the bridge deck where there will be daily traffic disturbance. The SAC is too distant from the scheme to be affected.</p> <p>The decommissioning of the bypass is not considered within this assessment as it will be operational for the foreseeable future. However, it will be necessary to remove site compounds and access roads created to enable the construction of the scheme. The requirement, location and nature of these will be decided by the contractor. It is unlikely that that this decommissioning element could contribute to impacts on the International Site by virtue of its distance from the scheme. In all cases, to ensure that likely significant effects on International Sites are avoided, the contractor will be requested to sensitively locate the site compound and access roads, to consider the materials used and the method of construction and removal. The locations will also be subject to HRA screening.</p>
<p><b>Describe any likely changes to the international site arising as a result of:</b></p> <ul style="list-style-type: none"> <li>• Reduction of habitat area;</li> </ul>	<p><b>Reduction of habitat area</b></p> <p>There will be no land take or loss of habitat within the SAC as the proposed scheme is located outside the International Site boundary.</p> <p><b>Disturbance to key species</b></p> <p>None of the bryophytes, higher plants or beetles associated with the turloughs will be disturbed as a result of the proposed scheme.</p> <p><b>Habitat or species fragmentation</b></p>

<ul style="list-style-type: none"><li>• Disturbance to key species;</li><li>• Habitat or species fragmentation;</li><li>• Reduction in species density;</li><li>• Changes in key indicators of conservation value (e.g. water quality); and</li><li>• Climate change.</li></ul>	<p>The proposed scheme is located 8.5 km from the International Site and is not predicted to cause any habitat fragmentation to the SAC.</p> <p><b>Reduction in species density</b></p> <p>There will be no reduction in species (plants and invertebrates) density as a result of the proposed scheme.</p> <p><b>Changes in key indicators of conservation value</b></p> <p>There is no means by which the proposed scheme can cause changes to the key indicators or qualifying habitats of the SAC.</p> <p><b>Climate change</b></p> <p>The proposed scheme is not likely to result in increased traffic, only freer flowing traffic. This considered, it is highly unlikely that climate change of the degree required to alter habitats, can be attributed to the construction of the proposed scheme.</p>
<p><b>Describe whether the Project will lead to likely significant effects on the international site alone or in combination</b></p>	<p><b>The proposed works alone will not result in likely significant effects on the conservation objectives of the SAC.</b></p> <p>It is not considered that there are any information gaps or uncertainties that would change this assessment.</p> <p>The following information about other plans and projects was received from the bodies and sources consulted. The information about road schemes was obtained from the Department for Infrastructure website<sup>6</sup>. The Shared Environmental Service informed us of the Gas to the West Scheme, no details of other major projects or planning applications were received. A summary table of consultee responses is provided in Appendix D.</p> <p><b>Road Schemes</b></p> <p>Many of the future road schemes are either in preliminary development (progression subject to future budget) and therefore no assessments have been undertaken, or where they have been assessed, the schemes considered different International Sites. Likewise, the current road schemes that have undergone assessment under the Habitat Regulations, have considered different International Sites. Additionally, some of the current schemes are at early stages of development (no HRA yet if required) or have been completed. Therefore, there are not considered to be any in-combination effects on qualifying features of this SAC with the proposed scheme.</p> <p><b>Based on information available, the proposed scheme will not result in any likely significant effects on the conservation objectives of the SAC in-combination with any other scheme.</b></p>

## 7. The Fardrum and Roosky Turloughs Ramsar Site Screening Matrix

<b>Site Designation Status</b>	Fardrum and Roosky Turloughs Ramsar site
<b>Location of International Site</b>	The Fardrum and Roosky Turloughs Ramsar site covers a total of 43 ha and is located near Monea on the western side of Lower Lough Erne, Northern Ireland. In relation to the proposed Scheme, it lies 8.5 km north-west.
<b>Brief Description of the International Site</b>	The turloughs are the only ones in Northern Ireland and are the most northerly occurrence of these lake types in Ireland and the UK. There are three turloughs in the group: Roosky Lough is the southernmost, Green Lough lies to the north, with Fardrum Lough between the two, all lying within a basin formed in the Ballyshannon Limestones. The loughs are fed by groundwater via risings, especially noticeable at Roosky Lough. Outflow is also through the limestone, via sinks, which can be clearly seen during dry periods at Roosky and Green Loughs. The turloughs all exhibit distinctive vegetation communities associated with the inundation zone, including some rare species records. Permanently wet basins within the turloughs support vegetation typical of lakes and lake-shores, with some of these forming very extensive swards. The turloughs support a range of water beetles, with the species <i>Rhantus frontalis</i> being typical of such ephemeral waterbodies. Green Lough supports a very rich ground beetle fauna including the carabids <i>Blethisa multipunctata</i> and <i>Pelophila borealis</i> . In total, these wetlands have contributed records of nine beetles that are new to Fermanagh.
<b>Qualifying Features and Conservation Objectives</b>	<p><b>Ramsar Criterion 1</b> The site is important as the most northerly examples of turloughs in Ireland, with distinctive, naturally impoverished, vegetation communities.</p> <p><b>The Conservation Objectives<sup>18</sup> for this site are:</b></p> <p>To maintain (or restore where appropriate) the turloughs in a favourable condition.</p> <ul style="list-style-type: none"> <li>• Maintain, or restore if necessary, the extent of the turlough community.</li> <li>• Maintain hydrological system relating to the turloughs.</li> <li>• Maintain and enhance species diversity within turlough community, including presence of the rare plant species e.g. fen violet <i>Viola persicifolia</i> and notable invertebrates e.g. the beetles <i>Blethisa multipunctata</i> and <i>Pelophila borealis</i>.</li> <li>• Maintain the diversity and quality of habitats associated with the turloughs, e.g. wet grasslands, swamp, neutral grasslands and scrub, especially where these exhibit natural transitions to the turlough communities.</li> </ul>
<b>Sensitivities of the International Site</b>	<p>The site is vulnerable to<sup>19</sup>:</p> <ul style="list-style-type: none"> <li>• Over-grazing by domestic livestock</li> <li>• Eutrophication</li> </ul>
<b>Describe the individual elements of the Project likely to give rise to impacts on the</b>	<p>It is considered that there are no elements of the proposed scheme that are likely to give rise to impacts on the International Site.</p> <p>The Ramsar site is not hydrologically linked to the proposed scheme.</p> <p>The Ramsar site is too distant (8.5 km) from the proposed scheme to be affected by</p>

<sup>18</sup> As for Fardrum and Roosky Turloughs SAC – no specific Ramsar site conservation objectives.

<sup>19</sup> Information Sheet on Ramsar Wetlands, Fardrum and Roosky Turloughs, UK12009 - <http://jncc.defra.gov.uk/pdf/RIS/UK12009.pdf>

<b>International Site</b>	possible sources of air pollution.
<p><b>Describe any likely direct, indirect or secondary impacts of the Project on the International Site by virtue of:</b></p> <ul style="list-style-type: none"> <li>• Size and scale;</li> <li>• Land take;</li> <li>• Resource requirements</li> <li>• Emissions (disposal to land, water or air);</li> <li>• Excavation requirements; and</li> <li>• Duration of construction, operation, decommissioning etc.</li> </ul>	<p>There are no likely direct, indirect or secondary impacts on the qualifying features of the Fardrum and Roosky Turloughs Ramsar site as a result of the proposed scheme, either during construction or operation.</p> <p><b>Size and scale</b></p> <p>The size and scale of the project does not give rise to impacts on the Ramsar site. The proposed bypass is approximately 2 km in length. All works will be confined to an estimated footprint/working area of 14 ha.</p> <p><b>Land take</b></p> <p>No land take is required within the International Site boundary. There will be no reduction of habitat area within the International Site.</p> <p><b>Resource requirements</b></p> <p>No other resources other than land will be utilised by the proposed scheme, with the exception of an electricity supply, which may be required for lighting, and surface water will need to be accommodated within the drainage system.</p> <p><b>Emissions</b></p> <p>There will be some emissions to air and water. The proposed scheme will reduce the amount of traffic passing through Enniskillen and speed up east-west traffic. However, the introduction of a new road is an additional source of air pollutants. The results of the air quality assessment<sup>9</sup> indicated that due to the distance of the proposed scheme from this Ramsar site (8.5 km), there would be no impacts as a result of air pollution.</p> <p><b>Excavation</b></p> <p>No excavations will be undertaken within the International Site. Excavations will be limited to footings of bridge piers and the road itself. These are unlikely to result in indirect hydrological impacts on the International Site by virtue of altering the water-table etc. due to the distance from the International Site.</p> <p><b>Duration</b></p> <p>The proposed scheme will take between 18 and 24 months to construct and will be operation for the foreseeable future. It is not considered that the duration of this operation will have any particular impact on qualifying features of the Ramsar site. During the operational phase the routine maintenance of road surfaces, lighting/signage, structural inspections of the bridge and SUDS features (a key part of pollution prevention and control) will be required. These activities are not considered to result in any impacts on features of the International Sites as they are likely to involve small-scale or short-term works primarily on the bridge deck where there will be daily traffic disturbance. The SAC is too distant from the scheme to be affected. The decommissioning of the bypass is not considered within this assessment as it will be operational for the foreseeable future. However, it will be necessary to remove site compounds and access roads created to enable the construction of the scheme. The requirement, location and nature of these will be decided by the contractor. It is unlikely that that this decommissioning element could contribute to impacts on the International Site by virtue of its distance from the scheme. In all cases, to ensure that likely significant effects on International Sites are avoided, the contractor will be requested to sensitively locate the site compound and access roads, to consider the materials used and the method of construction and removal. The locations will also be subject to HRA screening.</p>
<p><b>Describe any likely changes to the International Site arising as a result of:</b></p> <ul style="list-style-type: none"> <li>• Reduction of habitat area;</li> <li>• Disturbance to key species;</li> <li>• Habitat or species</li> </ul>	<p><b>Reduction of habitat area</b></p> <p>There will be no land take or loss of habitat within the Ramsar site as the proposed scheme is located outside the International Site boundary.</p> <p><b>Disturbance to key species</b></p> <p>None of the bryophytes, higher plants or beetles associated with the turloughs will be disturbed as a result of the proposed scheme.</p> <p><b>Habitat or species fragmentation</b></p> <p>The proposed scheme is located 8.5 km from the International Site and is not predicted to cause any habitat fragmentation to the Ramsar site.</p> <p><b>Reduction in species density</b></p> <p>There will be no reduction in species (plants and invertebrates) density as a result of</p>

<p>fragmentation;</p> <ul style="list-style-type: none"> <li>• Reduction in species density;</li> <li>• Changes in key indicators of conservation value (e.g. water quality); and</li> <li>• Climate change.</li> </ul>	<p>the proposed scheme.</p> <p><b>Changes in key indicators of conservation value</b></p> <p>There is no means by which the proposed scheme can cause changes to the key indicators or qualifying habitats of the Ramsar site.</p> <p><b>Climate change</b></p> <p>The proposed scheme is not likely to result in increased traffic, only freer flowing traffic. This considered, it is highly unlikely that climate change of the degree required to alter habitats, can be attributed to the construction of the proposed scheme.</p>
<p><b>Describe whether the Project will lead to likely significant effects on the International Site alone or in combination</b></p>	<p><b>The proposed works alone will not result in likely significant effects on the conservation objectives of the Ramsar site.</b></p> <p>It is not considered that there are any information gaps or uncertainties that would change this assessment.</p> <p>The following information about other plans and projects was received from the bodies and sources consulted. The information about road schemes was obtained from the Department for Infrastructure website<sup>6</sup>. The Shared Environmental Service informed us of the Gas to the West Scheme, no details of other major projects or planning applications were received. A summary table of consultee responses is provided in Appendix D.</p> <p><b>Road Schemes</b></p> <p>Many of the future road schemes are either in preliminary development (progression subject to future budget) and therefore no assessments have been undertaken, or where they have been assessed, the schemes considered different International Sites. Likewise, the current road schemes that have undergone assessment under the Habitat Regulations, have considered different International Sites. Additionally, some of the current schemes are at early stages of development (no HRA yet if required) or have been completed. Therefore, there are not considered to be any in-combination effects on qualifying features of this SAC with the proposed scheme.</p> <p><b>Based on information available, the proposed scheme will not result in any likely significant effects on the conservation objectives of the Ramsar site in-combination with any other scheme.</b></p>



## 8. The Cladagh (Swanlinbar) River SAC Screening Matrix

<b>Site Designation Status</b>	Cladagh (Swanlinbar) River SAC
<b>Location of International Site</b>	The Cladagh (Swanlinbar) River SAC covers a total area of 28 ha in Northern Ireland. In relation to the proposed scheme, the SAC is approximately 9.8 km south and 18 km by watercourse (upstream of River Erne, through Upper Lough Erne to the Cladagh inflow (at H 26894 32763)).
<b>Brief Description of the International Site</b>	<p>The Cladagh (Swanlinbar) River rises on Cuilcagh Mountain and flows through County Cavan in the Republic of Ireland before crossing the border into County Fermanagh in Northern Ireland, and eventually entering Upper Lough Erne. It is a moderately large river, being ultra-oligotrophic in its upland reaches within the Republic of Ireland, before gradually becoming oligotrophic and oligo-mesotrophic through its middle and lower reaches within Northern Ireland.</p> <p>It supports vegetation communities comprising submerged vegetation dominated by water crowfoots and with water-starwort, for which the area is considered to support a significant presence. It also supports freshwater pearl mussel, for which this is considered to be one of the best areas in the United Kingdom.</p>
<b>Qualifying Features and Conservation Objectives</b>	<p><b>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</b></p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation.</p> <p><b>Annex II species that are a primary reason for selection of this site</b></p> <p>Freshwater pearl mussel <i>Margaritifera margaritifera</i></p> <p>The freshwater pearl mussel population, which is estimated to have a minimum number of 10,000 individuals, is confined to 6 km of undisturbed river channel in the middle section of the river. It is one of the largest known populations surviving in Northern Ireland.</p> <p><b>The Conservation Objectives for this site are:</b></p> <p>To maintain (or restore where appropriate) the following in favourable condition.</p> <ul style="list-style-type: none"> <li>• Freshwater pearl mussel <i>Margaritifera margaritifera</i> <ul style="list-style-type: none"> <li>- Maintain and if feasible enhance population number through natural recruitment.</li> <li>- Improve age structure of population.</li> <li>- Improve water quality.</li> <li>- Improve channel substrate quality by reducing siltation.</li> <li>- Ensure host fish population is adequate for recruitment.</li> </ul> </li> <li>• Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitricho-Batrachion</i> vegetation                     <ul style="list-style-type: none"> <li>- Maintain and if feasible enhance extent and composition of community.</li> <li>- Improve water quality</li> <li>- Improve channel substrate quality by reducing siltation.</li> <li>- Maintain and if feasible enhance the river morphology.</li> </ul> </li> </ul>

<p><b>Sensitivities of the International Site</b></p>	<p>The site is vulnerable to<sup>20</sup>:</p> <ul style="list-style-type: none"> <li>• Renewable abiotic energy use</li> <li>• Human induced changes in hydraulic conditions</li> <li>• Invasive non-native species</li> <li>• Changes in abiotic conditions</li> <li>• Fishing and harvesting aquatic resources</li> <li>• Mining and quarrying</li> <li>• Forest and plantation management &amp; use</li> </ul>
<p><b>Describe the individual elements of the Project likely to give rise to impacts on the International Site</b></p>	<p>It is considered that there are no elements of the proposed scheme are likely to give rise to impacts on this International Site during either construction or operation.</p> <p>The SAC is indirectly hydrologically linked to the site as the Cladagh (Swanlinbar) River flows into Upper Lough Erne. However, the SAC is approximately 18 km upstream. Therefore, there is no potential pathway for water borne pollutants to reach the SAC.</p> <p>The SAC is too distant (approximately 9.8 km) from the proposed scheme to be affected by possible sources of air pollution.</p>
<p><b>Describe any likely direct, indirect or secondary impacts of the Project on the International Site by virtue of:</b></p> <ul style="list-style-type: none"> <li>• Size and scale;</li> <li>• Land take;</li> <li>• Resource requirements</li> <li>• Emissions (disposal to land, water or air);</li> <li>• Excavation requirements; and</li> <li>• Duration of construction, operation, decommissioning etc.</li> </ul>	<p>There are no likely direct, indirect or secondary impacts on the qualifying features of the SAC as a result of the proposed scheme, either during construction or operation.</p> <p><b>Size and scale</b></p> <p>The size and scale of the project does not give rise to impacts on the SAC. The proposed bypass is approximately 2 km in length. All works will be confined to an estimated footprint/working area of 14 ha.</p> <p><b>Land take</b></p> <p>No land take is required within the International Site boundary. There will be no reduction of habitat area within the International Site.</p> <p><b>Resource requirements</b></p> <p>No other resources other than land will be utilised by the proposed scheme, with the exception of an electricity supply, which may be required for lighting, and surface water will need to be accommodated within the drainage system.</p> <p><b>Emissions</b></p> <p>There will be some emissions to air and water. The proposed scheme will reduce the amount of traffic passing through Enniskillen and speed up east-west traffic. However, the introduction of a new road is an additional source of air pollutants. The results of the air quality assessment<sup>9</sup> indicated that due to the distance of the proposed scheme from this SAC (9.8 km), there would be no impacts as a result of air pollution.</p> <p><b>Excavation</b></p> <p>No excavations will be undertaken within the International Site. Excavations will be limited to footings of bridge piers and the road itself. These are unlikely to result in indirect hydrological impacts on the International Site by virtue of altering the water-table etc. due to the distance from the International Site.</p> <p><b>Duration</b></p> <p>The proposed scheme will take between 18 and 24 months to construct and will be operation for the foreseeable future. It is not considered that the duration of this operation will have any particular impact on qualifying features</p>

<sup>20</sup> Natura 2000 – Standard Data Form, Cladagh (Swanlinbar) River Special Area of Conservation UK0030116 - <http://jncc.defra.gov.uk/ProtectedSites/SACselection/n2kforms/UK0030116.pdf>

	<p>of the SAC.</p> <p>During the operational phase the routine maintenance of road surfaces, lighting/signage, structural inspections of the bridge and SUDS features (a key part of pollution prevention and control) will be required. These activities are not considered to result in any impacts on features of the International Sites as they are likely to involve small-scale or short-term works primarily on the bridge deck where there will be daily traffic disturbance. As the SAC is upstream of the proposed scheme, there is no potential pathway for water borne pollutants from maintenance and management operations to reach the SAC.</p> <p>The decommissioning of the bypass is not considered within this assessment as it will be operational for the foreseeable future. However, it will be necessary to remove site compounds and access roads created to enable the construction of the scheme. The requirement, location and nature of these will be decided by the contractor. It is possible that this decommissioning element could contribute to impacts on the International Sites by virtue of emissions to air and water, visual disturbance and noise pollution, but this is likely to be a very minor contribution. To ensure that likely significant impacts on International Sites are avoided, the contractor will be requested to sensitively locate the site compound and access roads, to consider the materials used and the method of construction and removal. The locations will be subject to HRA screening.</p>
<p><b>Describe any likely changes to the International Site arising as a result of:</b></p> <ul style="list-style-type: none"> <li>• Reduction of habitat area;</li> <li>• Disturbance to key species;</li> <li>• Habitat or species fragmentation;</li> <li>• Reduction in species density;</li> <li>• Changes in key indicators of conservation value (e.g. water quality); and</li> <li>• Climate change.</li> </ul>	<p><b>Reduction of habitat area</b></p> <p>There will be no land take or loss of habitat within the SAC as proposed scheme is located outside the International Site boundary.</p> <p><b>Disturbance to key species</b></p> <p>There will be no disturbance to key species within the SAC due to the distance between the International Site and the proposed scheme and the nature of the hydrology between them.</p> <p><b>Habitat or species fragmentation</b></p> <p>The proposed scheme is outside the International Site and is not predicted to cause any habitat or species fragmentation to the SAC.</p> <p><b>Reduction in species density</b></p> <p>No reduction in species density is likely as a result of the proposed scheme due to the distance between them and the absence of viable pollution pathways.</p> <p><b>Changes key indicators of conservation value</b></p> <p>Due to its distance from the SAC and the absence of viable pollution pathways, it is considered that the proposed scheme will not have a likely significant effect on the key indicators or qualifying species of the SAC.</p> <p><b>Climate change</b></p> <p>The proposed scheme is not likely to result in increased traffic, only freer flowing traffic. This considered, it is highly unlikely that climate change of the degree required to alter habitats, can be attributed to the construction of the proposed scheme.</p>
<p><b>Describe whether the Project will lead to likely significant effects on the International Site alone or in combination</b></p>	<p><b>The proposed works alone will not result in any likely significant effects on the conservation objectives of the SAC.</b></p> <p>It is not considered that there are any information gaps or uncertainties that would change this assessment.</p> <p>The following information about other plans and projects was received from the bodies and sources consulted. The information about road schemes was obtained from the Department for Infrastructure website<sup>6</sup>. The Shared Environmental Service informed us of the Gas to the West Scheme, no details of other major projects or planning applications were received. A summary table of consultee responses is provided in Appendix D.</p> <p><b>Road Schemes</b></p> <p>Many of the future road schemes are either in preliminary development (progression subject to future budget) and therefore no assessments have been undertaken, or where they have been assessed, the schemes considered</p>

different International Sites. Likewise, the current road schemes that have undergone assessment under the Habitat Regulations, have considered different International Sites. Additionally, some of the current schemes are at early stages of development (no HRA yet if required) or have been completed. Therefore, there are not considered to be any in-combination effects on qualifying features of this SAC with the proposed scheme.

**Based on information available, the proposed scheme will not result in any likely significant effects on the conservation objectives of the SAC in-combination with any other scheme.**

## 9. Screening Conclusion

Six International Sites were considered in the screening assessment (identified within 10 km of the proposed scheme), comprising of Upper Lough Erne SAC, SPA and Ramsar site, Fardrum and Roosky Turloughs SAC and Ramsar site and Cladagh (Swanlinbar) River SAC. Likely significant effects have been identified on the following qualifying features, as summarised below:

- Otter populations of the Upper Lough Erne SAC due to disturbance during construction and operation; and
- Wintering whooper swan populations of the Upper Lough Erne SPA and Ramsar site due to disturbance during construction and permanent loss of functional land.

The LSE listed above have been subject to Appropriate Assessment (AA), as described in Section 10 below.

No likely significant effects are predicted on any of the qualifying features of the remaining three International Sites (Fardrum and Roosky Turloughs SAC and Ramsar site and Cladagh (Swanlinbar) River SAC) as a result of the proposed scheme alone or in-combination with any other plan or projects, provided that measures in the CEMP are fully implemented. These sites are not considered any further.

# 10. Appropriate Assessment

## 10.1. Qualifying Features subject to Appropriate Assessment

This section presents information required for an Appropriate Assessment of the likely significant effects on the International Sites in view of their conservation objectives and to make a decision, based on evidence, whether the integrity of the International Sites will be adversely affected.

The HRA Screening showed that there is potential for the proposed scheme to have likely significant effects on two of the qualifying features (otter and whooper swan) within three of the International Sites identified within 10 km: Upper Lough Erne SPA, Upper Lough Erne SAC and Upper Lough Erne Ramsar site.

The International Site, qualifying feature of the International Site affected and the cause of the potential impact are outlined in Table 10-1 below. Only conservation objectives relevant to the impact are listed.

**Table 10-1 Qualifying Features subject to Appropriate Assessment**

International Site	Qualifying Feature	Conservation Objectives	Cause of Potential Impact
Upper Lough Erne SAC	Otters	Population numbers and distribution to be maintained and if possible, expanded.	<b>Potential for LSE</b> due to disturbance during construction.
		Population numbers and distribution to be maintained and if possible, expanded.	<b>Potential for LSE</b> due to habitat severance during operation.
Upper Lough Erne SPA	Whooper swans	<p>To maintain or enhance the population of the qualifying species</p> <p>To maintain or enhance the range of habitats utilised by the qualifying species</p> <p>To ensure there is no significant disturbance of the species</p> <p>To ensure that the following are maintained in the long term:</p> <ul style="list-style-type: none"> <li>• Population of the species as a viable component of the site.</li> <li>• Distribution of the species within site.</li> <li>• Distribution and extent of habitats supporting the species</li> </ul>	<p><b>Potential for LSE</b> as land within the footprint of the bypass may be utilised by whooper swan as terrestrial grazing habitat during winter months and could therefore be functional land of the SPA.</p> <p>Construction will result in loss of this land and as it will continue through winter months, could potentially disturb any whooper swans in the vicinity.</p>
Upper Lough Erne Ramsar site	Whooper swans	To maintain or enhance the population of the qualifying species	<b>Potential for LSE</b> as land within the footprint of the bypass may be utilised by whooper swan as terrestrial grazing habitat during

International Site	Qualifying Feature	Conservation Objectives	Cause of Potential Impact
		<p>To maintain or enhance the range of habitats utilised by the qualifying species</p> <p>To ensure that the integrity of the site is maintained</p> <p>To ensure there is no significant disturbance of the species</p> <p>To ensure that the following are maintained in the long term:</p> <ul style="list-style-type: none"> <li>• Population of the species as a viable component of the site.</li> <li>• Distribution of the species within site.</li> <li>• Distribution and extent of habitats supporting the species.</li> </ul> <p>Structure, function and supporting processes of habitats supporting the species.</p>	<p>winter months and could therefore be functional land of the Ramsar site. Construction will result in loss of this land and as it will continue through winter months, could potentially disturb any whooper swans in the vicinity.</p>

## 10.2. Information for Appropriate Assessment

In response to comments from the Shared Environmental Service, a request was made to the Northern Ireland Environment Agency (NIEA) for the most up-to-date condition assessments of the three International Sites being considered within Stage 2 of the assessment. NIEA Natural Environment Division supplied condition assessment information in relation to the Upper Lough Erne SPA<sup>21</sup>. However, they decided not to release the Upper Lough Erne SAC condition assessment information; they described it as third party personal data of which we were not the data subject.

### **Upper Lough Erne SAC**

#### ***Otter – disturbance of SAC population using the River Erne during construction and as a result of habitat severance during operation***

An otter survey has been undertaken<sup>22</sup> as part of the ecological surveys and identified evidence that otters are present on the River Erne. The survey indicated that otter activity is frequent along the corridor of the River Erne. The open rocky banksides situated to the east and north east of the proposed road had frequent spraints in areas where extensive reed lines were absent (making the bank more accessible to otter). The otter spraint identified was fresh and estimated as very recent i.e. 1-2 days old. An otter holt (Holt 1 on Figure 9.4, Appendix E) was found south of the Erne crossing in a non-main badger sett. A second otter holt (Holt 2, Figure 9.4 in Appendix E) was observed north of the road crossing in a large embankment bordering the abutments of a historical bridge. No other holt sites were recorded along the River Erne.

The lower reaches of the Sillees River have open banks with patches of reed vegetation and did not have any evidence of otter activity. However, less than 0.5 km east of the proposed scheme the riparian treeline becomes well developed and provides better cover for otter. In this area an otter couch (Couch 2 on Figure 9.4, Appendix E) was found on the grassed over root zone of a willow tree (accompanied by spraint). Another couch site (Couch 3, Figure 9.4, Appendix E) was found immediately upstream of the small private marina located on the east bank of the Sillees River. A couch was also recorded on the grassed over root zone of riparian willow.

<sup>21</sup> Ornithological condition assessment 2014\_Upper Lough Erne ASSI and SPA (Excel document supplied by DAERE 13 December 2017.

<sup>22</sup> Otter Survey of the Enniskillen Bypass by Triturus Environmental Services, February 2017.

Appropriate mitigation will be put in place to avoid or minimise all potential impacts on otter, including licensed works where appropriate. These mitigation measures are detailed in the EIAR. Given these measures, no significant disturbance, harm or reduction in species density is likely as a result of the proposed scheme. It is therefore considered that the proposed scheme will not have any adverse effects on site integrity (AESI) for any of the conservation objectives relating to otter.

Mitigation – as described in the EIAR. These measures include but are not limited to:

- Retaining all otter holts where possible.
- An otter holt or couch requires a 30 m protection zone.
- Otter fencing will be installed along the boundary of roads bordering rivers and also at tie in points to river crossings. The fencing will be positioned either side of the Erne and Sillees crossing, extending for 100 m at both sides to prevent otter accessing the road.
- Ensure habitat continuity along the river banks during normal flow and during flood events, if necessary by the provision of an additional ledge or culvert above the level of the design year flood level. This will allow the passage of otter and other species during flood events to reduce the barrier effect and minimise collision risk with vehicles.
- Appropriate landscape design associated with tunnels and fencing.
- Avoiding night-time working (30 min before sunset to 30 min after sunrise) and illumination of the river bank to minimise disturbance to foraging otters.
- Ensure provision of suitable otter escape pathways through construction sites, e.g. provision of ramps/ mammal ladders to enable egress from construction SuDS features, excavations etc.
- Undertake preconstruction surveys.
- Obtain appropriate licences.

It is not considered that any further information is required to inform the assessment of whether there are adverse effects on site integrity or the effectiveness of the mitigation, as mitigation measures comprise standard, good practice procedures.

***Upper Lough Erne SPA and Ramsar site  
Whooper swans – loss of winter grazing/functional land within footprint and disturbance during construction***

Whooper swans are known to graze on farmland surrounding the SPA and Ramsar site in winter months. Therefore, there is potential for the land on which the proposed scheme is to be located to be functional land of the SPA and Ramsar site. The NIEA condition assessment describes the condition of this qualifying feature as “favourable”<sup>23</sup>.

The fields in the footprint are sub-optimal for whooper swan as they are on high ground, apart from at the western end of the proposed scheme. However, fields at the western end are small and enclosed, which may discourage use. Furthermore, also at the western end, there is potential for swans to be Gdisturbed by traffic on the A509, the marina (boat and vehicle traffic) and walkers on the river bank, but this may not necessarily preclude use of the fields. Whooper swans generally occur in open low-lying fields within river floodplains.

A review of WeBS counts<sup>24</sup> for sectors within 2 km of the route corridor was carried out during the ecological constraints assessment and reviewed during the HRA. No whooper swans were recorded in any of these count sectors (sectors 29 & 30 adjoining the route and sectors 24, 25, 26, 27, 31 & 32 within 2 km). There are three whooper swan records from CEDaR<sup>25</sup> within 2 km of the route corridor, at Killyhevlin Hotel and Lisgoole (grid square H2442) and in grid square H2443. As might be

<sup>23</sup> Letter from NIEA, 13 December 2017, Ref DAERA/2017-0358

<sup>24</sup> The majority of the sectors have not been counted since 2006/07, which makes the 2002/03-2006/07 counts the most recent five-year period for which data is available for Lower Lough Erne Sectors 29 and 30 adjacent to the route and also 24, 27 and 31-33. Sectors 25 and 26 have also been surveyed between 2009/10 and 2015/16. The specific data was not requested as these sectors are located 9.6 km and 8.9 km south respectively, from the proposed scheme. The count dates were checked via the BTO website ([www.bto.org/volunteer-surveys/webs/data/submit-data-request](http://www.bto.org/volunteer-surveys/webs/data/submit-data-request)) November 2017 by looking at the details for each sector.

<sup>25</sup> Centre for Environmental Data and Recording (CEDaR), requested May 2016.



expected, these records indicate that small numbers of whooper swan occur occasionally on the River Erne in the vicinity of the route corridor<sup>26</sup>. These WeBS sites included the sections of the River Erne adjacent to the route corridor. While it is not clear whether the fields along the route corridor would have been covered as part of these sites, if whooper swans were regularly using these fields, they would have also been likely to have also been using the rivers/lakes covered by the WeBS counts for roosting and foraging<sup>27</sup>.

Furthermore, the Waterbird Review Series on whooper swan in Britain and Northern Ireland<sup>28</sup> includes Upper Lough Erne and states that the majority of established feeding sites comprise periodically flooded agriculturally-improved grasslands adjacent to tributary rivers or to the small inter-drumlin lakes. The eastern portion of the lough has a much broader area of low-lying wetland and grassland habitat than that on the western boundary. As a result, the majority of the feeding sites are located here, concentrated to the west of Lisnaskea and Newtownbutler. Around eight favoured sites have been identified: Colebrooke River/Ross Lough, Moorlough Lough, Derryany Bridge, Lough Corby, River Finn, Drumderg Lough, Swanlinbar River/Knockninny and Tamlaght. The closest of these is areas is Swanlinbar River/Knockninny, which lies approximately 10 km to the south of the proposed scheme, where whooper swans regularly use the agriculturally improved grassland in this area throughout the winter. Fields utilised are either adjacent to the Swanlinbar River downstream of Thompson's Bridge or beside the main body of the lough at Knockninny.

Site visits undertaken as part of the EIAR in December, January and February did not record any use of the fields by whooper swan.

Therefore, based on the above information, it is considered highly unlikely that whooper swans regularly use the fields within the footprint of the proposed scheme or in adjacent areas. Therefore, land within the proposed scheme is not considered to be functional land. As such, it is not considered that the proposed scheme will have any adverse effects on site integrity (AESI) for any of the conservation objectives relating to whooper swan.

It is not considered that any further information is required to inform the assessment of whether there are adverse effects on site integrity.

#### Mitigation

- No mitigation is required as it has been shown that there will be no adverse effects on the conservation objectives relating to whooper swan.

### 10.3. Will the Proposed Scheme Adversely Affect the Integrity of the Site?

With due consideration given to the information provided above for the Appropriate Assessment, it is considered that the proposed scheme **will not** adversely affect the integrity of the Upper Lough Erne SAC, the Upper Lough Erne SPA, or the Upper Lough Erne Ramsar site. Therefore, a conclusion of 'No AESI' (Adverse Effect on Site Integrity) is given at Appropriate Assessment. This conclusion is dependent on the mitigation measures outlined in 10.2 above for other being incorporated into the CEMP. If any of these measures, or a suitable alternative, are not included, this assessment may change.

The measures described above have been incorporated into the Ecology and Nature Conservation chapter of the EIAR.

<sup>26</sup> Enniskillen Bypass Constraints Report Phase 1 Part 1 (002), May 2016.

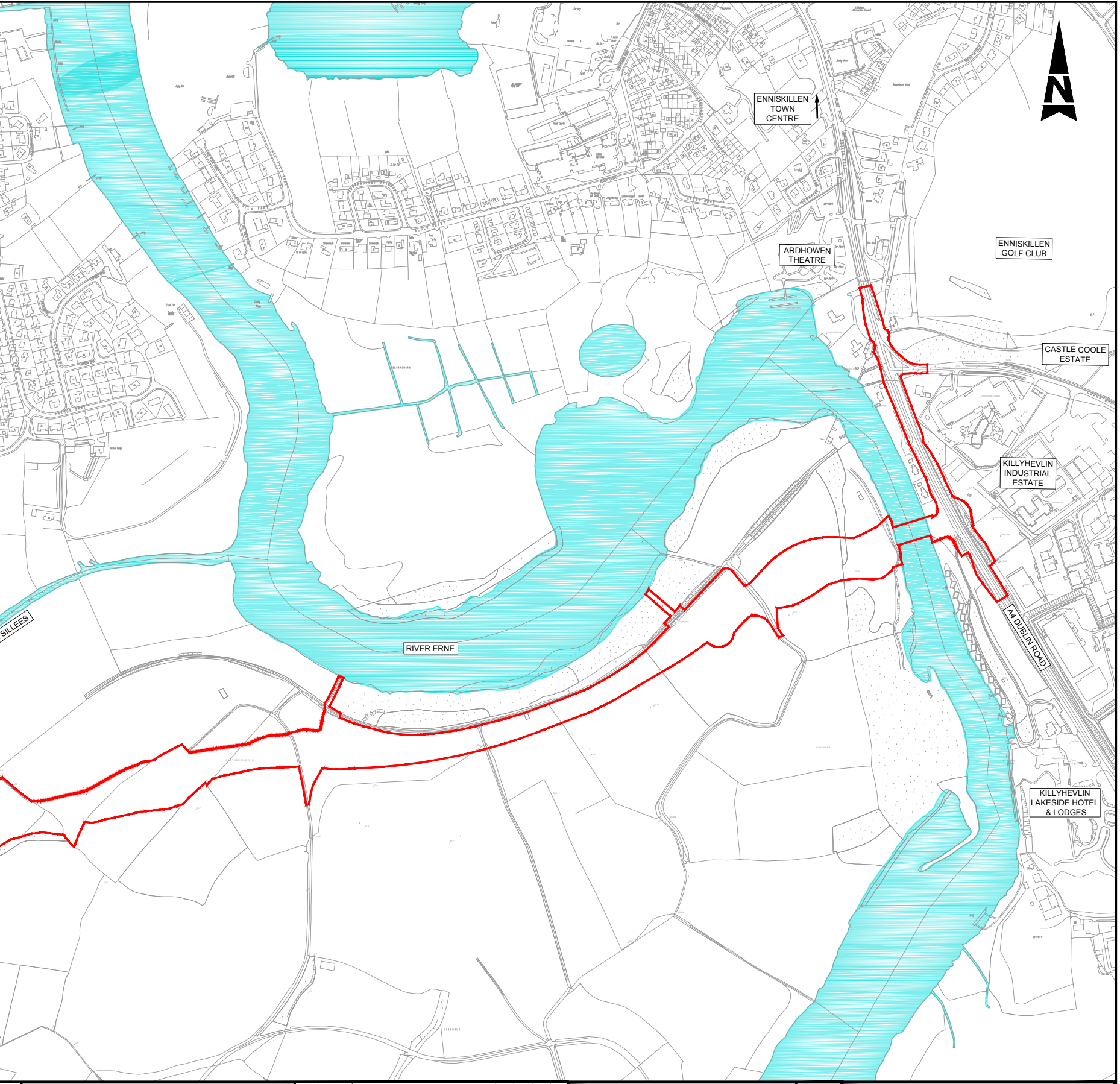
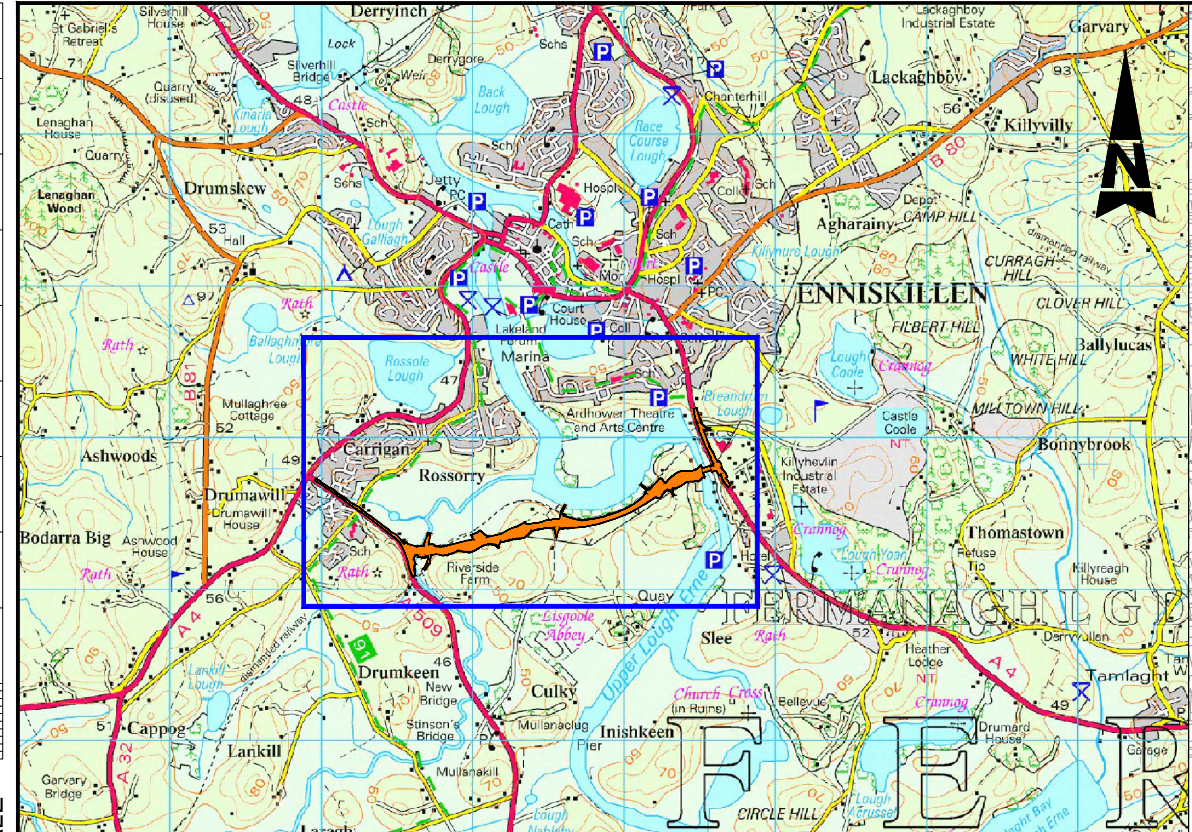
<sup>27</sup> Email from Tom Gittings, Ecological Consultant dated 25/01/17

<sup>28</sup> <http://monitoring.wwt.org.uk/wp-content/uploads/2013/07/Waterbird-Review-Series-Whooper-Swan1.pdf>

# Appendix A. Scheme Location

## Figure 1.1 Scheme Location

100  
Millimetres  
0 10  
DO NOT SCALE



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KEY:

	SCHEME BOUNDARY
	OVERALL SCHEME
	OSNI MAPPING
	WATER BODY

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).						
Construction NONE						
Maintenance / Cleaning NONE						
Use NONE						
Decommissioning / Demolition NONE						
P01	21/02/18	FIRST ISSUE	RM	DT	AO	AM
Rev.	Date	Description	Org	Chk'd	App'd	Aur'd

FOR INFORMATION

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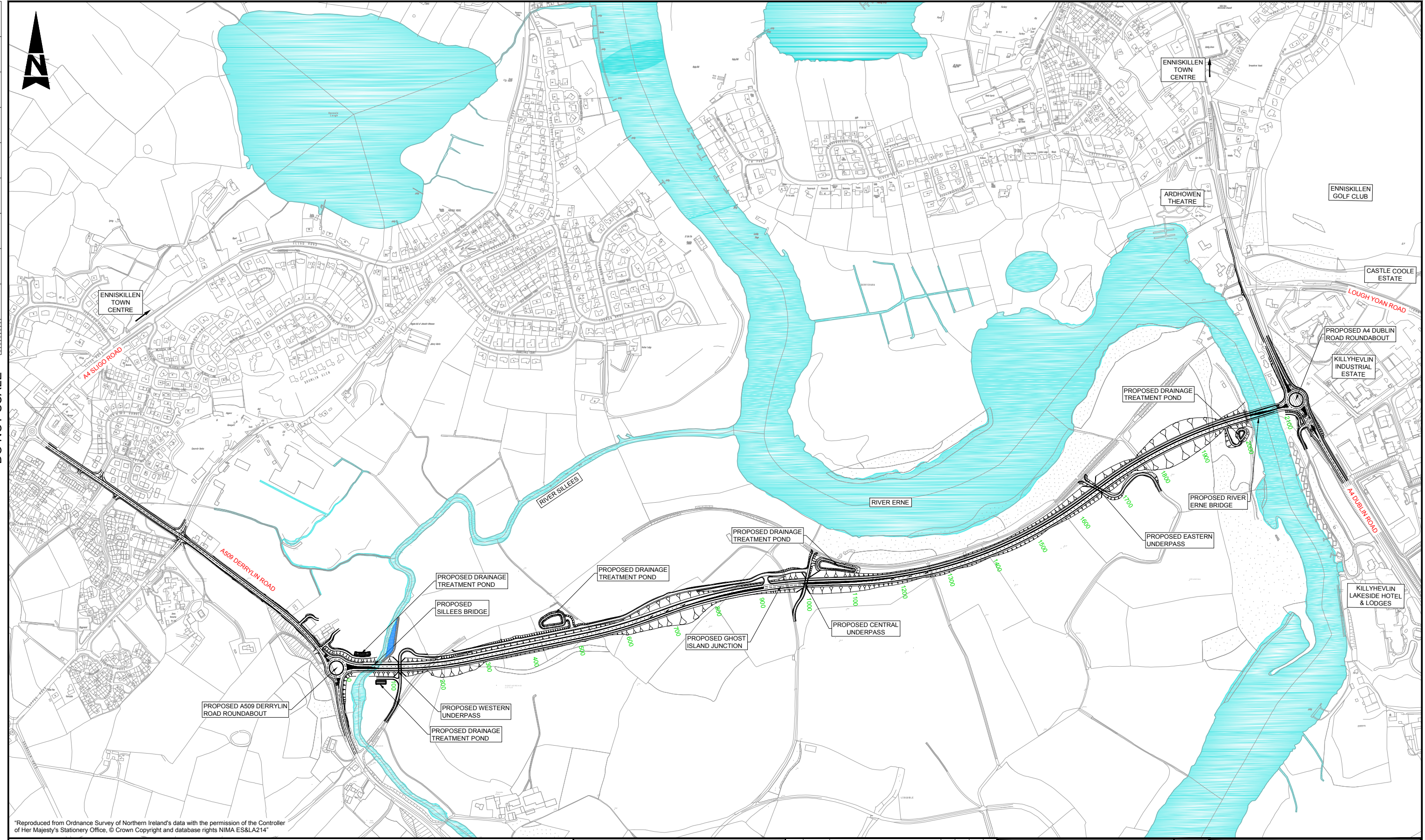
Client: Department for Infrastructure  
**Bonneagair**  
www.infrastructure-ni.gov.uk

Design Status	S2	Project Title	A4 Enniskillen Southern Bypass			
Drawing Title	FIGURE 1.1 SCHEME LOCATION					
Scale	NTS	Originator	Checked	Approved	Authorised	
Original Size	A3	Date	Date	Date	Date	
Drawing Number	Project	Originator	Volume	Project Ref. No.		
	ESB - ATK - EGN - X0000 - DR - Z - 0004			5148441		
Location	Type	Role	Number	Revision		
				P01		

# Appendix B. Proposed Scheme

## Figure 4.2 Proposed Scheme

100  
Millimetres  
0 10  
DO NOT SCALE



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KEY:

	PROPOSED SCHEME
	TREATMENT PONDS
	OSNI MAPPING
	WATER BODY
	EXTENDED RIVER BED

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction					
Maintenance / Cleaning					
Use					
Decommissioning / Demolition					

Rev.	Date	Description	Org	CHK'd	App'd	Auf'd
P01	21/02/18	FIRST ISSUE		RM	DT	AO
						AM

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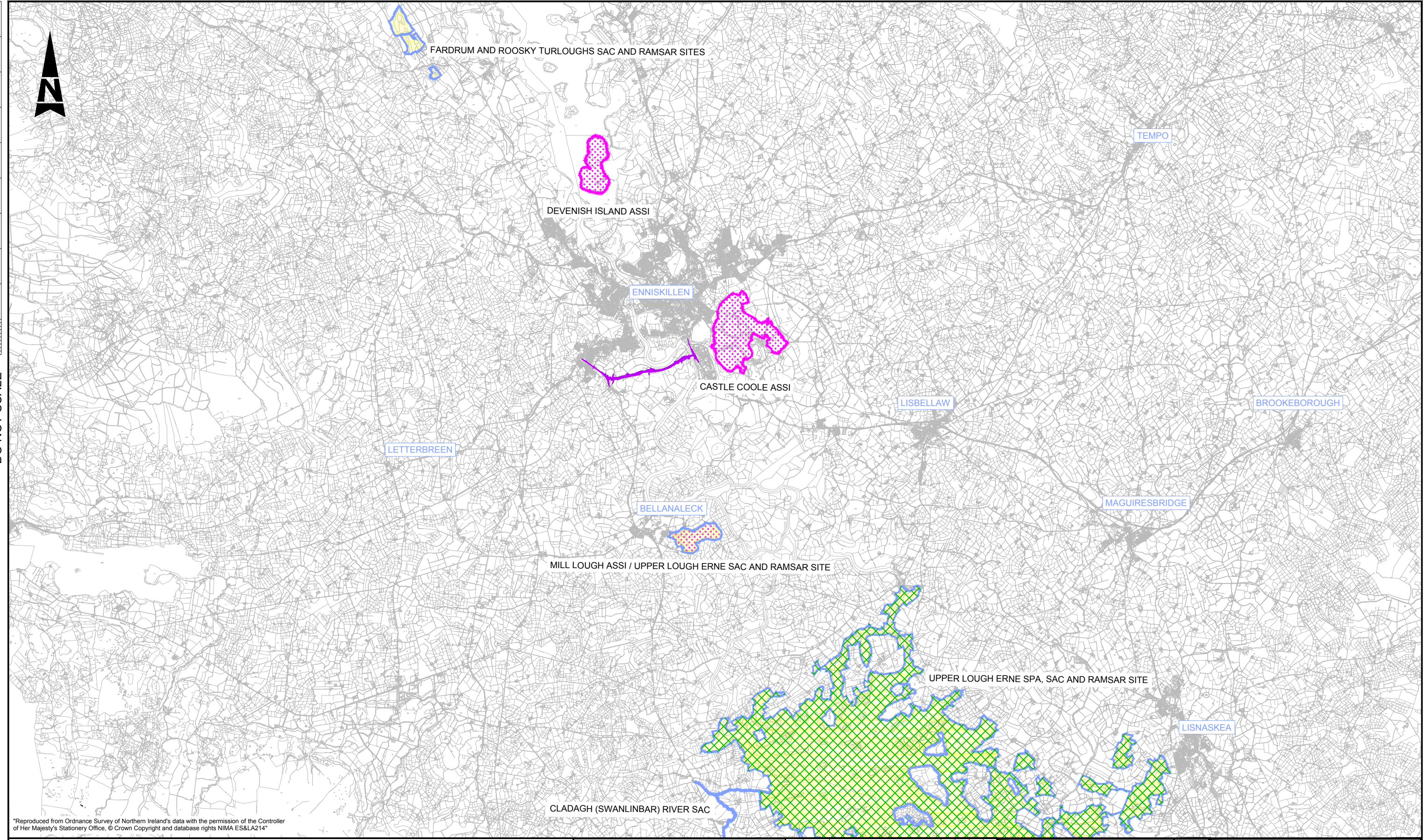
Client: Department for Infrastructure  
An Roinn  
**Bonneagair**  
www.infrastructure-ni.gov.uk

Design Status	S2	Project Title	A4 Enniskillen Southern Bypass				
Drawing Title	FIGURE 4.2 PROPOSED SCHEME						
Scale	NTS	Originator	Checked	Approved	Authorised		
Original Size	A3	RM	DT	AO	AM		
Drawing Number	Project	Date	Date	Date	Date	Date	
	ESB - ATK - EGN - X0000 - DR - Z - 0002	21/02/18	21/02/18	21/02/18	21/02/18	21/02/18	
Drawing Ref. No.	Project Ref. No.	Volume	Revision				
5148441	X0000 - DR - Z - 0002		P01				

# **Appendix C. Location of the International Sites in Relation to the Proposed Scheme**

## **Figure 9.1 Statutory Designated Sites**

100  
Millimetres  
10  
0  
DO NOT SCALE



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NOTES:  
1. DO NOT SCALE FROM THIS DRAWING.

LEGEND:

	PROPOSED SCHEME
	AREA OF SPECIAL SCIENTIFIC INTEREST (ASSI)
	SPECIAL PROTECTION AREA (SPA)
	SPECIAL AREA OF CONSERVATION (SAC)
	WETLAND OF INTERNATIONAL IMPORTANCE (RAMSAR SITE)

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	None
Maintenance / Cleaning	None
Use	None
Decommissioning / Demolition	None

Rev.	Date	Description	Org	CHK'd	App'd	Aur'd
P01	20/02/18	FIRST ISSUE		AA	PW	JP

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Design Status	S2	Project Title	A4 Enniskillen Southern Bypass						
Drawing Title	FIGURE 9.1 STATUTORY DESIGNATED SITES								
Scale	NTS	Originator	AA	Checked	PW	Approved	JP	Authorised	AM
Original Size	A3	Date	20/02/18	Date	20/02/18	Date	20/02/18	Date	20/02/18
Drawing Number	Project		Originator		Volume		Project Ref. No.		
	X0000 - DR - EN - 0001		ESB - ATK - ETS -				5148441		
Location	Type	Role	Number	Revision		P01			

# **Appendix D. Summary of Consultee Responses**



**Table 1: Summary of Consultee Responses (Overall Scheme and In-combination Assessment)**

Consultee	Contact Details	Date Contacted	Response	Comments of Relevance
Department for Infrastructure/ Infrastructure Northern Ireland	Nicholas Gregg nicholas.gregg@infrastructure-ni.gov.uk cc rivers.fermanagh@infrastructure-ni.gov.uk	14/2/17	21/2/17	"I am unaware of any works underway or planned at any of the sites listed [below]".
	Strategic Planning Division (SPDAdmin@infrastructure-ni.gov.uk)	10/2/17	14/2/17	Thank you for your email of 10 February which has been passed to Strategic Planning for response. You should contact NIEA (Department of Agriculture, Environment & Rural Affairs {DAERA}) or Shared Environmental Services at Mid Ulster District Council regarding this information.
Department of Agriculture, Environment and Rural Affairs (DAERA) / Northern Ireland Environment Agency (NIEA)	DAERA Planning Response Team	16/05/16	22/06/16	<i>Excerpt from response relating to HRA, other advice on environmental assessment also given.</i>  Please note that this proposal may be subject to the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended) (known as the Habitats Regulations).  It is hydrologically connected to the Upper Lough Erne Special Area of Conservation/Special Protection Area/Ramsar/Belleisle ASSI (downstream) which are of international and national importance and are protected by Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended) and The Environment (Northern Ireland) Order 2002.  NED recommends that the following information is submitted to enable the competent authority to undertake a Habitat Regulations Assessment thereby ensuring compliance with the requirements

Consultee	Contact Details	Date Contacted	Response	Comments of Relevance
				<p>of the Habitats Directive;</p> <ul style="list-style-type: none"> <li>• Identification of all sensitive environmental receptors/designated sites within 10km of the proposed development, determination if a direct/indirect hydrological connection exists between the development site and any designated waterbody/tributary and an assessment of any potential impacts on designated site selection features as a result of the construction, operational and decommissioning phases.</li> <li>• An outline Construction Environmental Management Plan submitted by the applicant/appointed contractor. Such measures should be incorporated in method statements which should identify the perceived risks to the sensitive environmental receptors, identify potential pollution pathways, and the mitigation measures to be employed which will negate the risk to these.</li> <li>• A storm drainage plan designed to the principles of Sustainable Drainage Systems (SuDS) in order to minimise the polluting effects of storm water on waterways. Construction of SuDS should comply with the design and construction standards as set out in The SuDS Manual - Construction Industry Research and Information Association (CIRIA) Report C697.</li> <li>• Consideration of the potential impact of nitrogen emissions from increased traffic levels (if applicable), during construction and operation phases, on sensitive designated sites, particularly peatland selection features, which have heightened sensitivity to nitrogen deposition.</li> </ul>
		12/09/16	29/09/16	<p>Ref: AE2-16-2263</p> <p>Response provide comments on the Scoping Report and advice on the key environmental</p>

Consultee	Contact Details	Date Contacted	Response	Comments of Relevance
	nieainfo@daera-ni.gov.uk	25/1/17	10/2/17	<p>considerations including Natural Heritage, but none specifically relating to HRA.</p> <p>Chambers, David &lt;David.Chambers@daera-ni.gov.uk&gt;; on behalf of; DAERA NIEA CDP CDP@daera-ni.gov.uk</p> <p>The Department advises that without an indication of the precise location it is not possible to provide specific details of plans and projects in the area. It is advisable to consult with the local planning authority, Fermanagh and Omagh District Council, in this regard.</p> <p>In general terms the Department would advise that where there is the requirement for crossing of a water body this is a clear span structure. All necessary measures should be incorporated into the design and construction of any structure to ensure that water quality is adequately protected at all times. The conservation objectives for all relevant sites where a pathway exists (e.g. from a watercourse, aerial deposition, increased recreational pressure, etc.) should be consulted as appropriate. The Department would advise Atkins, on behalf of DfI Roads, of the availability of the most recent conservation objectives on our website: <a href="https://www.daera-ni.gov.uk/topics/biodiversity-land-and-landscapes/protected-areas">https://www.daera-ni.gov.uk/topics/biodiversity-land-and-landscapes/protected-areas</a>.</p> <p>The HRA should be used to inform the design of any scheme and should assess the project in its entirety. This is required to cover the construction phase through to commissioning of any works and also cover any maintenance proposed. Works should progress only where it can be demonstrated beyond reasonable scientific doubt that the integrity of the site will not be adversely affected. This will ensure that a robust decision that is defensible by</p>

Consultee	Contact Details	Date Contacted	Response	Comments of Relevance
				<p>DfI Roads can be made.</p> <p>The Department would also advise that under the Environment (Northern Ireland) Order 2002 (as amended) DfI Roads, as a public body, has a general duty of protection and enhancement of ASSIs. Where construction has the potential to lead to effects on any ASSI this should also form part of any consideration in order to fulfil legal obligations under national law. Where a proposal falls outside planning requirements but has the potential to affect an ASSI there is a requirement to make an application for assent under this legislation. It is advisable that full details, including designs, timings, methodologies and all environmental mitigation is included in any such application.</p> <p>The Department would advise that DfI Roads give consideration to the wider environmental implications of the scheme. Such considerations should include protected species (including badgers, otters, smooth newt, etc.), breeding birds and potential for spread of invasive species. These factors should also influence any scheme in terms of design, methods and timing of any works.</p>
Fermanagh and Omagh District Council – planning and biodiversity	planning@fermanaghomagh.com	25/1/17	14/2/17	<p>Response from Paul McDermott (paul.mcdermott@fermanaghomagh.com):</p> <p>Following the transfer of planning functions to Councils, Shared Environment Services (SES) was established to undertake assessments on behalf of all of the new councils in relation to these designate sites. I would suggest that they are probably best placed to provide you with the information you require in this regard. This will ensure you are provided with a comprehensive list of projects.</p>

Consultee	Contact Details	Date Contacted	Response	Comments of Relevance
	julie.corry@fermanaghomagh.com anthea.owens@fermanaghomagh.com	14/2/17		Not contactable
	claire.mcdermott@fermanaghomagh.com conor.mcgarvey@fermanaghomagh.com	14/2/17	14/2/17	Copied into email forward to Giles Knight (giles.knight@ulsterwildlife.org) by Conor McGarvey. No relevant response made.
	darren.lawther@fermanaghomagh.com	14/2/17		No response
Shared Environmental Services at Mid Ulster District Council	sharedenvironmentalservice@midandeastantrim.gov.uk	14/2/17	15/2/17	From Malachy Kearney (malachy.kearney@midandeastantrim.gov.uk):  Not sure if you have already been advised, but we are aware that 'Gas to the West' LA08/2016/1328/F (NI Planning Portal) considered the A4 Enniskillen Southern Bypass as a potential source of in combination effects.
Planning Portal - View Planning Applications Online via Public Access	<a href="https://www.planningni.gov.uk/">https://www.planningni.gov.uk/</a>	Accessed Jan & Feb 2017	N/A	N/A
Northern Ireland Water	Waterline 03457 440088 <a href="https://www.niwater.com/contact-us/">https://www.niwater.com/contact-us/</a> waterline@niwater.com	25/1/17	22/2/17 & 19/2/18	Search on NIW website indicated that there are currently no major projects in the vicinity of the proposed works, only two minor projects due to be completed by 10/2/17 - Coolshiny Road trial holes and Lettercarn Road watermain installation, both in Enniskillen.  NIW confirmed (email from Martin McIlwaine, Head of Strategic Client dated 2/3/18) that there are no plans to carry out any upgrade works to any watermains or sewers that cross into the International Sites, and there are no other NI Water plans/projects relevant to the International Sites.

Consultee	Contact Details	Date Contacted	Response	Comments of Relevance
Waterways Ireland	<p><a href="mailto:info@waterwaysireland.org">info@waterwaysireland.org</a> 028 6632 3004 <a href="mailto:hugh.fanning@waterwaysireland.org">hugh.fanning@waterwaysireland.org</a></p>	<p>13/02/18 15/02/18 &amp; 21/02/18</p>	<p>21/02/18</p>	<p>Email from Eamonn Horgan, Environment and Heritage Officer (<a href="mailto:eamonn.horgan@waterwaysireland.org">eamonn.horgan@waterwaysireland.org</a>)</p> <p>Information was provided about a number of works undertaken and proposed by Waterways Ireland, some of which were located within Upper Lough Erne and required a HRA. The proposed schemes (2018 onwards) include:</p> <ul style="list-style-type: none"> <li>• Castle Museum Jetty</li> <li>• Bellenaleck Jetty and Slipway refurbishment</li> <li>• Jetty refurbishments to Tullyinishmore Jetty and Cloonatríg Jetty</li> <li>• Proposed maintenance dredging at Inishcorkish at the mouth of the Colebrook River near Lisnaskea.</li> </ul>
RSPB Northern Ireland	<p>028 9049 1547 Michelle Hill, Conservation Team Leader (Planning) <a href="mailto:michelle.hill@rspb.org.uk">michelle.hill@rspb.org.uk</a></p>	<p>25/1/17</p>		<p>No response</p>
	<p>Lynne Peoples <a href="mailto:lynne.peoples@rspb.org.uk">lynne.peoples@rspb.org.uk</a> Roisin Kearney <a href="mailto:roisin.kearney@rspb.org.uk">roisin.kearney@rspb.org.uk</a></p>	<p>14/2/17</p>	<p>14/2/17</p>	<p>From Roisin Kearney:</p> <p>The RSPB were previously consulted by Atkins for the A4 Enniskillen Southern Bypass EIA Scoping in May 2016, to which we replied, and again in September 2016 for consultation on the EIA Scoping Report. We were unable to respond to that request due to capacity issues within our office but are currently awaiting the submission of the application.</p> <p>The RSPB are not consulted on all of the planning applications in Northern Ireland so any information we could provide regarding plans or projects that</p>

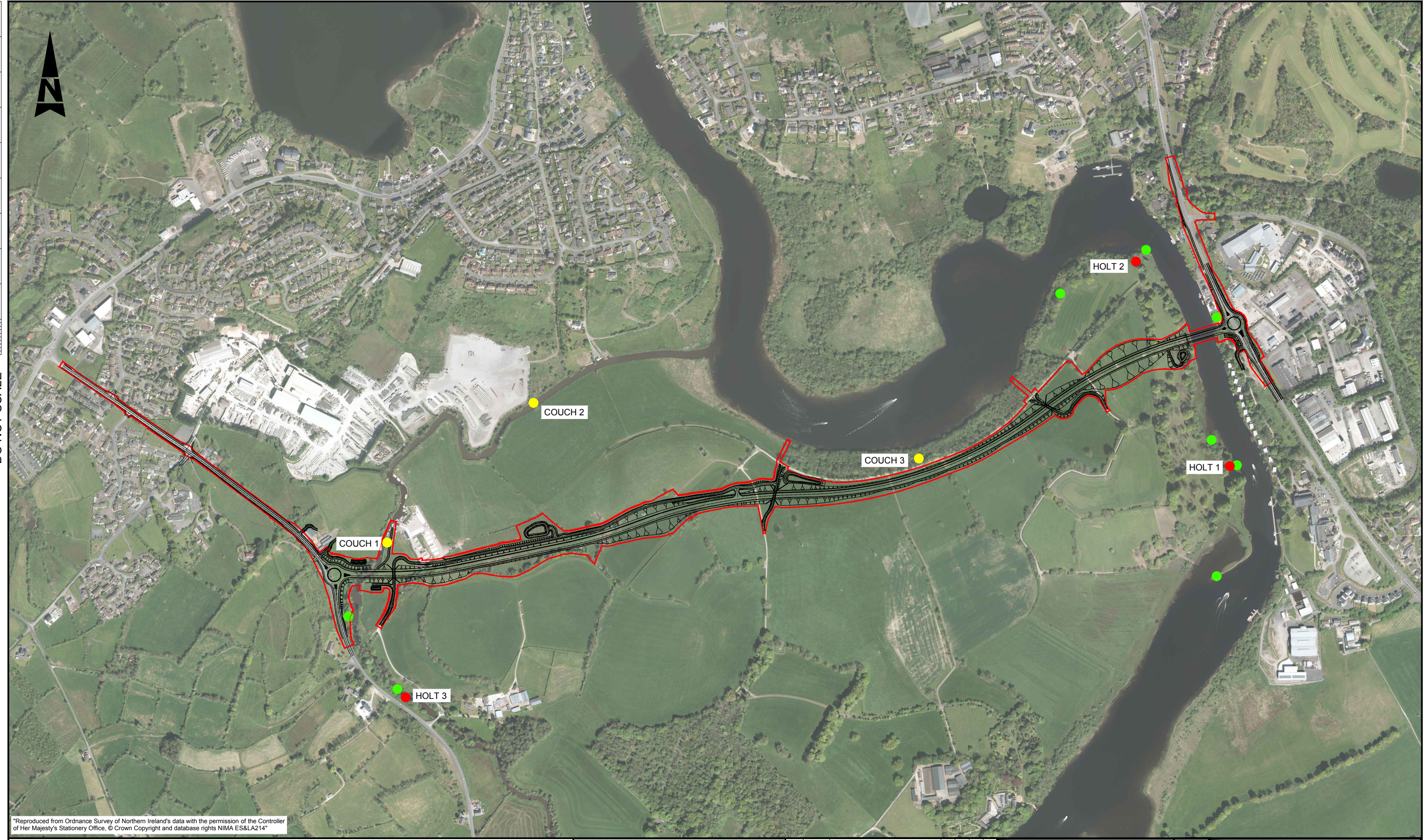
Consultee	Contact Details	Date Contacted	Response	Comments of Relevance
				<p>have undergone assessment under the Habitats Regulations for these sites would be limited. We would recommend that you contact Fermanagh and Omagh Council, NIEA and the Department for Infrastructure as they may be able to provide a full list of any plans or projects that fulfil these criteria.</p>
<p>Lough Erne Breeding Wader Project</p>	<p>Sarah McCaffrey  Conservation Adviser  E-mail: sarah.mccaffrey@rspb.org.uk</p>	<p>25/1/17 &amp; 7/2/17</p>	<p>27/1/17 &amp; 15/2/17</p>	<p>We do not hold any data for whooper swan on this site (Scheme area). Your best action would be to contact the BTO to request access to the Wetland Bird Survey Database.</p>

# Appendix E. Location of Otter Activity

## Figure 9.4 Otter Activity



100  
Millimetres  
10  
0  
DO NOT SCALE



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- NOTES:
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  - PROPOSED SCHEME IS SHOWN FOR REFERENCE ONLY.

- LEGEND:
- PROPOSED SCHEME
  - SCHEME BOUNDARY
  - OTTER COUCH
  - OTTER SPRINT
  - OTTER HOLT

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	None
Maintenance / Cleaning	None
Use	None
Decommissioning / Demolition	None

Rev.	Date	Description	Org	CHK'd	App'd	Aur'd
P01	20/02/18	FIRST ISSUE		TG	CW	JP

Sustainability: FOR INFORMATION

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Design Status	S2	Project Title	A4 Enniskillen Southern Bypass			
Drawing Title	FIGURE 9.4 OTTER ACTIVITY					
Scale	NTS	Originator	TG	Checked	Approved	Authorised
Original Size	A3	Date	20/02/18	Date	20/02/18	Date
Drawing Number	Project		Originator	Volume	Project Ref. No.	
	X3000 - DR - EN - 0011		ESB - ATK - EGN -		5148441	
Location	Type	Role	Number	Revision		
				P01		

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