AtkinsRéalis

Outline Construction Environmental Management Plan

Northern Ireland Water

August 2026

KI656-811 PORTAFERRY ROAD, CLOUGHEY

AtkinsRéalis - Baseline / Référence

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1. Introduction

This Outline Construction Environmental Management Plan (oCEMP) has been prepared on behalf of Northern Ireland Water (NIW) in support of a marine licence application concerning the construction of a new pipe and associated outfall to convey surface water from a new development on Portaferry Road, Cloughey to the Irish Sea.

1.1 Purpose of the oCEMP

This document establishes generic construction environmental management that will be built upon further as the scheme detail and assessment progresses. Precise details of scheme design and approach to construction are currently limited and therefore this oCEMP is necessarily generic. Where scheme detail is available, this has been integrated and assessments appended to this document. It is intended that the appointed contractor will adopt and build upon this document. The oCEMP is intended to cover the area on the Main Road, Cloughey where the works will take place, detailing the unique challenges and / or constraints that may be met during works. While initial consideration has been given to the Site, it is expected that further assessment will be required to update and build upon understanding and to further develop management procedures. Nevertheless, it is considered that much of the detail in this report can be applied to the Site in order to effectively mitigate against potential impacts to the environment.

1.2 Description of the project

A new surface water sewer pipe is being installed along Main Road, Cloughey on behalf of NI Water. The works propose the installation of approximately 109 m of new surface water sewer to facilitate drainage from a proposed development on Portaferry Road and discharging into the Irish Sea. The works will include the temporary removal of a section of existing rock armour at Cloughey Bay Beach to enable the installation of approximately 6 m of pipework and the precast headwall. Following completion of the installation works, the displaced rock armour will be reinstated. Only the headwall works are below MHWS.

The location of the proposed pipe is shown in Figure 1-1.

The development of the proposed scheme would require civil engineering operations to take place and as with all civil engineering operations, it is likely that these will have, or will have the potential to cause, environmental impacts. Therefore, the following oCEMP has been developed in order to demonstrate how these potential impacts will be mitigated.

Specifically, this oCEMP will address the following issues:

- Overview of the development;
- Known environmental issues in the area;
- Timing of the works;
- Environmental Responsibility & Incident Reporting;
- Fulfilling legislative obligations;
- Environmental Regulators & Consultees;
- Environmental training;
- General Planning & Site set up;
- Buying Storing & Managing Materials;
- Protection of Individual environmental issues;
- Biodiversity;

- Tree Protection;
- Invasive Species;
- Protected species;
- Population;
- Human Health;
- Air quality;
- Water (inc. Pollution Prevention);
- Cultural Heritage; and
- Waste.

It is important to note that the full and final details of the proposed development scheme are unknown at present. As such, this outline CEMP is necessarily generic in part. It is the intention that this oCEMP will be further developed as more detail of the scheme becomes known and therefore the further development of this oCEMP will be informed by issues such as any conditions placed as part of the Marine License and ASSI Assent processes. The further development of the oCEMP will also be informed by issues such as the appointment of a contractor – precise working methodologies and phasing / programme, along with issues such as choice of plant cannot be known until this appointment is made.

It is the intention that further iterations of this oCEMP will form a key component of the contract documents to be developed as part of any contractor appointment. This will ensure that this oCEMP becomes a ‘live’ working document and is not simply ‘put on a shelf’.

Note that the development of an oCEMP does not replace the need to obtain any legislative or regulatory requirements – rather it should be seen as an additional aid to help define environmental issues and the best course of action to address these. The following issues will be expanded upon as more precise details of the scheme become known.

Figure 1-1 – Scheme Location



2. Environmental Baseline

2.1 The Site

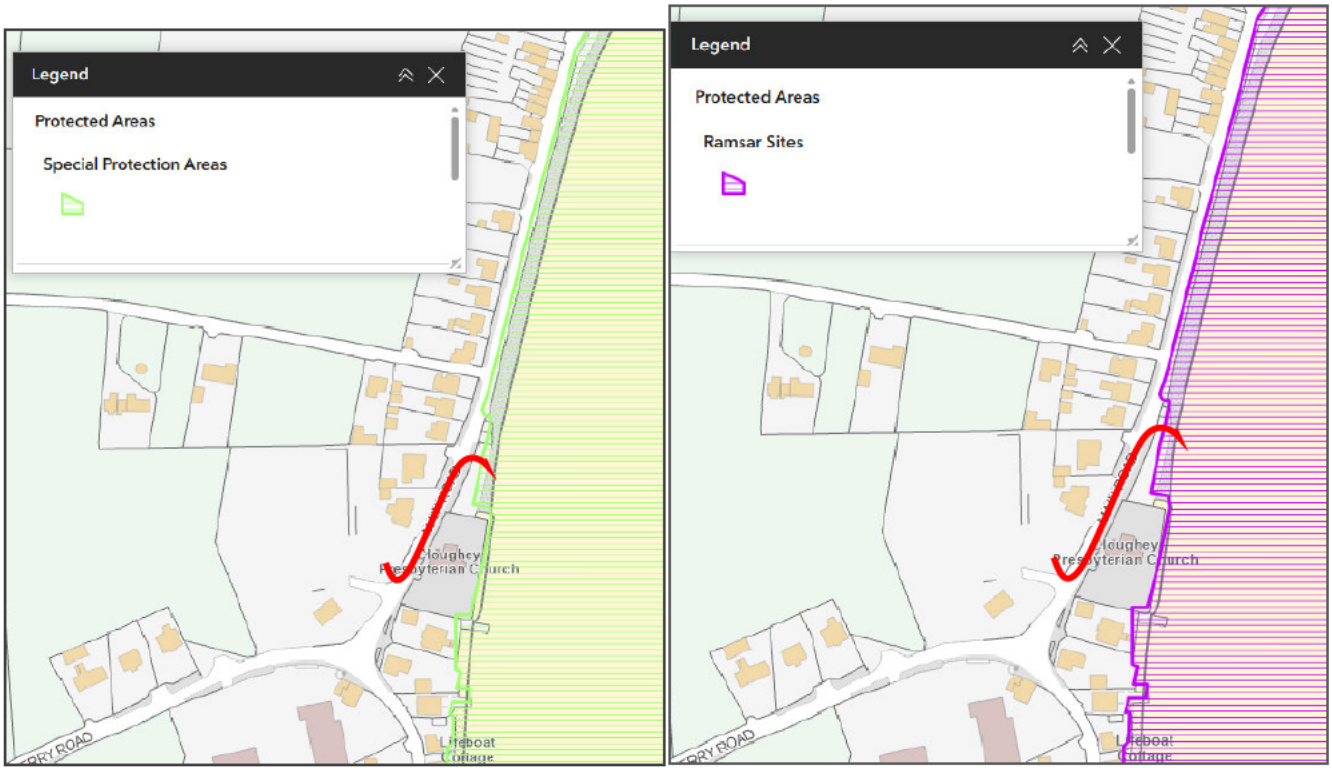
The site is located at Irish Grid Reference J 63576 56336 in Cloughey. The pipe is approximately 109m long, along the Main Road, with the outfall located within rock armour adjacent to Cloughey Bay Beach and discharging to the Irish Sea. The surrounding area is a coastal village setting comprising predominantly residential properties along the beachfront, with associated local businesses and amenities. The wider inland area consists of extensive agricultural land.

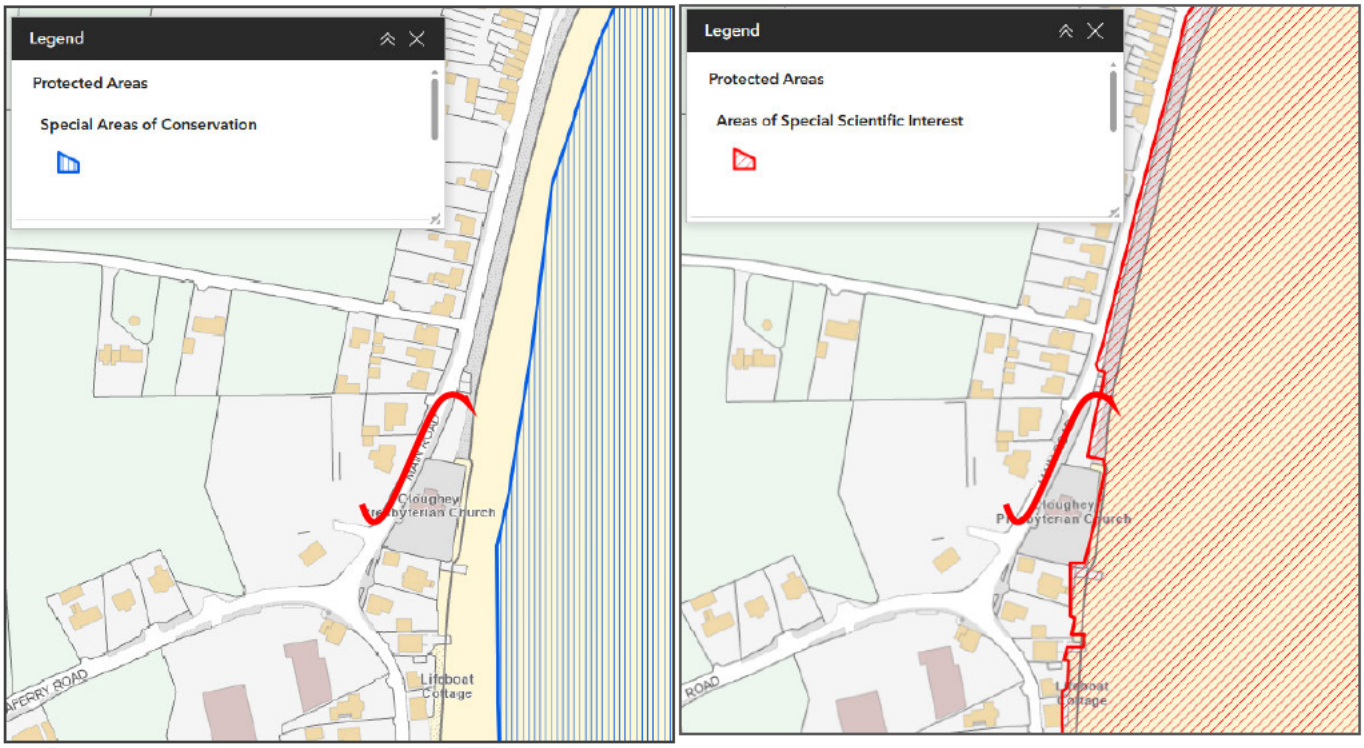
2.1.1 Ecology and Nature Conservation

2.1.1.1 Statutory and non-statutory designated areas

The site intersects the Outer Ards Special Protection Area (SPA), Ramsar site and Area of Special Scientific Interest (ASSI), as illustrated in Figure 2-1. North Channel Special Area of Conservation (SAC) is approximately 40m east of the scheme.

Figure 2-1 - Statutory Designated Sites at the site





Source: NIEA Natural Environment Viewer[1]

North Channel Special Area of Conservation (SAC). The North Channel SAC is of international importance for its population of harbour porpoise (*Phocoena phocoena*).

Outer Ards SPA qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting nationally important populations of Arctic tern and golden plover. The principal interests are the breeding colony of Arctic tern, together with the wintering populations of light-bellied Brent goose, golden plover, turnstone and ringed plover. The boundary of the SPA site is entirely coincident with the Outer Ards ASSI.[2] The Outer Ards Ramsar site also coincides with the boundary of these two ASSIs and the site has been selected for designation as a Ramsar site because of its important breeding and wintering populations of waterfowl. It is Wetland of International Importance because it qualifies under Criterion 6 for regularly supporting 1% of the individuals in a population of one species or subspecies of waterbird in any season.[3]

With regards to the ASSI designation, the total maritime habitat resource of this coastline includes areas of dune and maritime grassland, maritime heath and cliff ledge vegetation as well as saltmarshes, tidal and non-tidal fens and wet flushes. A number of notable maritime vegetation communities occur. Seventeen rare plant species have been recorded and the coastline is of international importance for the wintering populations of three species of waterfowl.[4]

No other Statutory Sites have been identified within 2km of the site. No Tree Protection Orders (TPOs) or Conservation Areas have been identified within 2km of the site.[5]

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[1] NIEA Natural Environment Viewer
[2] Outer Ards SPA | Department of Agriculture, Environment and Rural Affairs
[3] Outer Ards RAMSAR | Department of Agriculture, Environment and Rural Affairs
[4] Outer Ards ASSI | Department of Agriculture, Environment and Rural Affairs
[5] Tree Protection in ANDBC – Tree Preservation Orders and Conservation Areas

Strangford Lough SAC, SPA, ASSI and Ramsar site are located approximately 3.5km west of the site.

Designated areas have been identified in the Environmental Constraints map in Appendix A.

2.1.2 Air Quality

All local authorities are required by Part IV of the Environmental Act 1995 and Environment (Northern Ireland) Order 2002 to review air quality in their area and to assess present and likely future air quality against objectives set out in the Government's Air Quality Strategy (AQS). Where a local authority finds that one or more AQS objectives area expected to be breached, it must designate an Air Quality Management Area (AQMA) and develop an action plan to reduce concentrations of the pollutants which exceed the objectives.

The proposed site is located within Ards and North Down Borough Council, which has declared no AQMAs.

Normandy Court, Dundonald AQMA is the closest to the site and is approximately 28km north west.

Nearby sensitive receptors are noted as follows:

- Approximately 10 residential properties within 50m
- Cloughey Old Presbyterian Church adjacent to the site

2.1.3 Cultural Heritage

Northern Ireland has a rich cultural heritage. Evidence of circa 9000 years of human activity has been found scattered across the region, with a Mesolithic site at Mount Sandel in Coleraine being the earliest known site of human occupation in Ireland. The known evidence presents itself across Northern Ireland as archaeological and historic features such as tombs, forts and castles, churches, townhouses and farmhouses, industrial features and planned parklands. There have also been numerous finds of artefacts which provide evidence of the day-to-day activity of people's lives, as well as more high-status items. There are also, of course, likely to be many unknown artefacts still to be identified.

Protection of sites and features of cultural heritage significance is principally afforded through the Historic Monuments and Archaeological Objects (NI) Order 1985 and the Planning (NI) Order 1991. Planning Policies for protection of archaeological features are detailed in Planning Policy Statement (PPS) 6.

The nearest cultural heritage asset is a church on the Historic Buildings Record (HB24/02/066) adjacent to the site. Also within 0.5km of the site are an Historic Buildings Record (HB24/02/044) and Industrial Heritage Record (IHR 03076:000:00) both located 0.2km northwest of the site.

No Scheduled Zones, assets on the Sites and Monuments Record, Historic Parks and Gardens, assets on the Defence Heritage Record, Areas of Significant Archaeological Interest or Areas of Archaeological Potential have been identified within 0.5km of the site.

2.1.4 Geology, Soils and Contaminated Land

Data on the geology of Northern Ireland has been obtained from the Geological Survey of Northern Ireland (GSNI) web database (GeoIndex)[6]. Geological information including the nature and structure of the bedrock and superficial (drift) deposits present is identified below:

[6] GSNI GeoIndex

- **Superficial Geology** Map (1:250,000 scale) indicated that the drift deposits beneath the site comprise of Till – Diamicton.
- The **Solid Edition** (1:250,000 scale) shows that the underlying bedrock of the proposed development site is sandstone assigned to Gala Group - Sandstone.
- The **Hydrogeological** Map of Northern Ireland (1:250,000 scale) indicates that the site is underlain by bedrock aquifer classification of BI (f), which is characterised by moderate yields being unusual, low yields being more common, limited regional flow, and groundwater flow that is mainly shallow and local. No superficial aquifers are identified beneath the site.
- The **Groundwater Vulnerability** Map of Northern Ireland indicates that a groundwater vulnerability class of 2 has been attributed across the site, indicating that the site has a lower risk of groundwater pollution. There are five classes of vulnerability: 1 being the lowest, 5 the highest.

Based on the Unexploded Bomb (UXB) risk map the Bomb Risk around the Site is considered to be low.[7]

2.1.5 Human Health

Nearby sensitive receptors for human health include residential properties in proximity to the route options, members of the public and maintenance workers. Notable sensitive receptors within 0.5km to the proposed works include but are not limited to:

- Accommodation / Tourism
  - Pebble Beach Self Catering Beach House
  - Manse on the Beach Hotel
- Community Facilities
  - Cloughey Post Office
- Religious Buildings
  - Cloughey Old Presbyterian Church and Graveyard
- Commercial/Retail
  - Watson's Centra
  - Francis Watson's Building Materials Supplier
  - Chip Buddy

2.1.6 Landscape

The site is within Outer Ards Coast Landscape Character Area (LCA)[8] and its key characteristics are:

- Open, windswept gently sloping shoreline.
- Rocky coastal edge with stands of pine and beech.
- Large houses and hotels in landscaped grounds.
- Estates with stone walls and landmarks.
- Prominent static caravan parks on exposed headlands.
- Coastal road winds close to water's edge.

[7] Risk Maps | Zetica UXO
[8] Northern Ireland Landscape Character Assessment 2000 – Outer Ards Coast

- Colourful harbour towns.
- Churches, mottes, standing stones, raths and castles.
- Panoramic coastal views.

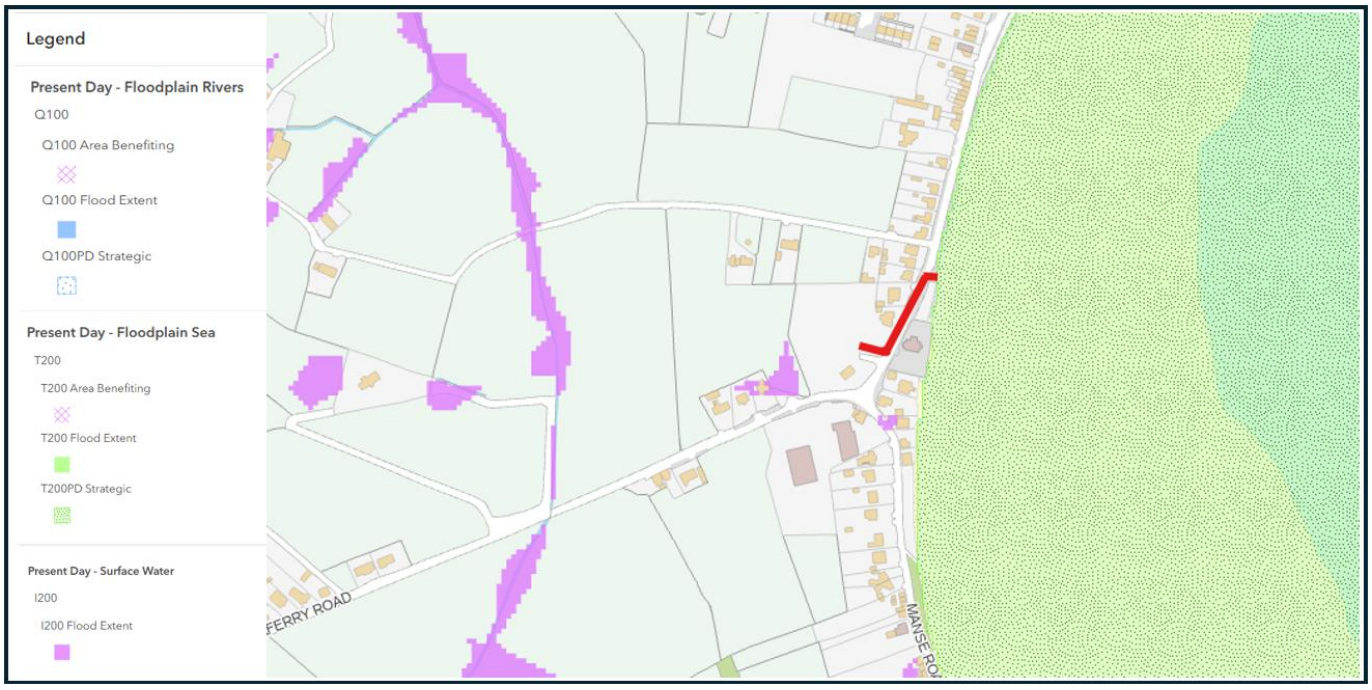
The closest Area of Outstanding Natural Beauty (AONB) is Strangford and Lecale, located approximately 0.6km south. The landscape in the immediate area surrounding the proposed works is a coastal village, surrounded by agricultural land with the pipeline following the route of a road adjacent to housing and the outfall located in an area of rock armour adjacent to the Irish Sea.

2.1.7 The Water Environment

No rivers have been identified as being intersected or in close proximity to the site, but the outfall will involve works in close proximity to the North Channel.

NI Flood Maps[9] identifies that site intersects an area that may be susceptible to sea flooding as illustrated in Figure 2-2. It is also within 0.1km of areas susceptible to surface water flooding.

Figure 2-2 - Flood Risk



2.1.8 Groundwater Features

As set out in Section 2.1.4, the site is underlain by sandstone assigned to Gala Group - Sandstone. The site is also underlain by a bedrock aquifer with classification of Bl (f) and in an area of groundwater vulnerability class 2.

With respect to private water supplies, a search of the DAERA Water Inspectorate viewer identified that there are no current or historic private water supplies in proximity to the Site[10].

[9] FloodMapsNI_WebMapN
[10] Drinking Water Inspectorate Private Water Supplies Viewer

The site is within Ards Penninsula Groundwater Drinking Water Protected Area.

2.1.9 Noise and Vibration

The area of the proposed development can be described as noise and vibration sensitive due to its location within close proximity to residential housing and other sensitive receptors as identified in 2.1.2. It is anticipated that existing ambient noise levels around the site are characterised by road traffic on the Main Road.

2.1.10 Material Assets

The appointed contractor is to ensure awareness of all material assets within and adjacent to the Site prior to the commencement of works. The following information should be sought through appropriate consultation:

- Utility Infrastructure;
- Electricity;
- Gas;
- Water;
- Telecommunications;
- Road/Transport Infrastructure;
- Recreational Facilities;
- Rights of Way/Footpaths; and
- Minerals (e.g. sand & gravel).

3. Overview of the development site and proposed work activities

3.1 Anticipated Construction Activities

An overview of anticipated work activities involved in the proposed works is provided below. Note this list is not exhaustive and is provided to give an overview of the likely type of activities. Not all activities will apply to the Site. Note also that the precise order in which these activities will take place is not known at this stage.

- Temporary works:
  - Access/egress to work area controlled by Heras fencing placed around perimeter. Site protection boundaries/storage area and muster point within compound area
  - Parking in designated car park area
- Construction and installation Concrete Pipe
  - Excavator will operate from the top of the existing rock armour (above MHWS).
  - Excavator will clear existing rock and debris away from work area, levelling sea bed to allow for install of pipe at correct level.
  - Removed rocks and debris to be moved by dumper to compound located off site.
  - Rocks to be placed back carefully on top of pipe and headwall to match existing
- Working in water (if necessary)
  - Permit to work system in place, permit in place before any works to be carried out
  - No operative is to work in water alone, banksman must be present at all time
  - Operatives to wear waist high waders and life vests at all times
  - Work in water to only take place when tide levels in works area are waist high or lower
- Excavator working in water (if necessary)
  - Tide levels times and charts to be checked every day before works commence
  - Operative in chest high waders to check water levels using E-staff
  - Excavator to only enter water when levels below 800mm, excavator upperstructure ground clearance is 1020mm
  - Permit to work in water issued before works
  - If it becomes necessary to locate plant and equipment on the beach, Bio Diesel will be used as a greener alternative to White Diesel and a Boi Hydraulic Oil will be used instead of the standard Hydraulic Oil. A 4.5m Sheet of white terram will be rolled out on the beach. All equipment will be tracked onto terram and left for a several hours to check for any leaks. If leaks appear the equipment will be taken off site to be repaired. This process will be repeated until confident that there are no leaks.
  - If it becomes necessary to locate plant and equipment on the beach, all machinery will be tracked to compound at end of shift so that they will not be in the water for long periods of time.
- Storage of Materials
  - All deliveries inspected by authorised persons and offloaded during off peak times within compound area

Temporary traffic management (cones, traffic lights etc.) would be in place for the majority of the above work activities.

Note that it will be a key element of all earthworks management to ensure that the risk of pollution to any watercourse is minimised. It is also the case that the earthworks and level changes will be minimised as much as possible in keeping with the agreed site design and vehicular access points will be minimised.

At this stage, it is not known what plant and machinery would be used for the construction activities involved in the development of this site. The choice of plant and machinery will be made by the appointed contractor, but is likely to include at least the following:

- 20 T Excavator;
- 8 Wheel lorries/ Concrete lorries;
- Traffic Control / Signs & Barriers;
- Concrete pump;
- Heras fencing; and
- Floating silt screen.

The plant/machinery to be used will be reviewed upon appointment of a contractor and this list will be updated at that point.

3.2 Timing of Works

Precise timings and phasing of the proposed works are not known at this stage as this will be dependent upon the completion of the planning process and the subsequent appointment of a contractor.

It is anticipated that approximate construction hours will be:

- 07:00 to 18:00 Monday to Friday;
- From 08:00 to 13:00 on Saturdays,
- No construction works on Sundays and Bank Holidays.

Working hours outside of this regime will only occur in exceptional circumstances – if these are known in advance (i.e. not under emergency conditions), discussions will be held with the local Environmental Health team to ensure that the works can be completed with minimal impact on sensitive receptors. Of note, the timings listed above include the delivery and removal of plant, equipment, machinery and waste from the site.

3.3 Site Construction Compound

While the precise location of the site compound is not known at present, it will be a requirement of this Outline CEMP that this will be as far as possible from any watercourse, or pollution pathway. The Site compound will be designed and constructed to minimise the risk of pollution.

The construction site will operate in line with CDM 2016 NI Regulations and will be controlled by the General Contractor. All access will be monitored and recorded. All construction support activities will be controlled within the Site construction compound including office facilities, toilets, canteen etc.

Materials and waste handling and storage will be within the confines of the site. The work area will be protected from the public at all times. CCTV may be installed, and compliant Health & Safety information signs will be installed.

3.4 Deliveries

Delivery of equipment and materials will be carefully controlled and managed at the Site. Access and egress to the proposed area will be managed by the General Contractor. Delivery times will be planned in advance.

3.5 Services

Note that in relation to working near services such as electricity, gas, water etc, liaison will take place with the service provider. **All utility services discovered adjacent to the Site will be treated as "live" until proven otherwise and the co-ordination of switchovers and temporary disruptions for new constructions will be undertaken in accordance with the standard procedures of the relevant statutory authorities.**

Appropriate Method Statements are to be developed by the appointed contractor to ensure that the work can be carried out safely and with minimum disruption to services. These issues are largely outside the scope of this environmental plan, but it is important to note that in relation to electricity, existing lines will be identified and protection measures will be set in place as well as risk assessments of any live lines. Any damage is to be reported immediately. Any existing electricity lines in the area of the proposed development will be identified on Site and protected for the duration of the works. Risk assessments will be carried out to determine the most effective means of protecting any electric pylons or cables that may be impacted by the works.

In relation to gas, all underground services must be located and verified before any mechanical plant is used. No mechanical excavators or power tools are to be used within 500mm of gas apparatus. Any damage to be reported immediately.

At all times, the safety of personnel on Site and members of the general public is to be considered paramount to any other environmental consideration.

3.6 Construction Site Security

Throughout the construction phase, adherence to high standards of Health and Safety for all construction workers, Site visitors and members of the public will be of paramount importance. All construction activities will take place in the context of the relevant Northern Ireland Health and Safety legislation.

4. Staffing Responsibilities & Reporting of Environmental Incidents

4.1 Staffing

The following details who will be responsible for environmental matters during the construction period, as well as their contact details (including, where applicable, out of normal working hours). Site staff will be updated once these details are known.

Table 4-1 - Staff Responsibility

Role	Responsibilities	Name	Contact Details
Client Project Manager	To ensure appointed contractor complies with all relevant legal requirements relating to environmental protection.	To be confirmed	To be confirmed
Construction Manager	Responsible for management of the construction phase of the development and will have overall responsibility for environmental performance & protection. If required, delegation of responsibility could be made to a specific Environmental Manager, but overall responsibility remains.	To be confirmed	To be confirmed
Designer	To provide information relevant to the construction that may assist the appointed contractor to manage environmental aspects.	To be confirmed	To be confirmed
Site Staff	To receive general environmental awareness training and undertake work in accordance with Method Statement Briefings and toolbox talks. Trained personnel to manage particular tasks such as refuelling plant and equipment, managing the stores, water quality monitoring and supervising the segregation and collection of waste.	To be confirmed	To be confirmed

4.2 Emergency Contact Details

Details of who to contact in the event of an environmental incident are as follows:

Table 4-2 - Emergency Contact Details

Emergency Contact	Telephone (Fixed and Mobile Lines)	Email/Website
Client Contact Point	To be confirmed	To be confirmed
Contractor Contact Point	To be confirmed	To be confirmed
Waste Pollution Hotline (Emergency Pollution Response)	0800 80 70 60	emergency-pollution@daera ni.gov.uk (Non-Emergency incident only)

PSNI (Wildlife Officer)	Report breaches of legislation / vandalism causing pollution to local station on 101 Non Emergency number	For further guidance: https://www.psni.police.uk/safety-and-support/advice-and-information/animal-welfare-and-wildlife

In all situations when reporting an incident, it is important to include the following details:

- The exact location of the pollution incident;
- The nature of the pollution;
- Your name;
- Your address; and
- A contact telephone number.

In the event of an emergency, while it is clearly a priority to ensure that pollution is minimised as much as possible, activities to control this pollution should only be undertaken if it is safe to do so and no personnel or members of the public are put at risk.

An Incident Response Plan will be developed by the appointed contractor, using the template provided in Appendix B.

5. Environmental Legislation and Regulation

5.1 Fulfilling Environmental Legislative Obligations

This aspect will be reviewed for future revisions of the oCEMP and specific pieces of legislation and regulations will be referred to in the oCEMP where applicable.

To assist the appointed contractor in identifying the applicable (updated) legislation for future iterations of this oCEMP, the following weblinks are noted:

- https://www.netregs.org.uk/legislation/northern-ireland-environmental-legislation/
- https://www.daera-ni.gov.uk/
- https://barbour-ehs.com/consolidated/ *(Please note there is a charge for the Barbour Consolidated (formerly Cedrec Information).*

Note that an update to legislation may mean that subsequent sections of the oCEMP require updating. A proforma, or control sheet, will be maintained to demonstrate that the legislation has been checked and the oCEMP is updated if required. See example proforma in Table 5-1.

Table 5-1 - Legislation Update Control Sheet

Date of Legislation Check	Name and role of staff member who has undertaken check	Findings and implications for oCEMP
August 2026	AtkinsRéalis	N/A – Undertaken as part of development of oCEMP

5.2 Environmental Regulators and Consultees

As the project progresses, there may be a requirement by the client, their representatives and any appointed contractor to clarify potential issues with relevant statutory bodies - including those with an environmental remit.

Detailed below is a basic list of statutory bodies with an environmental remit within Northern Ireland and the general Ards and North Down area who may require consultation - in particular during the construction phase of the project. Also provided is a link to their internet sites from which useful information and contact details of these organisations can be obtained.

This list will be reviewed by the contractor, added to or amended if required. This list therefore should not be seen as a definitive list.

It should also be noted that there are a wide range of non-statutory bodies within Northern Ireland who play an active role in protecting the environment. These organisations are not listed in this oCEMP as yet, but will be if required e.g. perhaps to seek further clarification.

Table 5-2 - Basic List of Statutory Bodies with an Environmental Remit within Northern Ireland

Organisation	Weblink
Department of Agriculture, Environment and Rural Affairs (DAERA)	https://www.daera-ni.gov.uk/

DAERA Northern Ireland Environment Agency (NIEA)	https://www.daera-ni.gov.uk/contacts/northern-ireland-environment-agency-niea
Northern Ireland Environment Agency (NIEA) – Environmental Protection	https://www.nidirect.gov.uk/contacts/northern-ireland-environment-agency
Department for Infrastructure	https://www.infrastructure-ni.gov.uk/
Department for Infrastructure - Rivers Agency	https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding
Department for Infrastructure – Inland Waterways	https://www.infrastructure-ni.gov.uk/topics/waterways
Geological Survey Northern Ireland (GSNI)	https://www.bgs.ac.uk/geology-projects/gsni/
DAERA Inland Fisheries	https://www.daera-ni.gov.uk/topics/inland-fisheries
DAERA Forest Service	https://www.daera-ni.gov.uk/topics/forestry
NI Water	https://www.niwater.com/
Ards and North Down Borough Council	Citizen home - Ards and North Down Borough Council

6. Environmental Management Procedures

6.1 Environmental Training/Raising Environmental Awareness

It is important to raise awareness of environmental issues so that personnel on site understand what environmental good practice is and know where to obtain information.

The person with environmental responsibility on this project is yet to be confirmed. Once appointed this staff member will be responsible for ensuring that all staff on the project have received the necessary training on environmental matters required to do their job competently and with an understanding of the need for environmental protection from construction activities. A site induction raising all these issues will be provided to all staff upon their commencement on the project. This will include all sub-contractors and visitors to the site as appropriate.

On this project, training will incorporate issues such as working beside watercourses; how to use spill kits and general environmental awareness. It should be noted that it may be necessary on occasion to bring in other trainers to explain for example the use of spill kits. An example of a Training Record to be maintained for the duration of the contract is provided in Appendix C.

As required, updated information or revision to environmental training will be cascaded to staff via 'toolbox talks' and notices displayed in welfare / rest areas. Everyone on a site has a responsibility toward protecting the environment. As such, an environmental watching brief will be maintained by all site employees at all times. Therefore, employees will be made aware of what to do if they discover something untoward.

Note that Environmental Performance will also be a regular agenda item for project progress meetings.

6.2 General Planning, Setting Up and Managing Work Sites

Although a contractor has not yet been appointed, the following issues will be considered during site mobilisation (and included in future revisions to this oCEMP):

- Enabling Works:
  - Liaison with regulators (if required)
  - Site Clearance (details of when it is acceptable e.g. taking into account the need to protect species etc.)
- Site Offices:
  - Offices to be sited in such a way as to enhance environmental protection when possible e.g. by protecting vulnerable mature trees, act as noise barrier, minimising visual intrusion etc.
  - Recycling will be managed within offices, office waste reduced and the use of electrical equipment controlled.
- Site Clearance following construction:
  - The contractor will address the following issues (in future oCEMP revisions) when site works are complete and the area is to be cleared:
    - Plant
    - Surplus materials
    - Waste and skips

    - Residues
    - Signage
    - Cabins
    - Temporary works
- Communication and Community Relations
    - As there are a number of residential properties in the wider area, if applicable, the appointed contractor will detail in future revisions of the oCEMP how they will:
        - Interact with communities e.g. residential, park, schools, restaurants etc.
        - Maintain access to businesses, people's property etc.
        - Minimise disturbances e.g. lighting, noise, dust, waste, working times etc.
        - Good housekeeping.
        - For further guidance on avoiding nuisance see also http://www.netregs.gov.uk/environmentaltopics/nuisances/
- Site Security:
    - The appointed contractor will be required to ensure that vulnerable plant and equipment are safely secured to minimise risks such as vandalism and unauthorised access, which can lead to pollution incidents at construction sites.

6.3 Traffic Management

A Traffic Management Plan will be implemented prior to the construction work. This will include procedures for keeping the site and transport routes clean as well as any closures/diversions. This may be implemented by various methods but will depend on the appointed contractor e.g. wheel wash facilities and road sweeping. The other key features of the Traffic Management Plan will be:

- Keeping pedestrians and vehicles apart;
- Minimising vehicle movements;
- People on site - including suitability of drivers;
- Turning vehicles;
- Visibility; and
- Signs and instructions.

6.4 Buying, Storing and Managing Materials

Improving the management of materials and components has environmental benefits through increased resource and site efficiency. The appointed contractor will ensure that when buying materials they are from a sustainable source when possible. Consideration will also be given to purchasing materials from local sources where possible.

Materials will be stored as far away from any watercourse and drains leading to it, - this is particularly the case for any materials that could lead to a pollution event e.g. fuel storage.

Care will also be taken in relation to handling procedures in order to avoid damage and also the reuse of materials e.g. soil, pallets, fill material etc.

Any timber products to be used, will be sourced from Forest Stewardship Council (FSC) sources or similar. See also http://www.fsc-uk.org/ for further details on FSC timber.

7. Protection of individual environmental issues

7.1 Biodiversity (including flora and fauna)

7.1.1 Designated Sites

The Habitats Regulations Assessment[11] (HRA) (included in Appendix G) identified Outer Ards SPA and Ramsar site as being intersected by the proposed works and the North Channel SAC as being within 40m. Strangford Lough SAC, SPA and Ramsar site were also identified within 10km. The HRA did not identify any likely significant effects in relation to any of these internationally designated sites, on the basis of standard best practice pollution prevention being adopted. Table 7-1 sets out the relevant Guidance for Pollution Prevention.

It is also noted that an ASSI Assent has been prepared in relation to Outer Ards ASSI and anu conditions arising from this process will be included in future iterations of the CEMP.

7.1.2 Protected Species

Whilst it is noted that no significant impacts have been identified on the designated sites through the HRA, with the proposed site being located in an urbanised and highly disturbed area (associated with both residential land uses and activities associated with the harbour), potential impacts on protected species including seals and harbour porpoise should still be considered. Harbour (common) seals and harbour porpoise have been identified as potentially being present in the area as they are selection features in Strangford Lough SAC and North Channel SAC, respectively. If works are to be undertaken during the breeding seasons, a Marine Mammal Observer (MMO) may be required to help reduce potential impacts of operations on the marine environment, notably seals and harbour porpoise in the area, by ensuring there are no breaches of environmental protocols or regulations. Breeding season for harbour (common) seals is between June and July and between May to September for harbour porpoise.

Whilst no specific nesting areas have been identified and works are in a highly disturbed area along Main Road, should construction take place in the bird nesting season, between 1st March and 31st August, nesting bird surveys may be required.

Due regard will be paid to the wildlife/ecology of the areas in which work is taking place and to protect these where possible. All legal requirements ensuring that protected species are not adversely impacted by the construction works will be followed. All relevant licences, for example to exclude protected species, will be obtained as necessary. If required, advice will be sought from the relevant section of NIEA Natural Heritage.

Due regard should be given to all species protected by The Wildlife & Natural Environment Act (Northern Ireland) 2011.

7.1.3 Invasive Species Guidance

Whilst no evidence of invasive species has been identified on the site to date, Northern Ireland has been subject to the impact of many invasive species, which are having a detrimental impact on local biodiversity. As such, the appointed contractor and associated sub-contractors will be made aware of their responsibilities in relation to any

[11] Habitats Regulations Assessment, AtkinsRéalis, August 2026

noxious or invasive species and must have procedures in place to be taken in the event of these species being present on site. This will be a requirement of the contract documents.

As part of general site induction all contracting staff and sub-contractors will be made aware of what the main invasive species look like so they could potentially identify them if the situation arose. Pictures will also be displayed around site offices explaining what to look out for.

The procedure for any species identified (Bamboo, Salmonberry and Japanese Knotweed) has been identified in an Invasive Species Management Procedures document attached as Appendix D.

Further information, codes of practice etc. on invasive species in Ireland can be found at the following links:

- https://www.daera-ni.gov.uk/topics/invasive-non-native-species-inns
- https://www.daera-ni.gov.uk/articles/northern-ireland-priority-species
- https://www.daera-ni.gov.uk/articles/efs-species-specific-advice
- https://invasivespeciesni.co.uk/

7.1.4 Tree Protection Guidance

While no areas of Ancient Woodland, Long Established Woodland or Tree Protection Orders have been identified on the development site[12,13], should there be trees within the site, these will require protection from construction activities. As such, measures detailed in BS5837:2012 – Trees in Relation to Design, Demolition and Construction (and any subsequent updates) shall be followed. This standard sets out requirements for root protection areas, protective barriers, and working methods near trees. Other relevant guidance includes BS4428:1998 Code of practice for general landscape operations (excluding hard surfaces) and BS8545 Trees: from nursery to independence in the landscape – Recommendations'.

Other relevant guidance includes:

- BS3998:2010 – Tree Work: Recommendations, which provides best practice for pruning, crown reduction, and other arboricultural operations.
- NJUG Volume 4: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 3, Updated January 2026), which outlines procedures for utility works near trees, including trenchless techniques and consultation with arboriculturists.
- Local planning requirements under the Planning Act (Northern Ireland) 2011 must also be observed, including compliance with Tree Preservation Orders (TPOs) and Conservation Area restrictions.

As with any British Standard, measures should be taken to ensure that the most up-to-date version of each standard is used.

See also Appendix E for further guidance on tree protection.

[12] Back on the Map - Ancient Tree Inventory
[13] Tree Protection in ANDBC – Tree Preservation Orders and Conservation Areas

7.2 Population & Economic Development

In order to protect the general population, as well as site staff and ensure that as little disruption to economic activity is caused by construction activities as possible, consideration will be given to the following issues by the appointed contractor and included within any future revision to the oCEMP:

- Construction Site Security/Separation of construction activities from public areas;
- Access to businesses; and
- Traffic Management and Vehicle Use.

7.2.1 Construction Site Security/Separation of Construction Activities from Public Areas

It is important that the construction site is secured adequately to ensure that uncontrolled access e.g. by children or vandals, is restricted as much as possible. As well as the potential health and safety risk from uncontrolled access, it is recognised that one of the biggest causes of pollution events from construction sites is due to the activities of vandals.

Therefore, the appointed contractor will detail consideration of the following in future revisions to the oCEMP:

- Site and compound boundaries i.e. fencing, gates, locks etc;
- Deterrence of stockpiling materials close to site / compound boundaries so they cannot be used for unwanted access;
- Polluting materials to be well secured;
- Positioning of site managers office;
- Procedure to inform police about site and taking their advice on security; and
- Dealing with vandalism, graffiti etc.

7.2.2 Access to Businesses/Schools

Although it is not anticipated that the construction activities will impact directly on any local business or nearby schools, maintaining access to business and educational premises is vital during construction to allow these economic and educational activities to continue as normally as possible. It is vital that adequate communication/consultation takes place with businesses and schools if it becomes apparent that these will be impacted by the construction activities and adequate arrangements for maintaining safe and suitable access to the premises are agreed where possible.

7.2.3 Human Health & Wellbeing

Note that while specific Health & Safety issues are addressed elsewhere, it is worth noting a number of issues in the context of the oCEMP as there are a number of sources of risk to human health from construction operations. These risks can apply to both construction workers and members of the general public. Among the sources of potential risks that may be incurred during the construction of the proposed development are:

- Lighting;
- Noise & Vibration; and
- Working in/disturbance to contaminated land.

7.2.3.1 Lighting

Should there be a requirement for the installation or erection of any outdoor lighting during construction, this should consider any adverse impacts to neighbouring properties. All lighting provisions should meet lighting guidance CIE – International commission on Illumination – Guide on the limitation of the effects of obtrusive light from outdoor lighting installations or ILP – Institute of Lighting Professionals – Guidance notes for the reduction of Obtrusive light.

7.2.3.2 Noise & Vibration

The contractor appointed will ensure that policies and procedures for controlling noise & vibration are in place. As such, the contractor will follow the guidance contained within 'BS5228:2009 +A1:2014 Noise and Vibration Control on Construction and Open Sites' and the suggested Best Practicable Means measures for controlling noise and vibration detailed in CIRIA C692 Environmental Good Practice Site Guide.

Where it is considered that there are risks of excessive noise affecting local residents, mitigation will be required. At properties nearest to the construction site, this could be achieved via the restriction of noise emissions at source, employing quiet plant and equipment, restricting hours of working and ensuring noise emissions are within the noise thresholds detailed within Table E 1 of BS5228:2009. Impacts may also be minimised by the use of effective temporary acoustic screening.

The potential noise effects of the construction works should be minimised by the use of noise control measures, as suggested by BS 5228. The specific control of noise and vibration during the construction works should consider:

- Ensure adherence to daytime working hours as far as reasonably practicable.
- Utilise low vibration piling techniques such as bored piling, CFA and vibratory sheet piling.
- Use low vibratory setting or “dead rolling” if ground compaction is required within 20 m of any sensitive receptor along the access road.
- All vehicles and mechanical plant used for the purpose of the works should be fitted with effective exhaust silencers and should be maintained in good and efficient working order.
- Machines or plant in intermittent use should be shut down in the intervening periods between work, or where this is impracticable, throttled down to a minimum.
- Place any static plant and equipment such as generator as far away from sensitive receptors as possible and consider utilising temporary localised acoustic screening.
- Avoid any reversing on site as far as reasonably practicable. If reversing is required, utilise broad band low impact reversing alarms.
- All plant and equipment should be examined on a daily basis, for defects prior to the start of works and under no circumstances will defective plant be used.
- Low impact techniques should be considered for the demolition existing structures. This could include using cutting or a grab and tear technique to dismantle the structure and minimise percussive techniques.
- Ensuring that all staff and operatives are briefed on the requirement to minimise nuisance from site activities, via tool box talks etc.
- An important element of the pro-active approach to limiting the likely significant effects of works will be to ensure that the local community have been kept fully informed over the scale and nature of the works, when they are to take place, and who to contact if disturbed by the construction activities.
- Consider using temporary localised acoustic barriers close to noisy activities, if practicable.

Further guidance can be viewed at:

- https://www.netregs.org.uk/legislation/northern-ireland-environmental-legislation/current-legislation/noise-and-nuisance/
- https://www.netregs.org.uk/environmental-topics/nuisances/noise-odour-and-other-nuisances/

- https://www.netregs.org.uk/environmental-topics/nuisances/nuisance-from-dust-insects-noise-odour-and-pathogens/

The setting of specific noise restrictions needs to take account of many factors including the type of work to be carried out, the duration of the work, ambient noise levels and the noise sensitivity of local land uses.

Local residents may be willing to accept higher levels of noise if they know that noise levels will only last for a short time and where it can be shown that noise control measures may only reduce the noise levels by a few decibels whilst greatly extending the construction time and noise exposure period.

It has been shown that good public relations between the site operator and local residents can go a long way to people accepting the temporary disturbance associated with the works. **It is therefore suggested that the appointed contractor implement public consultation and liaison procedures as well as complaint management procedures.**

The Local Authority (Ards and North Down Borough Council) has powers under the Pollution Control and Local Government (Northern Ireland) Order 1978 Part 3 Article 40 to control hours and methods of work to ensure that unnecessary disturbance is not caused.

Another important element of the pro-active approach to limiting the potential impact of such works is to ensure that the public are kept fully informed over the scale and nature of the works, when they are to take place, and who to contact if they are disturbed. As such, a **Communications Plan** will be developed. It should be borne in mind though that in any area, some individuals will be more sensitive to noise than others. Noise levels can also be influenced by factors such as wind direction and velocity and this should also be borne in mind during the construction phase.

7.3 Working in/Disturbance to Contaminated Land

As a matter of best practice, all work activities should meet the requirements of:

- The Management of Health and Safety at Work Regulations (Northern Ireland) 2006; and,
- The Construction (Health, Safety and Welfare) Regulations (Northern Ireland) 2007.

In order to help mitigate potential risk to construction workers, all relevant legislation (including Health & Safety legislation) relating to working with contaminated / potentially contaminated land will be adhered to by the appointed contractor. The appointed contractor will also carry out appropriate risk assessments and develop appropriate procedures and good working practices for working with / handling of contaminated spoil.

Excavations and earthworks could expose sub-surface contaminants resulting in increased risk to site workers, for example through exposure to metals, hydrocarbons and landfill gases. However, the majority of such risks can be mitigated through the adoption of standard health and safety measures and good working practices agreed in advance of the works. If, during the proposed works, any ground contamination is encountered then all works on the site should cease. The Ards and North Down Borough Council Environmental Health and Safety department should be informed and sufficient information to assess potential risks arising from the former use of the land should be submitted.

The following measures will be considered in order to protect site workers and the general public from any risk associated with existing on-site contamination during construction:

- The works will be carried out under the Construction (Design and Management) Regulations (NI) 2015 (or the equivalent at time of construction) by a Principal Contractor competent to carry out work of this nature. As a Competent Principal Contractor they will have assessed the risks, eliminate them where possible and then put measures in place to mitigate the remaining risks to as low a level as is reasonably practicable. They will then

create method statements for carrying out tasks with residual risks and ensure that their workforce is properly trained in these procedures. These procedures will also include the provision of adequate welfare facilities for the works being carried out and the sourcing of these facilities will have considered the risk of the possible contamination of the workforce. The majority of the works will probably be carried out under standard methods of work for excavations and pipe laying, with additional requirements for reporting of unknown materials/smells, regular monitoring of excavations for gasses and sampling of the excavated soils. If previously unknown contamination is encountered the Principal Contractor will cease works immediately, and report findings to the Environmental Health Officer. The contractor will likely be required to assess the materials encountered and carry out additional risk assessments based upon the quantities and properties of the substance, implement measures to mitigate against these hazards and prepare additional methods of work that will be implemented until the hazard has been passed. More broadly, the contractor will also be expected to maintain contact with the Environmental Health Officer of the relevant local council (Ards and North Down Borough Council) in relation to all aspects of the work to be undertaken.

- The adoption of standard health and safety measures and good working practices, including where appropriate:
  - the monitoring of excavations and other confined spaces for safe working atmospheres, and the use of suitable design and risk management measures to include elimination of the risk wherever possible, and the appropriate control of the residual risk. Risk management measures could include appropriate personal protective equipment (PPE) and respiratory protective equipment (RPE) by site workers;
  - the use of dust control techniques (such as water bowsers) to reduce fugitive dust emissions from earthworks which may otherwise present a hazard to site workers and users of adjacent land (though appropriate measures are to be taken to negate the risk for water pollution from the use of bowsers or similar);
  - regular brushing and scraping of site roads to limit the washout of spilt pollutants into surface water drains and receiving water courses;
  - the storage of fuel, oil, waste, potentially contaminated arisings and other potential pollutants in designated bunded areas isolated from drains and groundwater;
  - site drainage should be in accordance with BS 6031:1981 - Code of Practice for Earthworks (or the relevant equivalent standard at that time), to ensure that any discharge to surface water drains and receiving watercourses passes through appropriate interception facilities, such as settlement ponds / tanks and silt traps;
  - on site dewatering to be kept to a minimum and any water arising to be dealt with according to its quality, with any contaminated groundwater to be contained and removed to an appropriately licensed waste disposal site or treatment facility by a licensed waste disposal contractor;
  - the implementation of good hygiene measures (overalls, gloves, washing before eating etc);
  - eating, drinking and smoking in designated areas only;
  - in order to maintain the physical quality of the re-usable soil, all ground preparation works should be undertaken in accordance with BS 4428:1989 - Code of Practice for General Landscape Operations (or the relevant equivalent standard at that time);
  - the preparation of a Pollution Incident Response Plan which should cover both potential and existing risks and those created by construction activities;
- The precise nature of the practices to be written into any contract documentation should take account of the range of Pollution Prevention Guidelines drawn up by the Environment Agency in partnership with the Northern Ireland Environment Agency.

Note that the above measures will be confirmed following more detailed design work undertaken as part of this proposed development and detailed in future revisions of the oCEMP.

7.4 Water

Th sit involve wor in/adjacen t th Nort Channe whic i designate a a SA an Oute Ard SPA, Ramsa an ASSI (s s t o t n Section 2.1.1.1). The Hab tats Regula ions Asses ment (RA), inc uded in App ndix , d d not id nti y any ikely signi icant e fe ts in re at on o ny f the internati nally desi nated site . This oCEM w ll be u date wi h any re evant cond tio s s t ut n th ASSI sse t and arine L cen e fo this p oject whi h are being a pli d or t th t me of writ ng

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T e use of precast head all ill al o esu t in th li it d use of concr te p urs near wat rbo ies, and sub e uently red ce risk of water ollu ion from it.

h re ar a range of g ideli es whi h detail measu es hi h re to be taken o en ure that the ote tial or water ollution nci ents an im acts are m nimised. Howe er, with any con tructio proj ct the e is the ote tial for wat r quality nc dents to occu . **In t is vent, the emergen y conta t det ils noted in Tab e -2 should b utilised in arti ular he NIEA W ter Pollut on Hotli e.**

It is noted hat dis harge con ent u de th term of the W ter (Nor hern rela d) rder 199 (a amended) ay e re uired for th dis harge of site d ain ge during th cons ru tio phase o the propose develo ment. Furt er d scus ion ith NIEA ill take lace follow ng app intment of the c ntr ctor.

Among th g idelines to e fol owed are hose c nta ned with n DoE tand ng dvice Note o. 4 - Pol ution Prev ntion Guidel nes (une 016) These no e that Pol ution re e tion sh uld be a prim ry con ide ation ur n all stages o a develop ent' lifecycl , from planni g, constr cti n, operatio an ma nte ance al t e way through t d commissioning or r inst tem nt of a s te nd it i the im of hi oCE P to aid in his pr cess

This adv ce note p ov d s dire ti n to a se ies of Pol ution Prev ntion uidel nes PPGs which hav been r placed by upd ted Guida ce for Pol ution P event on (GPPs). Thes gui elines h ve been produc d in associat on with Northern Ir land En iro ment Age cy, the Scott sh Environ ental rotect on gen y (SEPA) an the E viro men Agency (EA for E gla d and Wale . Th guide in s that sho ld be consi er d in relat on to protectin wat r qualit at this pro osed dev lopment si e are summarised in Table 7- .

Ta le 7-1 - uidance fo po luti n preventio

PP	Na e	Description
1 (G P)	Understand ng your environm n al r sponsibilitie - good en i onmen al practices	A basic int oduction to pollutio pr vent on, cov ri g th main aspects f good envi onm nta . Approp iate or all busi ess types it inclu es s gnpo ts to ot er GPPs tha might be us ful, and publicati ns f om orga isation th t provid s ppo t and gu dance to t e bus ness o munit . (Ju e 2021
2 GPP)	Ab ve groun oil storag	P ovi es informat on o the egula ions t at over abo e ground il s orage, ncl ding fuel sto age f r vehic es, oil fir d heatin storage an p rtable c nta ners. It e cludes oil r finerie dist ibuti n depots. (June 2021)

3 (GPP)	Use and design of oil separators in surface water drainage systems.	For identifying the types of site where an oil separator is required, when surface water runoff might be contaminated with oil. (March 2022)
4 (GPP)	Treatment and disposal of wastewater where there is no connection to the public foul sewer.	If no foul sewer is available for a dwelling, or other building, this guideline provides information on how to select the correct sewage disposal, treatment and disposal system. It also provides information regarding maintenance and the legal requirements of your system. (June 2021)
5 (GPP)	Works and maintenance in or near water.	A guideline that provides information for construction firms carrying out construction or maintenance works near, in, or over water. (February 2018)
6 (GPP)	Working at construction and demolition sites.	For the construction and demolition industry regarding the prevention of pollution. (April 2023)
8 (GPP)	Safe Storage and disposal of used oils.	For covering the storing and disposing of used oils. Applies to activities ranging from a single engine oil change to those of large industrial users. (June 2021)
21 (GPP)	Pollution incident Response Planning.	For producing emergency pollution incident response plans to deal with accidents, spillages and fires. (June 2021)
22 (GPP)	Dealing with spills.	For anyone who is responsible for storing and transporting materials that could cause pollution if they spill. (October 2018)
27 (GPP)	Installation, decommissioning and removal of underground storage tanks.	For installing, removing and decommissioning all underground storage tanks (USTs), including those containing petroleum, diesel, fuel oil, aviation fuel, waste oil, domestic heating oil and other potentially polluting materials such as organic solvents. (April 2002)

For reference, a complete list of GPP's and their contents can be found at the following link:

- https://www.netregs.org.uk/tools/guidance-for-pollution-prevention-gpp-documents/

Further to the implementation of guidance contained within the above GPP's, it is recommended that the drainage plan is developed to ensure protection of designated sites.

7.4.1 Suspended Solids

Where possible any drainage design should include the use of temporary SuDS during the construction phase as pollution prevention measures for silt management and to prevent erosion. Where possible these should be retained or adapted as part of the final permanent site drainage solution, as the preferred option. Features could include:

- Trackside ditches / Swales;
- Check dams;
- Cut-off Ditches; and/or
- Settlement Ponds.

In relation to any areas of soil exposed due to earthworks, the exposed ground will need to be re seeded with grass / vegetation or otherwise covered as soon as possible. If appropriate, consideration should be given to small dams or other interceptors in any ditches that run from the site to any watercourse. **All spoil will be stored a minimum**

of 10 m away from any watercourse and all earthworks will be managed in such a way to minimise the risk of pollution from sediment.

It is likely to be impractical to cover the ground with Geo-textile matting in areas of trench works and therefore these areas should only be stripped of cover as short a time as possible before the laying of any pipes or foundations in order to limit the amount of time that the soil is exposed. The disturbed area should be re-seeded as appropriate as soon as possible after construction.

It is proposed that any water that accumulates in trenches is pumped either to a suitable 'soak away' area which will allow the water to percolate into the soil and therefore remove any solids, or to the temporary SuDS note above. If this is not possible, sedimented water should be pumped to settlement tanks. Portable tanks are widely used in construction operations and it will be ensured that the tanks are of sufficient capacity to accept and safely store the water to be pumped into them. All tanks are to be regularly maintained to ensure that they are working to maximum capacity.

Straw bales, through which pumped water is passed in order to encourage removal of solids, have often been used on construction sites. This technique is however limited in value and bales require regular replacement in order to remain reasonably effective. The technique will only be used where no other more effective method is practical, or in an emergency situation when no other method is available.

Any roads being utilised by site traffic will be regularly swept in order to ensure that they are kept free of deposits in order to prevent solids being washed off and into drains during periods of rainfall. Consideration will be given to having wheel wash facilities to reduce the amount of solids being carried onto public roads. If these facilities are used, then they should be securely constructed with no overflow and the effluent should be contained for proper treatment and disposal.

Site drainage will be designed using SuDS principals and this will further reduce the risk of sediment from entering a watercourse. **It is not permissible to pump directly to a watercourse as it is imperative and a key aim of this oCEMP to ensure that sediment does not enter the watercourse.**

For additional protection against runoff and to help ensure the stability of the fence, sandbag barriers may be used during construction to allow sediment to settle from runoff.

In order to minimise the erosion of bare soils, as much existing vegetation as possible will be left in place during construction. Existing vegetation will filter sediment polluted run-off and soils will be held together to prevent erosion. If areas of bare soil on a watercourse bank are unavoidable, a geotextile lining should be installed which should extend to the full bank height and be properly secured.

Geotextiles have a dual function: as well as filtering sediment from run-off, the fibre matted products assist soil retention and help to quickly establish plant growth on slopes and embankments. Some naturally break down and become part of the vegetation, or some can be permanent features supporting the vegetation on the riverbank.

Further example guidance notes relating to the issue of sediment for display in site offices/use in tool box talks is provided in Appendix F.

7.4.2 Heavy Metals and Hydrocarbons

All re-fuelling of plant will take place in an appropriate area i.e. preferably one that has an impervious base and is bunded or provided with interceptor drains. A spill kit will be kept on site. Vehicles and equipment are never to be left unattended during re-fuelling. All staff are to be trained in refuelling procedures and what to do in the event of an emergency.

Note that all staff will be trained in the proper use of spill kits. If a spill has entered a drain, the drain will be blocked to stop further spillage entering the system.

No spillage of any material will be washed into any drain and no detergents will be used to clean any affected area.

All pumps, generators and similarly fuelled equipment are to be placed on drip trays or in a bunded area and no vehicles or equipment will be allowed to enter any watercourse (or any associated drains) at any stage. Drip trays will be positioned away from any watercourse or drain.

All valves, hoses and associated re-fuelling equipment will be regularly inspected to ensure that they are still in a suitable condition. This equipment is to be protected from vandalism and unauthorised interference and should be turned off and securely locked when not in use.

All tanks or drums of fuel, oil, grease, chemicals and all other hazardous material will be kept in a secure, bunded area. **Any spillages or leaks are to be dealt with promptly and all waste disposed of in an appropriate manner.** All tanks, drums and other containers will be clearly marked as to their contents and are only ever to contain the substance for which the tank was designed or supplied. Before any tank is removed or perforated, all contents and residues will be emptied by a competent operator for safe disposal.

All bunds or interceptors will be adequate for the amount of spillage that could happen in a worst case scenario and should be designed to applicable standards. All bunds will have a capacity of at least 110% of the tank volume. Note also the requirements of the Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010.

All of the appointed contractors staff (including sub-contractors) who are involved in fuel handling will be given training in the correct procedures for handling this and other potentially polluting material in an appropriate manner and if required, site specific procedures will be developed that all relevant staff must adhere to when handling such material.

7.4.3 Use of Cement

The headwall will be a precast cement, and therefore the use of poured cement near or within the high-water mark is expected to be limited.

To reduce the risk of pollution occurring all concrete pours will be carefully planned and special procedures adopted as required.

Small amounts for grouting and patching may need to be mixed on site. **Regardless of the size to be mixed, the aim will be to prevent cementitious material from entering any watercourse** and therefore all washout material and spillage will be contained or channelled to settlement or filter tanks/ponds.

Washing out of vehicles or equipment will only take place in controlled areas – no matter how small the piece of equipment. If there is a requirement for it to take place at the site then a suitable area will be constructed. **No watercourse will ever be used for the washing of equipment** and wash waters will not be discharged into the water environment. All staff are to be informed of washing procedures.

Care will be taken when transporting cement on site and all vehicles used for this will be suitable for the amount to be carried. Extra care is to be taken when using site roads and these will be assessed for suitability in transporting large loads.

7.4.4 Stored Materials

All materials that could be hazardous to water quality will be stored in suitable areas, away from site traffic and in containers which are fit for purpose. The storage materials are to be protected from vandalism or other unauthorised access.

All waste material will be stored in suitable areas and disposed of in a suitable manner. Open skips for general waste will be covered with a net or suitable tarpaulin to prevent waste from being entrained by the wind and possibly deposited in the Irish Sea.

7.4.5 Poor Working Practices

Suitable working procedures for all aspects of the construction activities that may give rise to water pollution will be developed. Staff will be informed of these procedures and if necessary, further training will be given.

7.4.6 Sewage and Canteen Waste

Discharge of any sewage or canteen wastes from site offices will only be to an on-site temporary storage facility, prior to off-site treatment and disposal.

7.4.7 Construction Activities Impacting on a Watercourse

This oCEMP is provided in support of Marine License Application, which will be submitted to the Department of Agriculture, Environment and Rural Affairs (DAERA) Marine Licensing team. It is the intention that the contractor will adopt and further develop specific mitigation when precise details are known.

Schedule 6 Consent from Department for Infrastructure (DfI) Rivers may also be required.

Note also that within the terms of the Drainage (Northern Ireland) Order 1973 the following advice will be followed:

- If during the course of investigations or during obstruction work a watercourse is uncovered which was not previously evident the local Rivers Agency Office should be advised immediately in order that arrangements may be made for the investigation and direction of any possible action necessary to deal with the watercourse. It is possible that undesignated watercourses may be encountered.
- Written consent of Rivers Agency will be sought for any proposals either temporary or permanent, in connection with the development, which involve interference with any watercourse such as culverting, bridging, diversion, building adjacent to, or discharge of stormwater etc. This will also extend to works associated with the decommissioning of existing storm overflow pipes.

7.5 Air

During construction, dust emissions can be minimised by the adoption of good construction industry practices for dust control. As well as adopting best industry practice mitigation, appropriate site specific mitigation, such as that described in the IAQM Construction Dust Guidance[14], should be used. The following measures are drawn from IAQM Construction Dust Guidance and represent recommended best practice for managing dust emissions during construction.

Table 7-2 – Air and Dust Management Plan Mitigation Measures

[14] Construction-Dust-Guidance-Jan-2024.pdf

Mitigation Measures
Communications
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary.
Display the head or regional office contact information
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the 'Highly Recommended' measures in this document.
Site Management
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner and record the measures taken.
Make the complaints log available to the local authority when asked
Record any exceptional incidents that cause dust and/or air emissions, either on or off site and the action taken to resolve the situation in the log book.
Monitoring
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windows sills within 100m of site boundary, with cleaning to be provided if necessary.
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.
Preparing and Maintaining the Site
Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable.
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as the stockpiles on site.
Fully enclose site or specific operations where there is a high potential for dust production and the site actives for an extensive period.
Avoid site runoff of water and mud.
Keep site fencing, barriers and scaffolding clean using wet methods.
Remove materials that have a potential to produce dust from site as soon as possible, unless being reused on site.
Cover, seed or fence stockpiles to prevent wind whipping.
Operating Vehicle / Machinery and Sustainable Travel

Ensure all on road vehicles switch off engines when stationary – no idling vehicles.
Impose and signpost a maximum speed limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas.
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)
Operations
Only use cutting, grinding or sawing equipment in conjunction with suitable dust suppression techniques such as water sprays or local extraction.
Ensure an adequate water supply on the site for effective dust/particular matter suppression using non potable water where possible.
Use enclosed chutes and conveyors and covered skips.
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Waste Management
Avoid bonfires and burning of waste materials.
Measures specific to Earthworks
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
Only remove the cover in small areas during work and not all at once.
Measures specific to Construction
Avoid scabbling (roughening of concrete surfaces) if possible.
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust
Measures specific to Trackout
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
Avoid dry sweeping of large areas.
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
Record all inspections of haul routes and any subsequent action in a site log book.
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and are regularly cleaned.

Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever the site size and layout permits
Access gates to be located at least 10 m from receptors where possible.

It is also proposed that the appointed contractor will advise the Environmental Health Officers from the local council (Ards and North Down Borough Council) when work will be beginning and advise of the specific working methods and plant to be used when these are known to ensure that no nuisance will be caused. Close liaison with the local authority will be maintained in order to allow any issues arising to be dealt with in a timely and efficient manner.

Any process on Site producing fumes, smoke or odours etc will be minimised as much as possible to avoid them becoming a nuisance e.g. if possible placing plant / mobile toilets downwind of receptors. Plant will be well maintained and engines switched off when not in use.

Under no circumstances will it be permitted to burn any waste material on the Site, at any stage of the construction process. To do so wild be an offence under the terms of both the Clean Air (NI) Order 1981 and the Clean Neighbourhoods and Environment Act (NI) 2011.

Further guidance can be found at:

- https://www.netregs.org.uk/environmental-topics/air-pollution
- IAQM Guidance on the assessment of dust from demolition and construction V2.2 2024 - https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf

7.6 Reducing the Carbon Footprint

It is proposed that any contractor appointed to the project should actively try and reduce their energy consumption / carbon footprint from construction activities.

The following link is to the Environment Agency (EA) website which has a Microsoft Excel based Carbon Calculator that is frequently used by contractors in England and Wales in order to establish their carbon footprint. This Carbon Calculator, or similar, will be used on the project.

Link to EA website and Carbon Calculator:

- https://www.gov.uk/government/organisations/environment-agency
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/571707/LIT_7067.pdf

7.7 Cultural Heritage (including Architectural & Archaeological)

The closest identified cultural heritage asset is an active church on the Historic Buildings Record (HB24/02/066) adjacent to the proposed scheme. The scheme is not anticipated to directly impact on this asset and any impacts are expected to be limited to minor noise and vibration disturbance.

If archaeological material is encountered, works will stop, the area will be protected, and the Northern Ireland Environment Agency (NIEA) will be contacted immediately. Due to excavations, there is the potential to uncover buried archaeology as unknown archaeological constraints may exist below ground surface. The contractor must therefore be aware of their responsibilities in this instance. The contractor's staff must also know what heritage signs to look out for e.g. burned or blackened material, brick or tile fragments, coins, pottery, skeletons, foundations etc. If a find is made the contractor will stop work, protect the area and contact NIEA. There may also be a need to consider specialist advice. The contractor will also be made aware of their responsibilities under the terms of The Historic Monuments and Archaeological Objects (NI) Order 1995 which requires the reporting of the discovery of any unknown archaeological object.

Further advice on protecting cultural heritage can be found at the following address:

Historic Environment Division
Causeway Exchange
1-7 Bedford Street
Belfast

Details can also be found at the following website:

https://www.communities-ni.gov.uk/services/historic-environment-map-viewer

Note that it is recognised in this oCEMP that Department for Communities Historic Environment Division will have access to the site at all reasonable times in relation to archaeological protection. As applicable an archaeological licence will also be requested from Department for Communities Historic Environment Division at the above details.

Guidance notes on archaeological finds for display in site offices and use in tool box talks is provided in Appendix F.

7.8 Waste

During any construction project, there will be waste generated. Waste can be defined as "any substance or object which the holder discards, intends to discard, or is required to discard" and includes materials that other people want or for which they can find a beneficial use.

In generic terms the waste produced on a construction site could fall into the following categories:

- Inert - materials that do not undergo significant physical, chemical or biological reactions. Examples would include rocks, brick rubble, concrete etc.
- Non-hazardous - these are not inert and include items such as timber.
- Hazardous - possess one of more of the 14 properties defined in the Hazardous Waste Directive and may be corrosive, reactive, explosive, oxidising, carcinogenic or flammable. Examples include acids, asbestos, oily sludge, waste oils etc.

In order to manage construction waste properly and allow early identification of materials that can be reused as a resource, a robust Site Waste Management Plan (SWMP) will be produced by the appointed contractor.

Guidance from NetRegs for completing a SWMP can be found at the following:

https://www.netregs.org.uk/environmental-topics/waste/waste-from-construction-and-demolition-sites/site-waste-management-plans/

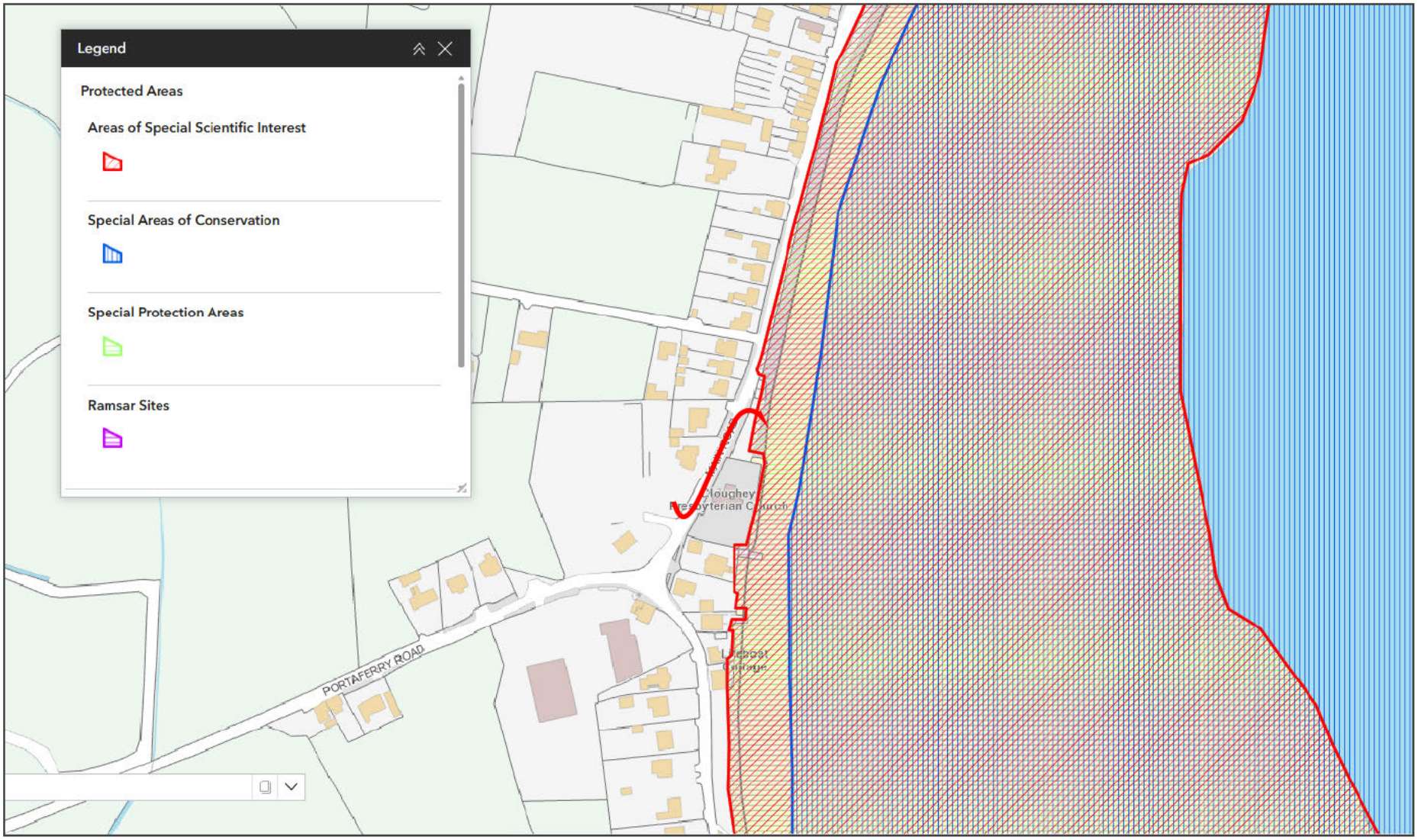
In particular the SWMP will detail how the contractor intends to address the following:

- Roles & Responsibilities and dissemination of the plan.
- Segregation of waste & identification of waste receptacles.
- Procedures to Reduce, Reuse and Recycling of waste & targets for these.
- Managing wind-blown solid wastes.
- Identification of waste sub-contractors.
- Waste transfer procedures for all types of waste including details of any pre-notifications required.
- Ensure legal compliance with legislation such as duty of care etc.
- Confirm that the Waste (Controlled and / or Special) Carrier[s] is registered.
- Confirm final waste disposal arrangements for each waste type and, when applicable, that the disposal site(s) is licensed.
- Special Waste Consignment Notes, and where applicable, Carrier Schedules to be completed for all Special Waste removed from Site.
- For Special Wastes, pre-notification copy to be made to DAERA Northern Ireland Environment Agency (NIEA) between 1 month and 3 days before any consignment of Special Waste leaves any site.
- Designation of areas on sites for waste handling.
- Measures for dealing with expected (and unexpected) hazardous waste.
- Disposal of liquid wastes.
- Monitoring of waste management procedures including reasonable checks to be made that waste is being disposed at the licensed disposal site(s).
- Until transfer of operation, process and construction waste to be stored securely and, where appropriate, kept in suitable containers. Facilities to be inspected and maintained with records kept.

The appointed contractor will also have developed procedures for Hazardous Substances Management. To aid this, the appointed contractor will check if any of the proposed substances to be stored or used are subject to any licensing or notification requirements relating to hazards e.g. COMAH, NIHHS, Petrol, HFL, LPG.

As noted, under no circumstances will it be permitted to burn any waste materials on the site, at any stage of the construction process. To do so would be an offence under the terms of both the Clean Air (NI) Order 1981 and the Clean Neighbourhoods and Environmental Act (NI) 2011.

Appendix A. Environmental Constraints Map


Legend
Protected Areas
Areas of Special Scientific Interest
Special Areas of Conservation
Special Protection Areas
Ramsar Sites
PORTAFERRY ROAD

Appendix B. Incident Response Plan

The following Incident Response Plan is to be completed and maintained up to date through the duration of the construction contract. It should be displayed prominently in all site offices.

Note this template is to be amended as appropriate.

Objectives of the Plan: The purpose of this Plan is to provide guidance relating to key information that will be crucial to appropriate action to take in the event of a pollution incident during the construction phase of a pipeline at Ballreagh Road, Newtownards. This Plan will also provide an overview of how pollution can be prevented.	
Name and address of Site:	**NGR:**
	Name or Position of person responsible for Plan:
	Date and Version of the plan: Date of next revision:
Distribution list:	
Overview of activities on site: **No. and work activities of Employees at different times of the working day:**	
Description of surrounding area:	

External Contacts		
Phone	**Office Hours**	**Out of Office**
Emergency Services (Fire / Police / Ambulance)	999	999
Police Service of Northern Ireland	101	101
Local Hospital (Belfast City Hospital)	028 9032 9241	028 9032 9241
NIEA Pollution Hotline	0800 80 70 60	0800 80 70 60
Ards and North Down Borough Council	0300 013 3333	0300 013 3333
Northern Ireland Water	03457 440088	03457 440088
Northern Ireland Electricity	03457 643 643	03457 643 643
Gas Company		
Waste Management Contractor		
Specialist Clean Up Contractor		
Client Project Manager		
Construction Manager		
Health and Safety Manager		
Environmental Manager		
Client Designer		

Chemical Product and Waste Inventory						
Trade Name / Substance	**Solid / liquid /**	**UN number**	**Max amount**	**Location to be stored**	**Type of Containment**	**Relevant Health or**

	gas / powder					Environmental Properties

Pollution Prevention Equipment Inventory			
Type	**Location**	**Amount**	**Staff Contact**

Notes:

- All spoil to be stored >10m from a watercourse
- All materials that could be polluting will be stored in suitable areas, away from site traffic and in containers which are fit for purpose. Materials are to be protected from vandalism or other unauthorised access.
- No person who has not received appropriate training will undertake any activity e.g. refuelling, that may cause pollution
- All fuel to be stored in a double skinned tank, with appropriate bunding / drip trays of suitable capacity
- All personnel to be trained in the use of spill kits
- Spill kits to be appropriately stocked and available onsite at all times. All staff to be aware of the spill kit whereabouts.
- All spills are to be dealt with immediately (assuming it is safe to do so)
- All appropriate PPE material to be supplied to all staff. Spare PPE appropriate to any potential spillage is to be available onsite at all times.
- All drains to be blocked in the event of a spillage to avoid pollution from leaving the site.

A site and drainage plan are to be produced and appended to this Incident Response Plan for use in an emergency.

In the event of a pollution incident, the immediate priority is to ensure the safety of all site personnel and any members of the public. Pollution is only to be tackled when it is safe to do so and when appropriate equipment is available.

Site Operatives must, in the event of a non-trivial spill, take immediate action to identify and contain the spill and report the incident to the Site Manager or, in their absence, an appropriate line manager.

Site Managers, or other line managers acting on their behalf in response to non-trivial spills must:

- **ensure containment of the spill**
- **confirm identification of the spilled substance**
- **implement clean up and disposal arrangements**
- **record the incident and response actions**

The manner of containment and clean-up is to be in accordance with best practice in relation to the substance spilt.

Personnel engaged in the containment, clean up and disposal of spilled substances must:

- **take appropriate Health and Safety measures including:**
- **ensuring the safety of themselves and others.**
- **wearing appropriate personal protective equipment.**
- **leaving the area immediately if the spilled substance is flammable or explosive.**
- **taking additional care when a spilled substance cannot be identified.**
- **allowing no naked flames / no smoking**

The following actions must be taken to contain and clean up the spill (noting any substance specific requirements):

- **Stop any flow causing the spill if possible – by closing valves or emptying the leaking tank or container by another safe and acceptable means.**
- **Take measures to contain the spill and prevent it entering drains or water using drain covers, booms or spill pads from the spill response kit, or other material if the spill response kit is not to hand.**
- **If the site drainage system is connected and diverted to a chemical spill tank and there is sufficient free capacity it could be used as a means of containment.**
- **The spilled substance should be recovered using absorbent material from the spill response kit which also provides a container for disposal.**
- **Other methods of recovery, or in the absence of the spill response kit, could be employed using alternative absorbent materials such as sand, squeegees or brushes, shovels, or pumped where this is possible into a safe and suitable container for disposal**
- **When sufficient personnel and equipment are available the activities of containment and recovery of the spilled substance should be carried out simultaneously where this is safe to undertake and will reduce damage to the environment.**
- **The process of recovery must be as complete as possible in line with the hazard presented by the substance spilled. Washing or hosing down must not be used except under the instruction of the Site Manager and only where appropriate.**

Appendix C. Record of Training

	Record of Training	AtkinsRéalis

Topic	Type	Training Provided By	Attendees	Date

Appendix D. Invasive Species Management Procedures

Invasive pecies anagement Procedures

nvasive Sp cies Man gement uidelines outline by In asive Spe ies Ireland

anagement q ic guide

When on id ring con rolli g or er di a ion of n inv sive pla t s ecie in a efine area manag rs may hav to deal with a large n mber f issue . The fo lowing ten-poin quic gu de is pr vided t hel m nage s begi the planni g pr ces and to elp en ure they comp y ith he rele ant piec s f le islatio a well as good ractice in the co trol of invasive plant species.

. Confir sp ci s iden ificatio .

Inv sive species an be easi y on used with ot er spec es. The efo e, i is import nt to c nf rm w ethe you have an inva iv s ecies on yo r site t at wil requir to e ma age , or a om on nativ s eci s that does not n ed o be tre ted. If yo sus ect tha there re i vasive species on site and you req ire he p verif i g the r ident fication, you hou d c ntact local ex ert. Alt rnative y, you an ubmi ima es to Invasive Species I ela d for h l with identif cation.

2. D velop an pro uce a ite-spec fic management plan.

Th pla sh uld conside th management options th t are app opr ate and vailabl to ont ol o er dic te the inv sive spe ie from the ite and he ti escales that ay be invo ved. A ke part f an site-s e ifi managemen pl n is to survey and p od ce map indicatin th species di tribut on on the site, inc uding the app opri te buffer zo es or potential gro th. It m y lso be useful to tr to establish the duration of he infestati n, as l ng-sta ding infest tions may be or den e or have la ger seed b nks th refore may be m re diffi ult to e ad cate. Use he mana eme t plan templ te pro ided to uide yo . ap ing the d stri ut on f the inva ive spe ie is an i portant art of the mana ement pro es as o s m s e ies, su h as Japanese kno we d, b year 3 o 4 of a control programme they m y be ore difficult to iden if .

3 Cons der d signated s tes and prot cted speci s n or near to th manag ment are .

Actions u derta en at your sit could imp ct on near y esignat d sit s i.e. European de ignated s tes suc as Sp cia Areas of on ervat on) or rotected s ecies wit in the area. Check f the e re ny des gnated ite for na ure conser atio cl se by nd asses hether t e planned anagement ork m y i pact on th m. A Habit ts Regul ti n Asses m nt (HR) may ne d to be do e nder the t rms of A ti le 6 f the H bitats irective. If pr tected pecies, o th ir esti g laces ar p esent (.g. o ters, adgers), you may need to ap ly fo a license under natu e conservat on legisla ion in order to pro ee .

4. Consi er s rround ng rope ties and h us hol s.

Talk t adja ent land owne s a d ma e them wa e o t e i vas ve pla t pecies i sue and wh t ou p an to do. It may not lways be p ssib e but attemp to ge t eir sup ort. Control prog amm s wil have a hi her c ance of s cc ss ith su por from he loc l c mmunit . aise awaren ss of the ssu s and en ure ale ts are laced in appropriate media e g. the Invasiv Spe ies Irel nd website In a diti n, working in p rtne ship with a jacent landowner wil help to protect your si e from u ure re-int oductions fr m adjacent la d.

5. Consid r w ether a spec ali t cont actor is eed d.

Decide w ethe y u an successfu ly and safel car y o t the ma agement ork or if professio al con ractors, ith the r levant training and qualifica ion , should nd rta e th work. If pprop iate, consi er whether th exec ti n of he work p og amme can b coor inated ith ol ntary cl bs r local societies to ga n their help/ upp rt and t increa e th u derstandi g of in asive sp cies issues For example, species such as Himalayan balsam could be hand pulled by

volunteers whereas species which require herbicide treatment, such as Japanese knotweed, may require a professional.

6. Safe handling and disposal.

To reduce the spread of the invasive species, it may be necessary to set up cordoned off areas/ exclusion zones to stop people entering these areas whilst treatment is ongoing. The following may be appropriate for your site: marking out of contaminated areas; ensuring that vehicles do not work within contaminated areas; ensuring that soils from within infested areas are not spread to other areas; treating contaminated soils carefully; and if works are required within infested areas all machinery and equipment should be thoroughly cleaned to ensure infected soils are not spread to other areas of the site or off site. Works should be planned to avoid double handling of materials as far as possible to reduce the risk of spread. If wastes are being transported off site, ensure that they are appropriately transported by a licensed waste carrier who is informed that the waste material contains an invasive species as part of the waste transfer documentation. It is advisable to contact the licensed landfill site in advance to ensure they will accept the waste material. Failure to inform the landfill site that the material contains an invasive species would be an offence under both wildlife and waste legislation.

7. Health and safety legislation and procedures.

All planned works should be carried out in line with relevant health and safety legislation and procedures. In particular, all staff should be aware of the particular health issues related with giant hogweed if working in proximity to this plant.

8. Resourcing.

Identify all of the resources that will be required to complete the planned management works in the anticipated timescales. Ensure that all of these resources are available when the works are being carried out; if necessary these should be ‘dedicated’ for the duration in order that the works can be undertaken swiftly and efficiently. This will reduce the risk of spread to other parts of the site. If the works will take more than one year, ensure you have sufficient funds to complete the programme in future years or that efforts will be put in place to obtain appropriate funds.

9. Monitoring.

Regular monitoring should be undertaken to identify follow up works required for any missed plants, late germinating seeds, reintroduction or any newly arrived invasive species.

10. Staff awareness of invasive species.

All members of staff should be made aware of the presence of invasive species on site; this should include how to identify them, where they are located, how they are being dealt with, how they are spread, any biosecurity measures they should implement and who to report additional sightings to. Also ensure that new members of staff are provided with the same information during site induction.

Appendix E. Tree and Hedgerow Protection Guidance

Introduction

Background to this note

This note provides details of work / management procedures that will be followed during the construction phase of the proposed re-development in order to ensure the continuity of amenity afforded by existing trees and hedgerows and to mitigate the environmental effects of the proposal.

Note that landscape works will be undertaken by an ALCI approved landscape contractor and in accordance with BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces). Any trees or shrubs dying, damaged or removed will be replaced in the following planting session with plant of similar size and species. Trees supply, and planting shall correspond to BS 8545 Trees: from nursery to independence in the landscape - Recommendations.

The site will be landscaped as agreed in the Landscape Plan. These works will include amenity planting, structure planting, garden trees, hedgerows and buffer woodlands, as well as the augmentation of boundary hedgerows, open space development and avenue tree planting. Hoarding and fencing to screen views will also be used as required.

The management of all areas will initially be undertaken by an ACLI approved landscape contractor with the developer remaining as client for duration of their contract. After 12 months the maintenance will be handed over to the long-term Management Company who will take over maintenance of set areas on completion of the development. There will be a five-year guarantee after construction that all the proposed planting works still exists and has established in line with landscape design expectations. This will ensure that no planting has been removed or damaged due to the subsequent construction or plant failure. The long-term management will also include the management of any colonising scrub.

The following recommendations are based upon guidelines contained within The National Joint Utilities Group – Guidelines for the Planning Installation and Maintenance of Utility Services in proximity to trees, 'BS 5837:2005 Trees in relation to construction – Recommendations' (although withdrawn aspects relating to tree protection fencing etc are still noteworthy), 'BS 5837:2012 Guide for Trees in Relation to Construction' and 'BS3998:1989 Recommendations for Tree Work' and are provided for guidance / information only. Precise details of planting (type, location etc) are set out in the Landscape Management and Maintenance Plan which accompanies the application, and which set out the objectives for management of external spaces for a 20-year period in accordance with a Section 76 Planning Agreement to be entered into between the developer and the Council.

References in this note are made to Department for Agriculture and Rural Development (DARD). This department has been superseded by DAERA, but it is considered that the advice is still applicable.

Hedgerow Protection & Replacement

In specific reference to hedgerows, during the construction phase, there will be a requirement that no plant, material or spoil is stored directly against a hedge. Similarly, careful consideration will be given to the location of site offices, areas of hard standing, or other features to ensure that there is no potential to damage a hedgerow or compact the soil around it.

It is recommended that planting of new hedgerow plants takes place during periods of mild, dry weather between October and March, with planting avoided in very wet or frosty weather.

The following details on species mix etc. should also be followed in the case of river bankside vegetation that may need to be removed as part of the project.

A mixture of native species of local provenance must be planted and it is noted that single species hedges, beech or hawthorn are not acceptable.

It is considered that a suitable mix of species and planting technique for the replanted hedgerows would reflect the species mix suggested under Northern Ireland agri-environment schemes. The DARD Agri-Environment Scheme Management Plan suggested the following in relation to hedge planting and is considered still applicable:

- Careful site preparation is essential. On grassy sites, spray off a one metre wide strip with glyphosate about 4 weeks prior to planting. Dig or cultivate a trench 300mm deep and 600mm wide. When planting on a bank, plant at the base of the bank to avoid the plants suffering drought.
- Where a new hedge is to be planted on the site of an old hedge, add some well-rotted farmyard manure into the bottom of the trench.
- A suggested species mix for a new hedge is 75% hawthorn and 25% mix of other native species such as blackthorn, holly, hazel, guelder rose, dog rose and willow or beech. There should be at least 5 native woody species in each 30-metre length of hedge.
- Hedging plants should have a minimum root collar diameter (measured at the base of the stem) of 6mm, a minimum height of 40-60cm with a healthy fibrous root system. Hedging plants may be either bare rooted or cell grown.
- Hedgerow trees (in the form of whips) must be planted along the length of the hedge, placed 10-15 metres apart, avoiding regular spacing of the trees. Suitable tree species include oak, rowan, whitebeam, birch, alder, willow, crab apple and wild cherry. Do not plant beech, horse chestnut, lime or sycamore as these will shade out the hedge.
- For gaps that are greater than 2 metres a double, staggered row must be planted with 25-30cm between plants and 30 cm between rows. This works out at approximately 8 plants per metre.
- The hedgerow plants must be stored carefully as they will dry out and die very quickly if the roots are exposed to wind. The plants should never be stored in water.
- When planting, the soil should be worked in and around the roots carefully and firm the plants into the ground at the same depth as they were in the nursery (marked by a ring around the bark).
- Prune newly planted hedge plants to 10 – 15cm immediately after planting to encourage buds to break from the base and produce thick dense growth (not on hedgerow trees).
- Hedgerows must be fenced off from livestock and rabbits. A minimum width of 2 metres must be left between fence lines to prevent cattle from reaching over and grazing the hedge. See below for further details on protective fencing.
- Water thoroughly in prolonged periods of dry weather during the first summer after planting and replace any dead plants at the end of the first year.

Replanted Hedgerow Protective Fencing

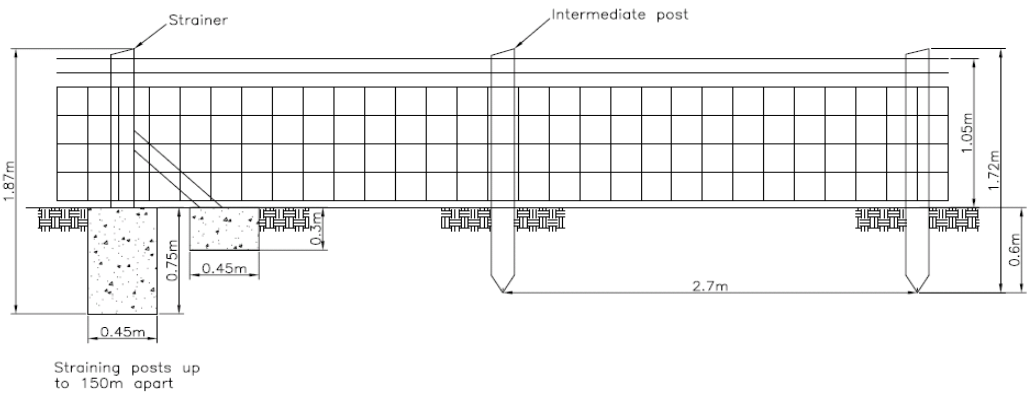
As noted in guidance produced by DARD (in relation to Environmentally Sensitive Areas Scheme and Countryside Management Schemes), properly erected fences are required to adequately protect newly planted sections of hedgerow. Fencing should be on both sides of the hedgerow (unless one side is along a road verge in which case this side should be left free).

The fencing needs to be completed to at least BS 1722-14:2006 (or equivalent applicable at time of construction) standard. The following provides a summary of the guidance contained within this standard (as summarised in the guidance produced by DARD). Full reference to this standard will be made as part of the contract documentation.

- The overall height of the fence shall not be less than 1.05m high from ground level to the top wire.
- Straining posts shall be equivalent in strength or durability to 125mm top diameter round timber or 125mm by 125mm sawn timber and at least 2.17m long when not in concrete (as will be the case on this project, where possible), or 1.87 long when in concrete.

- Straining posts shall be at centres not exceeding 150m or at each change in direction or gradient.
- Holes for straining posts shall be excavated with vertical sides and the soil shall be thoroughly rammed back around the post in 150mm layers. The holes should be not less than 1050mm deep.
- The top end of the strut shall fit into a notch in the straining post and the bottom end shall be set in a hole at least 450mm deep x 300 x 450mm and bear against a suitable base plate. Struts shall be set at 45° to the straining post. Struts shall be equivalent in strength and durability to 65mm top diameter round timber or 75mm x 75mm sawn timber and at least 2.17m long when not set in concrete.
- Intermediate posts shall be equivalent in strength and durability to 65mm top diameter round timber or 75mm x 75mm sawn timber and at least 1.72m long and set at centres not exceeding 2.7m
- If cleft (split) posts are used, these must be of sufficient size to contain a circle of at least 65mm diameter on top, for example, a half-round post must be at least 130mm on the flat side.
- All posts shall be free of bark
- Both line wire and woven wire shall be galvanised and comply with BS4102. Line wire shall normally be 2.5mm mild steel 2 ply barbed wire. The wire shall be properly strained and fastened to the posts with galvanised staples. To allow for future adjustments and to prevent damage to the galvanising, staples shall be driven in obliquely but not fully home.
- Fencing must be woven wire plus two strands of barbed wire (regardless of the presence or absence of sheep). Specifications for the woven wire are C8/80/30 for cattle, horses and sheep or C8/80/15 for lambs with two strands of barbed wire to BS 4102. Use of green coated wire is optional. Both strands of barbed wire may be above the woven sheep wire.
- If rabbits and hares are a problem in the vicinity the fence must be proofed against them. Proofing against rabbits must be carried out with galvanised wire netting. The netting must not be less than 1.05m wide and have mesh no larger than 31mm. The top edge of the netting must be fixed not less than 0.75m in height. The netting must be fastened to the fencing and the bottom edge of the fencing should be buried in the ground 150mm and then turned outward 150mm and anchored. All gates in protective fencing must also be proofed.

The following figure provides a visual representation of the above points and is based on a diagram contained within the DARD guidance.



Hedgerow Protective Fencing

Replanted Hedgerow Maintenance

Newly replanted hedges will suffer severe damage or complete destruction if weeds are not properly controlled during the first few years after planting. Weed control can be achieved by the following (as above the following follows guidance provided by DARD):

- Polythene sheeting
- Mulches
- Herbicides

Polythene sheeting

Black polythene sheeting is the most effective methodology, with the most effective results coming from the use of 200-gauge sheeting. A 1m wide strip is ideal for this use and is best laid after planting thorn quicks and other species that can be coppiced, but before planting hedgerow trees.

After planting at the recommended spacing, use secateurs to prune hawthorn, blackthorn, hazel, guelder rose etc at 10 – 15cm above ground level. Cut at a steep angle, preferably a few millimetres above a bud.

Lay the polythene over the pruned stems and push downwards – the stems will pierce the polythene. Place some loose gravel here and there to hold the polythene in place until planting is completed.

Plant hedgerow trees by making two short cuts in the polythene in the shape of an X and folding back the flaps of polythene. Dig a suitable hole in the exposed soil, plant the whip and replace the flaps.

Finally cover the polythene completely with 30-40mm of ‘clean’ quarry waste or other inert heavy material.

Polythene laid in this manner will give good weed control provided weeds and creeping grasses are not allowed to spread across the polythene from the sides. Sites should be inspected several times a year for the first 3-4 years and any weed encroachment dealt with immediately.

Mulches

Mulches help to conserve moisture and suppress annual weed growth. However, they do not suppress perennial weeds such as thistle or docks and are thus ineffective where these weeds are a problem. Suitable mulching materials include bark chips, spent mushroom compost and chopped straw.

Ideally spray the area to be planted with glysophate 2-4 weeks before planting. The sprayed area and the mulch must extend 300mm beyond the width of the hedge along both sides. Organic mulches must be 10-15cm deep to prevent weed germination, but the mulch must not be allowed to smother the stems of the quicks. Apply the mulch as soon as possible after planting.

As with polythene, site inspections should be held several times a year for the first 3-4 years and any weed encroachment dealt with immediately.

Herbicides

Herbicides approved for use along hedges are available in either liquid or granular form. Granular types are particularly easy to apply, there is no risk of drift and spray equipment is not needed. Liquid herbicides can be applied using a knapsack sprayer.

Prior to their use, a check will be made by the appointed contractor with DARD for the latest recommended list of approved herbicide types and the use of herbicides will only take place with close adherence to the manufacturer's instructions.

Tree Protection

Issues included within this guidance document are as follows:

- Timing and Phasing of the Approved Tree Work Specification.
- Tree Protection Plan (TPP) & Tree Protection Zones (TPZ).
- Specification for surface changes.
- Specification for level changes.
- Trenching.
- Location of bonfires.
- Use of chemicals and fuels.
- Contingency Plans (emergency access to the TPZ)
- Post construction landscaping near trees.

Timing and phasing of the Approved Tree Work Specification

Please note that it is anticipated that no tree work will be needed as part of the main construction works, except in the case of emergencies, as it is anticipated that any trees requiring removal will be removed prior to main construction works beginning. No work on trees will take place when the trees are very wet, covered in ice or snow, or during storms or high winds. In emergencies, work will be the minimum required to make the situation safe. All necessary safety precautions will be taken at all times – bearing in mind the requirements of (but not limited to) to relevant health and safety standards prevailing at that time.

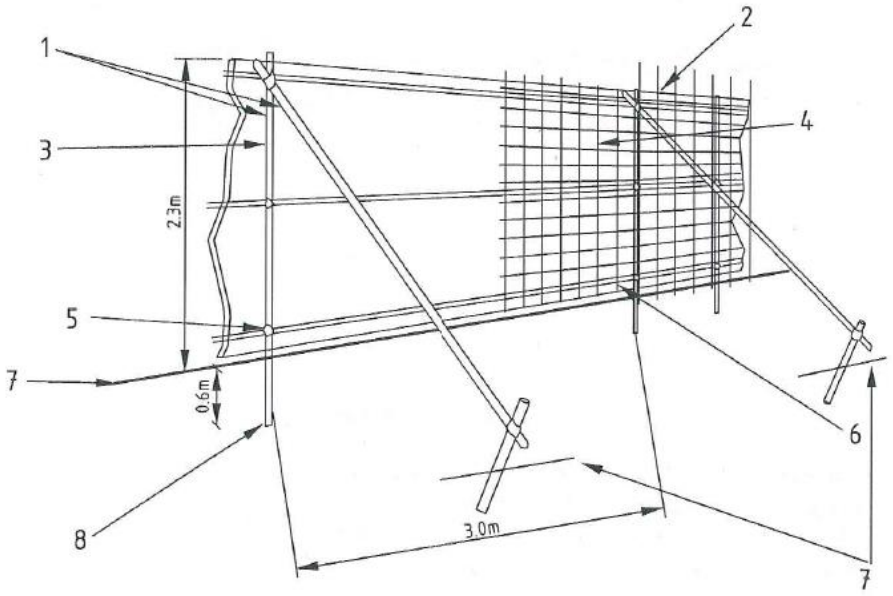
Tree Protection Plan (TPP) & Tree Protection Zones (TPZ)

Prior to construction, an arboriculturalist will produce a Tree Protection Plan (TPP) in accordance with BS 5837:2012. This TPP will contain the following:

- Trees selected for retention will be clearly identified and marked on a plan with a continuous outline
- Trees to be removed will also be clearly identified and marked on a plan with a dashed outline
- The precise location for erection of protective barriers (to form Tree Protection Zones – TPZ) will be detailed on a plan.

The TPZ will be rigorously adhered to at all stages of construction and will be regarded as sacrosanct for the duration of the works and / or any potential threat to the protected trees.

The TPZ will be delineated by the erection of Protective Barriers that conform with BS 5837:2005. These protective measures will be installed as part of the enabling works and shall be maintained throughout the construction phase of the project by the contractor. The details of this protective fencing are as follows (figure taken from BS 5837:2005):



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6 m driven into the ground

Tree Protection Zone – Protective Barrier (as taken from BS 5837:2005)

Within the fenced area no activities associated with construction activities will take place. The ground levels within those areas shall not be altered. The fenced area shall also be free of the storage of materials or temporary structures and no concrete mixing shall be carried out and no material likely to be injurious to a tree shall be stacked or discharged within 10m from a tree. On sloping sites storage of such materials shall be located where there is no risk of contamination of the protected area through flow of material down the slope. No fire shall be lit within 10m from the outside of the crown spread to trees to be retained. All means of protection shall be in situ and regularly maintained for the duration of the development.

Specification for surface changes

All specifications for surfacing will be in accordance with ‘BS 5837:2012 Guide for trees in relation to construction' and BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces) as required. Aspects to be considered include the use of the following:

- Washed Gravel
- Paving Slabs and Block Pavers
- In-situ concrete
- Bitumen Paving and edge supports

In general, if a hard surface is proposed above the granular material, a permeable and gas-porous finished surface (wearing course) shall be installed. It should be noted that in some situations it may be worth constructing the final surface prior to the main building works, so as to provide protection for the roots at subsequent stages (with perhaps a temporary covering to protect the final surface from damage during construction works).

In general, soft surface finishes around trees are to be preferred as there is less likelihood of damage to trees by construction and there is provision for adequate penetration of water and air into the soil. Aspects to be considered in relation to soft surfaces around trees include:

- Avoidance and remediation of compaction

- Herbicides
- Planting and ground cover
- Use of mulch

Tractor mounted rotivation or other heavy mechanical cultivation will not occur in the Tree Protection Zone. Any cultivation in the TPZ will be undertaken by hand or pedestrian controlled light machinery to minimize damage to trees, particularly the roots.

Specification for level changes

Tree roots develop in the soil at a level where oxygen and moisture are available in appropriate concentrations and as such, the response of trees to ground level changes can vary considerably depending upon species, age, health and position of the tree as well as the nature of the soil. As there are so many variables it is not possible to predict with any certainty the effect of any soil level change on a particular tree.

Ideally therefore, changes to ground level within Tree Protection Zones will be avoided. If it is necessary, then the advice of an experienced arboriculturalist will be sought and they will make a recommendation based on consideration of all factors.

In particular, compaction to soil around trees should not occur and there will be no vehicle or plant access within the Tree Protection Zone. If compaction does occur, then advice will be taken from an arboriculturalist in relation to de-compaction measures such as forking, spiking, subsoil replacement or subsoil aeration.

Trenching

Although it is the intention that no services will be placed within any Tree Protection Zone, it is worth noting the measures that should be taken if this issue were ever to arise.

Special care will be taken into the siting of underground services as trenching can sever roots and change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care must be taken in the routeing of underground services (similarly consideration should be given to the routeing of above ground services in order to avoid the need for detrimental and repetitive pruning – taking into account current and future crown size).

Excavation of open trenches by machine within the Tree Protection Zone will not be permitted. Where possible trenchless techniques shall be used, with the pit excavations for starting and receiving the machinery located outside the Tree Protection Zone. In order to avoid damage by the mechanical mole, the depth should be below 600mm and the mole should be lubricated with water, unless it is possible to ensure there will be no contamination of the soil within 600mm of the surface of the TPZ.

If it is necessary to dig a trench (broken or continuous), the objective shall be to protect and retain as many roots as possible and as such, the trench shall be dug by hand, bearing in mind the need for working space, access to the service in question or the room to install the new service. Advice on the best methodology and route in the TPZ should be sought from an experienced arboriculturalist – for example it can often be the case that a narrow trench leading directly toward a tree to a distance not closer than 1m from the trunk, with a tunnel directly beneath the tree (at greater than 750mm depth) and exit on the opposite side of the tree can reduce the amount of root severance.

Hand digging needs to be taken with great care and should proceed with hand tools. All roots greater than 25mm diameter shall be retained and worked around. Where clumps of smaller roots (including fibrous roots) are found these shall also be retained. Damage to retained roots (including the bark around these) shall be avoided as much as possible. Advice from an arboriculturalist shall be sought if roots greater than 25mm are to be severed. If this is necessary, then a sharp tool (e.g. handsaw, secateurs) shall be used to leave as small a wound as possible.

Where an area of trench work (or other excavation) is to be left open for an extended period of time or overnight, the exposed roots shall be covered with dry, clean hessian sacking to protect from rapid temperature changes. During summer months wet hessian sacking shall be used to avoid desiccation of roots. The sacking shall remain in place and only be removed just before backfilling commences.

Backfilling should be carried out to avoid direct damage to the retained roots and excessive compaction of the soil around them. In road work areas, ideally inert granular material mixed with top soil or sharp sand shall be placed around the roots. This should help create a local aerated zone around the root enabling it to survive. In areas outside road works, the excavated soil shall be used in the backfill, with this being lightly 'tamped' so as to protrude slightly proud of the surrounding surface to allow natural settlement. Other materials shall not be incorporated into the backfill.

Location of bonfires

All waste material will be disposed of in an appropriate manner to a licensed facility, with no burning of any material taking place on site. Therefore, there is no issue in relation to the burning of materials in proximity to trees.

Use of chemicals and fuels

In relation to the potential for damage to trees by the storage and use of any chemicals on site, suitable precautions will be taken in this matter. Chemical damage to trees can be avoided if the presence of trees on adjacent land is recognised when planning any work involving herbicides or other chemicals. Appropriate chemicals shall be selected for the task – for example particular care shall be taken when selecting herbicides as these can often damage roots, even when not labelled as such. All chemicals shall be applied only at the rate and in the manner recommended by the manufacturer. It should also be noted that there are often other methodologies that can be used other than the use of chemicals and these will be considered when appropriate.

Storage of chemicals (including fuels and other hydrocarbons) will only be in appropriate containers as detailed by the chemical manufacturer, with all tanks or drums of fuel, oil, grease, chemicals and all other hazardous material being kept in a secure, bunded area. Any spillages or leaks will be dealt with promptly and all waste disposed of in an appropriate manner. All tanks, drums and other containers will be clearly marked as to their contents and are only ever to contain the substance for which the tank was designed or supplied.

All re-fuelling of plant will take place in an appropriate area i.e. preferably one that has an impervious base and is bunded or provided with interceptor drains. A spill kit will be kept on site and all bowsers are to be double skinned or have a bund. Vehicles and equipment will never be left unattended during re-fuelling.

All pumps, generators and similarly fuelled equipment will be placed on drip trays or in a bunded area.

All valves, hoses and associated re-fuelling equipment will be regularly inspected to ensure that they are still in a suitable condition. This equipment is to be protected from vandalism and unauthorised interference and should be turned off and securely locked when not in use.

All bunds or interceptors will be adequate for the amount of spillage that could happen in a worst-case scenario and will be designed to applicable standards. All bunds will have a capacity of at least 110% of the tank volume.

All staff who are involved in fuel handling will be given training in the correct procedures for handling this and other potentially polluting material in an appropriate manner.

Contingency Plans (emergency access to the TPZ)

Health and Safety of construction workers, all site visitors and members of the public, will take precedence over all other considerations. As such there may be a need for emergency access to the

Tree Protection Zones for emergency workers and their vehicles. If it is considered necessary to enter a Tree Protection Zone by the Officer in charge of the emergency response team, or any other person designated as responsible, then access will be granted.

If a permanent (or temporary to the construction phase only) emergency access route is required to cross a TPZ to access a part of the site and this is identified in advance of an emergency, then suitable ground protection will be provided. This may involve protection to be designed by an engineer to accommodate the likely loading and may involve the use of proprietary systems or reinforced concrete slabs.

For pedestrian movements within the TPZ, the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile or supported by a scaffold will be provided.

Post construction landscaping near trees.

Post construction landscaping that is to take place in proximity to trees will take note of the procedures and methodologies outlined above. In particular, note will be made of the requirements in relation to the ground level, potential for compaction, types of surface and the use of chemicals. Consideration will also be given to the potential future growth of trees and this will take be taken into account in the landscaping design.

In the case of retained trees needing pruning or tree surgery (including issues such as removal of branches, crown reduction and / or reshaping), will be carried out in accordance with the relevant standard prevailing at that time and further advice will be sought from an experienced arboriculturalist.

Appendix F. Example Guidance Notes

F.1 Sediment in Water

Sedi en in water

What is he p oblem?

The e is a pote tia threat that any c ns ru tion w rks in or n ar wate cou se can pset the natura s dime t balance of that watercourse.

Sediment covers all-natural river bed substrate from fine silts and sands up to larg Boulders. Water car ies s dimen downstream radual y ov r tim , p rticula ly du ing hig f ows and flo ds Larg v lumes f s diment can be m ved in f oo s and depos ted a a l catio on a te porary asis then move al ng t anot er location during the next flood event.





Water naturally erodes sediment from the bed and banks of rivers and transports it downstream through the catchment, depositing it in areas of 'lower energy' e.g. where the flow is slower, and areas of land are flatter, such as flood plains and the inside of meander bends, resulting in features including gravel bars and islands

Sediment plays an important role in the ecology of a river as river flows, especially high flows, continually move and sort river sediments into features such as pools, riffles, bars and islands creating a range of habitats important for plants and animals.

However, inappropriate sediment management can lead to a number of problems – both from too much sediment, or too little!

Sediment Removal	Sediment Deposition

• Impact on ecology
  ○ Direct loss of species / habitat
• Reduction in sediment supply downstream (sediment starvation)
• River Instability
• Increased flood risk downstream
	• Impact on ecology
	  ○ Smothering of species / habitat such as Freshwater Pearl Mussel
	• Increased flood risk downstream

Activities that can lead to inappropriate sediment management

- Working in, over, under or beside a river
- Storing of sediment adjacent to a watercourse
- De-watering and pumping excavations
- Inappropriate sizing of settlement lagoons
- Runoff from exposed ground e.g. site roads
- Plant washing

What to do?

It is Best Practice to try and prevent sediment getting into the watercourse in the first place! Avoid work in-river when possible and use 'Good Practice' techniques such as settlement tanks, lagoons, soakaways etc. to remove sediment when pumping from excavations and so on.

If required, develop a sediment management plan and **always** follow the guidance in **PPG5 Works or Maintenance in or near water** produced by DAERA Northern Ireland Environment Agency (NIEA).

In an emergency contact the Water Pollution Hotline on 0800 80 70 60

F.2 Archaeological Finds

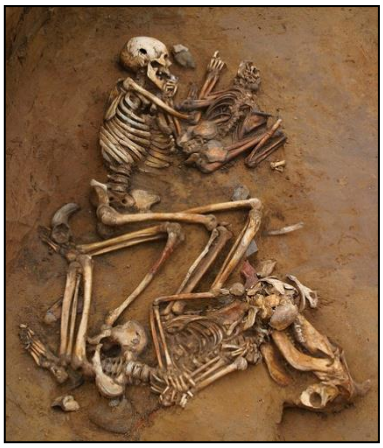
Archaeological finds

What is the problem?

Our archaeological heritage is a finite resource which requires effective care so that it may be enjoyed today and passed on to future generations.

Continuing development of new housing, roads and infrastructure, including water mains can threaten our archaeological sites and monuments.

Unknown archaeological features
Due to the nature of archaeology, in spite of the best research, there may be occasions when the presence of archaeological remains only becomes apparent when construction works begin on site.



Signs to look out for include burned or blackened material, brick or tile fragments, coins, pottery, skeletons, foundations etc.

At all times, it should be noted that in the event of a discovery, time may be required for a proper archaeological investigation prior to work on site recommencing. **Known archaeological features**
If any work is to take place in an area that could result in a direct or indirect impact on a known feature of archaeological heritage e.g. a standing stone, rath etc. then discussions should be held with NIEA. For example, under the Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995, it is an offence to carry out the following works to a scheduled monument without consent:

- any works resulting in the demolition, destruction or disturbance of, or any damage to, a scheduled monument
- any works for the purpose of removing or repairing a scheduled monument or any part of it or of making any alterations or additions thereto
- any flooding or tipping operations on land in, on or under which there is a scheduled monument

What to do?

All people working on site should note that, they are obliged under The Historic Monuments and Archaeological Objects (NI) Order 1995 to report any archaeological objects which are revealed on site. Further, a Northern Ireland Environment Agency (NIEA) Inspector has a right of entry to investigate a site if there is good reason to believe that it contains archaeological remains, whether or not they were previously known or have been reported.

In the event of the unexpected discovery of human remains, there is a requirement on the Contractor to inform the PSNI and the Coroner.



In the event of a find contact the Department of Communities Historic Environment Division on 028 9082 9000

Appendix G. Habitat Regulations Assessment

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