THE BURROW CFERM SCHEME

Outline Construction Environmental Management Plan (oCEMP)

The Burrow CFERM Scheme
oCEMP

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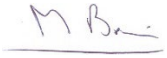
Malcolm Brian  1 September 2025

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1 INTRODUCTION

1.1 Objectives

This document comprises an outline Construction Environmental Management Plan (oCEMP) for the Proposed Development. It is a 'live' document and should be updated as the project progresses, including incorporating the requirements of any conditions attached to statutory consents granted in respect of the Proposed Development. This oCEMP sets out the **minimum requirements** which will be adhered to during the construction phase of the Proposed Development. Fingal County Council (FCC) will seek to achieve the highest possible standards of environmental management during both the construction and operation of the Proposed Development.

The oCEMP comprises two main sections:

Summary of Mitigation Measures (Chapter 2)

All mitigation measures and monitoring requirements proposed within the Environmental Impact Assessment Report (EIAR) and the Natura Impact Statement (NIS) are contained in this Section. The requirements of conditions attached to statutory consents granted in respect of the Proposed Development, including the Marine Area Consent, will be inserted post consent. This part of the oCEMP will form part of the Contract Documents for the construction stage to ensure that the appointed Contractor undertakes the works required to implement the mitigation measures.

Management of Environmental Impact (Chapter 3)

The objective of this part of the oCEMP is to draft a suite of Construction Phase Management Plans which will be finalised upon the grant of development consents. The content of these Management Plans is presented in draft form in the application documentation and will be finalised through discussion and agreement of FCC and other environmental stakeholders.

2 SUMMARY OF MITIGATION MEASURES

2.1 Mitigation Measures arising from the EIAR

The EIAR assesses the likely significant impacts arising from the Proposed Development. Integration of the engineering design team with the planning and environmental team from an early stage in the Project has enabled mitigation by design to be used, causing many likely significant impacts to be eliminated or reduced to an acceptable level during the preliminary design stage. Table 2.1 summarises the mitigation measures and monitoring recommended within the EIAR. All mitigation measures proposed within the NIS have been captured by the EIAR.

Table 2.1: Mitigation measures and monitoring recommended within the EIAR

Potential effects	Summary of Proposed Mitigation
Chapter 6: Coastal Processes	
Health and safety issues working near water	• Works associated with the construction of the fishtail groynes should be undertaken at exposed low tides using land based plant, therefore negating the need to work within the water column. • The successful contractor should develop a robust plan to monitor tides and storm events during the construction of the Proposed Scheme. This should also include an action plan for responding to storm events and/or extreme tide events.
Potential for increased suspended sediments within water column during beach re-nourishment phase of works	• Beach re-nourishment should only occur following the construction of the fishtail groynes. This will reduce the potential dispersion of sediments to the wider marine environment. • Future maintenance beach re-nourishment campaigns should be undertaken subject to the same mitigation measure as above.
Chapter 7: Noise and vibration	
Increased noise from construction activities	• Standard practice measures outlined in BS5228:2009+A1:2014 will be applied by the contractor where appropriate during the construction phase of the Proposed Development. This should include the following specific measures: • Ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order. • Careful selection of quiet plant and machinery to undertake the required work where available. • Machines in intermittent use will be shut down in the intervening periods between work. • Ancillary plant such as generators, compressors and pumps will be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines will be placed away from sensitive locations, in order to cause minimum noise disturbance. Where possible, in potentially sensitive areas, temporary construction barriers or enclosures will be utilised

Potential effects	Summary of Proposed Mitigation
	around noisy plant and equipment. • Handling of all materials will take place in a manner which minimises noise emissions. • Audible warning systems will be switched to the minimum setting required by the Health & Safety Authority. • The successful contractor should develop a Noise Management Plan. • The contractor will agree standard construction working hours with FCC and local residents group. • Construction noise monitoring will be undertaken as part of noise control planning at nearby sensitive receptors. • Pre-construction structural surveys and vibration monitoring at the closest properties will be carried out during the construction phase.
Chapter 8: Flood Risk	
Potential for coastal waters to interact with construction phase works	• The appointed contractor will be responsible for the design of temporary works to ensure temporary flood protection are stable and avoids seepage. • Met Éireann provide a weather warnings alert service which is available on the Met Éireann app or through its website. These warnings should be used by the contractor during construction to manage the risk of flooding to the works from extreme events.
Chapter 9: Water Quality	
Potential for construction phases to impact water quality	• Mitigation measures will be implemented by the contractor and will include the requirements for best practice and adherence to the following relevant Irish guidelines and recognised international guidelines: ○ Good practice guidelines on the: Control of Water Pollution from Construction Sites: developed by the Construction Industry Research and Information Association (Technical Guidance C532 CIRIA, 2001). ○ Technical Guidance C648: Control of Water Pollution from Linear Construction Projects, (CIRIA, 2006). ○ Netregs Guidance for Pollution Prevention series (GPP), Pollution prevention guidelines (PPGs) in relation to a variety of activities developed by the Environment Agency (EA), the Scottish Environmental Agency (SEPA) and the Northern Ireland Environment Agency (NIEA). ○ Guidelines on Protection of Fisheries During Constructions Works in and Adjacent to Waters (Inland Fisheries Ireland (2016).
There is the potential for increased suspended sediment during the construction works, particularly during the beach re-nourishment works.	• In addition to the requirements of best practice and relevant guidelines listed in the Netregs Guidelines for Pollution Prevention (GPP), the appointed contractor will implement the following sediment control measures where necessary: ○ Where preferential surface flow paths occur, silt fencing or other suitable barriers will be used to ensure silt laden or contaminated surface runoff from the site does not discharge directly to a water body or surface water drain.

Potential effects	Summary of Proposed Mitigation
	○ In the event that dewatering of foundations or drainage trenches is required during construction and/or discharge of surface water from sumps, a treatment system prior to the discharge will be used; silt traps, settlement skips etc. This measure will allow additional settlement of any suspended solids within storm water arising from the construction areas.
There is the potential for cement and concrete pollution during construction works	• Concrete use and production shall adhere to control measures outlined in Guidance for Pollution Prevention (GPP5): Works and maintenance in or near water.
There is potential for accidental oil/ fuel spillages on site due to increased vessel presence and associated fuel storage	• A detailed works specific Construction Environmental Management Plan (CEMP) will be prepared by the appointed contractor. ○ Management and auditing procedures, including tool box talks to personnel, will be put in place to ensure that any works which have the potential to impact on the aquatic environment are being carried out in accordance with required permits, licences, certificates and planning permissions. ○ Existing and proposed surface water drainage and discharge points will be mapped on the Drainage layout. These will be noted on construction site plans and protected accordingly to ensure water bodies are not impacted from sediment and other pollutants using measures to intercept the pathway for such pollutants. ○ The use of oils and chemicals on-site requires significant care and attention. The following procedures will be followed to reduce the potential risk from oils and chemicals. ○ Fuel, oil and chemical storage will be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of adequate capacity. The control measures in GPP2: Above Ground Oil Storage Tanks and PPG 26 “Safe storage – drums and intermediate bulk containers” will be implemented to ensure safe storage of oils and chemical. ○ The safe operation of refuelling activities shall be in accordance with PPG 7 “Safe Storage – The safe operation of refuelling facilities”. • Contingency Planning: A project specific Pollution Incident Response Plan will be prepared by the contractor consistent and will be in accordance with PPG 21 Pollution Incident Response Planning. Whilst a major incident is highly unlikely to occur in circumstances where the mitigation measures are implemented, the finalisation of the draft CEMP is considered to be best practice. The contractor's Environmental Manager will be notified in a timely manner of all incidents where there has been a breach in agreed environmental management procedures. Suitable training will be provided by the contractor to relevant personnel detailed within the Pollution Incident Response Plan to ensure that appropriate and timely actions is taken.
Chapter 10: Soils, Geology and Contamination	
• No mitigation measures have been proposed based on the significance of the anticipated effects on receptors. Best practice would be included in the CEMP as a precaution regarding the discovery of unknown waste (i.e. potential contamination).	

Potential effects	Summary of Proposed Mitigation
Chapter 11: Cultural Heritage and Marine Archaeology	

Construction works have the potential to adversely impact sites of cultural heritage interest	Prior to construction works commencing, an archaeological photographic record survey of the concrete retaining wall on Marsh Lane should be completed, to provide a permanent record of the wall before it is demolished. During construction, a contractor will implement the following mitigation measures:
	• Fencing will be erected at DU008-028 and DU008-029 prior to construction proceeding to ensure that no impacts, direct or indirect, occur at the protected sites. The fencing should be located at least 5m away from the known perimeter of both sites.
	• Archaeological monitoring will be carried out by suitably qualified and experienced maritime archaeological personnel licensed by DHLGH. Archaeological monitoring is conducted during all terrestrial, inter-tidal/foreshore and seabed disturbances associated with the development.
	• The monitoring will be undertaken in a safe working environment that will facilitate archaeological observation and the retrieval of objects that may be observed and that require consideration during the course of the works.
	• The monitoring will include a finds retrieval strategy that complies with the requirements of the National Museum of Ireland.
	• The time scale for the construction phase will be made available to the archaeologist, with information on where and when ground disturbances will take place.
	• In the event of archaeologically significant features or material being uncovered during the construction phase, machine work will cease in the immediate area to allow the archaeologist/s to inspect any such material.
	• Once the presence of archaeologically significant material is established, full archaeological recording of such material will be recommended. If it is not possible for the construction works to avoid the material, full excavation will be recommended. The extent and duration of excavation will be a matter for discussion between the client and the licensing authorities.
	• It is recommended that the core of a suitable archaeological team be on standby to deal with any such rescue excavation. This would be complemented in the event of a full excavation.
	• Impacts on associated features of cultural heritage interest should be avoided. These include:
	  ○ DU008-028, chapel
	  ○ DU008-029, Holy Well
	  ○ ADCO 2, sea wall
	• Should impacts on the above be unavoidable, a full archaeological survey should be conducted prior to impacts and subject to the approval of the NMS at DHLGH, and FCC

Potential effects	Summary of Proposed Mitigation
Chapter 12: Marine Biodiversity	
No mitigation measures have been proposed based on the insignificance of the anticipated effects on marine biodiversity receptors	
Chapter 13: Terrestrial & Coastal Biodiversity	
Indirect effects associated with construction phase of the Proposed Development include those arising through water quality and habitat deterioration effects to intertidal and aquatic habitats through sedimentation and pollution associated with proposed construction activities.	• A range of mitigation measures are to be implemented within the Proposed Development and are set out within Chapter 9: Water Quality, of the EIAR
There is potential to spread of invasive species, namely common cord-grass (spartina) during the construction phase of the Proposed Development	• Construction works should be undertaken inline with a s undertaken in line with an appropriate Invasive Species Management Plan (ISMP)
Potential aerial noise and visual disturbance to bird populations within Rogerstown Estuary SPA	• The construction phase of the Proposed Development will be restricted to taking place outside of the wintering bird period (October to March). • works that require the removal of vegetation including scrub, scattered trees and lengths of non-native hedgerow will take place outside of the nesting bird season (1st March to 31st August inclusive).
Vibrational piling of flood walls may give rise to injury or disturbance to marine mammals	• Works will be undertaken in line with “Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters Noise-producing activities” (NPWS, 2014)
Chapter 14: Traffic and Transportation	
Construction works may result in temporary increase in traffic flows	• The appointed contractor will develop a CEMP to mitigate potential impacts to traffic and transportation. • A Temporary Traffic Management Plan (TTMP) will be developed by the appointed contractor at the detailed design phase to outline the requirements for safety risks for road users, the general public. The TTMP would also specify any construction access requirements for the scheme and traffic management schemes required across the construction phase of the scheme, including details for road closures. • At the preliminary stage, it is assumed that Marsh Lane and Burrow Road would require closures, with local access for residents only during the construction phase. The TTMP would be considered alongside the CEMP to mitigate any potential impacts the site construction phase may have upon the surrounding area, residents and road network.
Chapter 15: Air Quality and Climate	
Vehicle emissions and use of materials has the potential to increase GHG emissions	• As per mitigations described in Chapter 15, a Temporary Traffic Management Plan (TTMP) will be prepared and outline measures to minimise congestion and queuing, reduce distances of deliveries and eliminate unnecessary loads. • Operatives will visually monitor plant to ensure no black smoke is

Potential effects	Summary of Proposed Mitigation
	emitted other than during ignition (emissions to air controlled). • The appointed contractor will ensure exhaust emissions are maintained to comply with the appropriate manufacturer's limits (emissions to air controlled). • Idle times will be reduced by providing an efficient material handling plan that minimizes the waiting time for loads and unloads. • Vehicular engines will be turned off when not in use for more than five minutes. This restriction will be enforced strictly unless the idle function is necessary for security or functionality reasons. • All plant and equipment will undergo regular inspection and maintenance.
Chapter 16: Waste Management	
The Proposed Development has the potential to produce construction and demolition waste (CDW)	• The appointed contractor will develop a CEMP which will include the following specific waste management measures: o Building materials should be chosen with an aim to 'design out waste'. o Control measures and attention to materials quantity requirements to avoid over-ordering and generation of waste materials. o Agreements with materials suppliers to reduce the amount of packaging or to participate in a packaging take-back Scheme. o Implement a 'just in time' materials delivery systems to avoid materials being stockpiled, which increases the risk of the damage and disposal as waste. o Segregation of waste at source where practical. On-site segregation of non-hazardous waste materials into appropriate categories, where possible, including any excavated soils, concrete, bricks, metals and timber. On-site segregation of all hazardous waste materials into appropriate categories including contaminated soils, waste oil and fuels and paints, glues, adhesives and other known hazardous substances. o All waste materials will be stored in skips or other suitable receptacles in designated areas of the site. The waste storage area(s) will be assigned and all construction staff provided with training regarding the waste management procedures on commencement of the project. o Measures to ensure appropriate staff training and levels of awareness in relation to waste management. o Identify how the waste will be dealt with (i.e., disposal, recovery, recycle or re-use onsite or offsite etc.). o Identify potential end markets e.g., reuse, recycling facilities, waste treatment facilities and disposal sites. o Waste streams will be collected by an appropriately licensed and permitted private waste contractor, appointed by the contractor for recycling, recovery or disposal at suitably licensed facilities. o All waste leaving site will be recycled, recovered or reused where possible, with the exception of those waste streams for which appropriate facilities are currently not available.

Potential effects	Summary of Proposed Mitigation
	○ Calculate the difference between expected waste quantities prior to commencement of the project and actual waste quantities after the project is complete. • A site specific pre-construction Resource Waste Management Plan (RWMP) will be prepared by the client and design team in with EPA '*Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects*'. ○ The RWMP will be implemented from the outset of the project and throughout the duration of the project taking into consideration the waste management hierarchy to encourage sustainable development, circular economy, environmental protection and optimum use of resources. • The appointed contractor will consult with the EPA prior to construction to ensure that the appropriate licences, permits and exemptions are in place prior to initiation.
Chapter 17: Material Assets & Land use	
There is a potential for the Proposed Development to impact existing and adjoining land uses	• Good site management practices and procedures will be carried out, including the provision of high-quality hoarding / signage and proactive communications landowners, regarding phasing, timing, and duration of works.
Chapter 18: Landscape & Visual	
It has been judged that the Proposed Development will not result in any significant landscape or visual impacts. It is therefore considered that there are no specific landscape mitigation measures required.	
Chapter 19: Population & Human Health	
On the basis that no significant adverse population and human health effects are identified, no additional population and human health mitigation measures are necessary.	
Chapter 20: Major Accidents & Disasters	
Mitigation measures defined throughout the topic chapters of the EIAR (Chapters 6 – 19), and summarised above, were considered within the Risk of Major Accident and Disasters assessment to assign a risk likelihood to each risk event identified. Given that all risk events are within the low-risk category with existing recommended mitigation and safety procedures, no further mitigation measures have been recommended in this chapter.	

2.2 Conditions on Planning as Specified by An Coimisiún Pleanála

This Section will be populated with any and all additional requirements arising from conditions imposed by An Coimisiún Pleanála (ACP) should the Commission decide to grant development consent for the Proposed Development.

2.3 Conditions on Maritime Area Consent as Specified by MARA

In July 2025, the Maritime Area Regulatory Authority (MARA) determined to grant Fingal County Council a Maritime Area Consent (MAC) as per section 81(3)(b) of the Act for the proposed maritime usage (i.e., the Proposed Development), subject to conditions (MAC20240007).

Section 82 of the Act specifies that MARA may attach to a MAC one or more conditions which fall within the types of conditions specified in Part 1 of Schedule 6 of the Act. All conditions contained in Schedule 6; Part 2 are deemed to be attached to a MAC.

The standard suite of MARA conditions reflecting the contractual and statutory relationship that will exist with a grant of consent were also recommended. A number of additional specific conditions attached to the MAC included:

Condition 10.1 - In the event of a grant of planning permission, the Holder shall 6 weeks prior to the commencement of the development, submit to the Grantor, a public and stakeholder engagement plan. This engagement plan shall ensure it complies with all the relevant planning particulars, and any relevant Best Practice Guidance if available, and shall at a minimum address the following topics;

- Stakeholder Identification;
- Engagement principles;
- Scope of engagement;
- Engagement methods and tools; Engagement Schedule;
- Communication Plan;
- Monitoring and evaluation and adaption of engagement plan;
- Issue management; and
- Documentation and record keeping.

To enable the Grantor to request the Holder to communicate information that the Grantor deems relevant to the public, the engagement plan shall be published, maintained, updated and adhered to, ensuring there is public and stakeholder engagement at the earliest stage possible, and continuing during all phases of the proposed maritime usage for the duration of the MAC term.

Condition 10.2 - Prior to the date by which the application for Development Permission must be submitted in accordance with the requirements of condition 5.1, the Holder shall consult with the holder of Foreshore Authorisation Ref FS006842 in order to ensure that any potential disruption to the Foreshore Authorisation Ref FS006842 is managed. Records of all engagements and consultations held and agreements reached, if any, shall be maintained by the Holder and made available to the Grantor if requested. This is to enable the Grantor to request the Holder to communicate information that that the Grantor deems relevant to the public.

FCC will ensure that contractors, and their subcontractors, are made aware of all conditions in this Consent and of the Development Permission. The Final Determination including the standard suite of MARA conditions and other specific conditions associated with MAC20240007 can be found at https://www.maritimeregulator.ie/our-work/maritime-area-consents/mac-applications-determined/.

3 MANAGEMENT OF ENVIRONMENTAL IMPACT

3.1 Roles and Responsibilities

FCC intends to appoint a Contractor(s) to undertake the works. Mitigation measures set out in the CEMP will form part of the Contract Documents for the construction stage to ensure that the Contractor undertakes the works required to implement the mitigation measures.

FCC will appoint a suitably qualified person to the role of Environmental Clerk of Works (ECoW) to monitor the construction works. The ECoW will provide monthly reports to the members of the Portrane Coastal Liaison Group and work closely with the Contractor's site supervisors to monitor activities and ensure that all relevant environmental legislation is complied with and that the requirements of the CEMP are implemented. The ECoW will have the authority to review method statements, oversee works and instruct action, as appropriate, including the authority to require the temporary cessation of works, where necessary.

3.2 Hours of Working

BS 5228 defines the day-time period is defined as 07:00 to 19:00 hrs; the evening period as 19:00 to 23:00 hrs and the night-time period as 23:00 to 07:00 hrs. There is potential for day-time, evening and night-time construction works owing to the 24hour nature of the beach nourishment works. However, for the most part, works will be confined to day-time and evening hours.

Where additional or alternative working hours are required, a request for derogation to work outside the permitted working hours will be submitted to FCC at least five working days in advance. The request will be supported by a detailed case including an Engineering report explaining the requirement to work outside the permitted working hours and listing proposed dates with commencement and finishing times.

All affected residents and stakeholders shall be notified on receipt of any approved derogations including the rationale for the extended working hours.

3.3 Environmental Management System

In order to safeguard local amenities and protect the environment, the Contractor must operate an accredited Environmental Management System (EMS) certified by a third party throughout the duration of the construction contract period. Current certificates of registration/accreditation should be included as an appendix within the finalised CEMP. An annual audit report for the EMS will be made publicly available.

An ISO 14001 internationally certified Environmental Management System will provide a comprehensive framework ensuring operations and activities are completed to the highest environmental standards and in a sustainable manner. It is a systematic framework to manage the immediate and long term environmental impacts of products, services and processes. Its implementation ensures that FCC’s environmental footprint is minimised, the risk of pollution incidents is diminished, and ensures compliance with relevant environmental legislation.

3.4 Approach to Community Engagement

Engagement with the community should be carried out on the timing and duration of construction activities, the Contractor will be expected to commit to specific hours of work and the use of quiet working methods such as the selection of low-noise plant and operating methods. FCC and potentially affected residents will be kept informed of the works to be carried out and of any proposals for work outside normal hours via an appropriate method such as letter drops, meetings and online platforms. This can help to reduce hostility towards the works and will provide an opportunity to address the concerns of local people. Other measures that shall be implemented by the Contractor include:

- Develop a neighbourhood comment and complaint procedure for recording and dealing with complaints from local residents.
- Display project contact details in prominent locations. This will give local residents a point of contact and should allow any nuisance issues that may arise to be addressed promptly.
- Consider using solid panelled fencing around sites instead of wire matrix fences. This can help to reduce noise from sites and can also reduce wind-blown litter.
- Before starting work, identify any site boundaries that may be sensitive to noise or vibration. A suitable method statement should include actions that are needed to reduce noise at sensitive locations.
- Screening plants used to remove sands or gravels from bentonite, or centrifuge systems used to remove water from slurry, can both create high levels of noise. Position these systems as far away as possible from housing.
- Permanently running generators on sites that are close to local housing can cause a nuisance to residents. Use mains power in preference to diesel generators where possible.
- When running generators and compressors, ensure that access doors are closed. This will reduce the noise level.
- Turn off vehicle engines when not in use.

FCC will ensure that the overall approach to community engagement also complies with Condition 10.1 of the Maritime Area Consent (MAC20240007) as detailed in Section 2.3.

3.5 Environmental Management Plans

A suite of draft Construction Environmental Management Plans (CEMP) has been prepared for the construction phase of the Proposed Development and are presented below. These draft CEMPs will be finalised as required prior to the commencement of development and will incorporate the mitigation measures outlined in the documentation submitted with the application for permission, and will include any additional requirements pursuant to conditions attached to statutory consents. In addition, regular audits of the CEMP will be undertaken during the construction phase of the works by the ECoW.

3.5.1 Draft Construction Traffic Management Plan (dCTMP)

This draft Construction Traffic Management Plan (dCTMP) outlines minimum requirements for safe management of pedestrian traffic and vehicular movements to, from and within the Proposed Development during construction. Implementation of the traffic management plan will ensure uninterrupted access, and will also ensure compliance with obligations set out in the following legislation:

- Guidelines For Working On Roads Guide To The Safety, Health And Welfare At Work (Construction) (Amendment) (No. 2) Regulations 2008 (S.I. No. 423 Of 2008)
- S.I. No. 366 of 2008 of the Road Traffic (Construction And Use Of Vehicles) (Amendment) Regulations 2008
- Safety, Health and Welfare at Work (Construction) (Amendment) Regulations 2008 (S.I. No. 130 of 2008).

When finalising this dCTMP a design specific risk assessment should be carried out by a Chartered Engineer with suitable experience in the design of traffic management system and works.

3.5.1.1 Existing environment

Burrow Road is a local access road that extends from the R126 to the top of the Burrow spit, connecting further local access roads (Marsh Lane and Valley Lane) and providing access to numerous residential properties and a caravan park at the junction towards the north. Burrow Road narrows significantly after the Marsh Lane junction heading north, with the carriageway narrowing to a width of only circa 2.2m in sections.

Burrow Road provides footpaths along approximately 1.2km of its length connecting to the R126 Portrane Road to the south, and only 180m north of the junction with Marsh Lane. No pedestrian facilities or street lighting are available along Burrow Road further north than Marsh Lane.

Marsh Lane is a local access road which provides access to a few residential properties and a narrow footpath is provided along the south side of the road. Marsh Lane is used for residents' local access, which should be maintained throughout the construction period.

Similarly, Marsh Lane exhibits carriageway narrowing, with minimum widths of 2m in sections. The Outline Buildability report for the Proposed Development notes the installation of a temporary dry working area and a

stoned haul route to facilitate access requirements for the construction vehicles at this location. This would be specified at the detailed design stage of the project.

3.5.1.2 Resources

Sufficient resources will be allocated to deliver the traffic management plan. These will include a Traffic Manager Design Engineer, Traffic Manager Coordinator, Gate Man to control site access and egress, and Traffic Management Operatives as required.

Plant required will include self-contained wheel wash facility, lifting gate access barriers, road-sweeper, and signage as necessary.

3.5.1.3 CTMP Key Requirements

A project specific construction phase traffic management plan will be compiled by the Traffic Manager Design Engineer in accordance with the standards set out above and all additional requirements under conditions imposed by An Coimisiún Pleanála (ACP) should the Commission decide to grant development consent for the Proposed Development.

A Traffic Management Coordinator will oversee and maintain all traffic management on the site. Traffic access and layout will be detailed in technical drawings that take into consideration the coordination of works activities with the ongoing operations. The layout will be based on a detailed risk assessment prepared by the Traffic Manager Design Engineer in accordance with Chapter 8 of the Traffic Signs Manual. The traffic management plan drawings will show the key site access points and storage areas, visitor and operative access routes and parking areas, welfare, workshops and storage areas.

The traffic management and access layout plan will be kept under constant review. The Traffic Management Coordinator and site management will collate feedback from all stakeholders as part of the review process.

The Traffic Management Coordinator will liaise closely with relevant stakeholders to ensure that the CTMP remains current and reflects the evolving needs of the project. The CTMP will be included in regular toolbox talks to ensure personnel are kept up to date with any changes.

All drivers will receive a site induction on the traffic management plan. All drivers will receive a toolbox talk on the use of the local roads, the requirement to cover loads and cleaning of trucks as they leave the site.

The CTMP will consider scheduling management of construction traffic regarding availability of access routes and peak traffic volumes. Large deliveries will be subject to a task specific risk assessment and method statement. Lift plans will be prepared for key lifting operations as per Safety, Health and Welfare at Work (General Application) Regulations 2007. Coordination of all such activities will take place with stakeholders through the Traffic Management Coordinator and site management.

All efforts will be made to limit the number of vehicle movements associated with the Proposed Development. As part of the project enabling works, secure fencing will be erected to clearly separate the construction works. This fencing will be reviewed at commencement and supplemented where necessary. The site boundary will be adequately maintained through safety audits. Specific details of fencing will be provided in the final CTMP.

In order to prevent nuisance and possible safety issues a self-contained wheel wash facility will be provided at the site exit. All loads to and from the site will be appropriately covered. Trailers will also be inspected prior to use to ensure trailer boards create a good quality seal. Trailers will not be overloaded. Site access roads will be kept clean and road sweepers will ensure dirt or debris arising from the site are promptly removed as necessary.

The car park and access ways to site welfare and works areas will be clearly delineated, sign posted and lit. All cars and passengers will be required to sign in and out at gate security. Gate security will also monitor the use of the parking areas.

Strategic contingencies will be prepared to deal with any unscheduled closures or congestion or disruption of local road networks. Strategic options will be reviewed on a case by case basis taking into consideration the likely duration of any closures and the current construction programme.

The CTMP will prevent the introduction or dispersal of invasive alien species in accordance with the Proposed Development's Construction Invasive Alien Species Management Plan. All imports to the site will be from an approved supplier's database and sourced from quality controlled environments that are consistently screened for the presence of invasives. All plant arriving to the site will be washed off site prior to entering. All plant exiting the site will be wheel washed and debris free.

Should invasive species be identified within the site the mitigation listed in the invasive species management plan will be enacted. This will include such measures as physical separation of the area, chemical treatment or excavation as appropriate.

3.5.2 Draft Invasive Alien Species Management Plan

This draft Invasive Alien Species Management Plan (IASMP) sets out measures that will be implemented during the construction phase of the Proposed Development to control the introduction or dispersal of invasive alien species (IAS), including measures for early detection so that effective management may be applied.

IAS are taken to mean all species and the vectors implicated in their dispersal, as set out in the Third Schedule (Non-native species subject to restrictions under Regulations 49 and 50) to S.I. No. 477/2011 - The European Communities (Birds and Natural Habitats) Regulations 2011.

FCC is very aware of the fundamental importance of biodiversity in maintaining robust and sustainable ecosystems. The widespread occurrence and continual dispersal of invasive alien species poses a growing threat to native flora and fauna and the ecosystems that support them. Species of concern are listed in the Third Schedule of the Birds and Natural Habitats Regulations 2011 (Non-native species subject to restrictions under Regulations 49 and 50) which prohibits their introduction and dispersal.

The importance of the threat posed by Invasive Alien Species (IAS) is reflected in a suite of international, European and national policy and legislation. These include:-

- Convention on Biological Diversity.

- EU Biodiversity Strategy to 2020.
- Regulation of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species.
- Actions for Biodiversity 2011-2016, Ireland's 2nd National Biodiversity Plan.
- European Communities (Birds and Natural Habitats) Regulations 2011, as amended.

IAS can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment and the economy. They can be extremely difficult and costly to control and eradicate. In some instances the latter may be impossible and adverse effects are irreversible. Early detection of IAS and preventing new introductions are effective management strategies.

Negative impacts of IAS on biodiversity can occur through a range of mechanisms such as competition, herbivory, predation, alteration of habitats and food webs, introduction of parasites and pathogens and through the dilution of native gene pools. On the island of Ireland the most prominent negative impact appears to be direct competition with native biota, whilst alteration to habitats and the influence of parasites and pathogens are also important. A range of specific habitat types, and a variety of native species are currently under threat, including freshwater rivers and lakes; coastal floodplains, saltmarsh and sand dunes; tidal mudflats and sandflats.

The total number of alien animal and plant species on the island of Ireland has been estimated at over 1,200. Not all of these are 'invasive' or have an impact i.e. given to vigorous dispersal and displacement of natives. A group of 163 of the worst IAS threatening biodiversity in Europe has been compiled and the island of Ireland has over 40 of this group.

Key Irish legislation with provision for control of invasive species is the Wildlife Acts and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011), both of which prohibit the spreading of invasive species. Specifically, Regulation 49.(2) of S.I No. 477/2011 makes it an offence to plant, disperse, allow or cause to disperse, spread or otherwise cause to grow in any place specified plants listed in the Third Schedule save in accordance with a licence. Regulation 49(3) allows proof that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence as a defence.

Three distinct types of measures are envisaged, which follow an internationally agreed hierarchical approach to combating IAS (European Union Regulation (EU) NO 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species). These include:

- Prevention: a number of robust measures aimed at preventing the intentional or unintentional introduction of IAS of concern.

- Early detection and rapid eradication: a surveillance system will be put in place to detect the presence of IAS of concern as early as possible to allow rapid eradication measures to be implemented where possible to prevent them from establishing.

- Management: some IAS may already be established. In this case concerted management action will be taken to prevent them from spreading any further and to minimize the harm they may cause.

The measures identified in this Invasive Alien Species Management Plan will be implemented for the duration of the proposed construction works.

IAS Occurrence On-Site

The proposed construction phase operations will involve works within close proximity to areas of the invasive species common cord-grass *Spartina anglica*. This species, present within tidal mud in the central areas of the site, is a non-native invasive species included within the third schedule of the European Communities (Birds and Natural Habitats) Regulations 2011. The Proposed Development, at construction stage, has potential to give rise to the limited spread of this species associated with construction works proposed within areas currently occupied by the plant.

3.5.2.1 Mitigation Measures

Biosecurity measures are a series of precautionary steps designed to reduce the risk of dispersal / introduction of IAS. The management approach taken will prioritise prevention of IAS introduction to, or dispersal. Mitigation measures will be implemented if required to contain, eradicate or control as appropriate any IAS found to be present in the area of the Proposed Development.

3.5.2.2 Prevention

Prevention measures will range from raising awareness of IAS and the potential for their dispersal, to ensuring best practice in relation to the movement of materials into, within or out of the working area. Measures which will be implemented include:

- Ensuring that rock armour, gravels, sand or soils to be imported to the site are sourced from authorised/licensed quarry operators.

- Specifying that such material should be free of invasive plant species and their propagules.

- Implementing a waste management plan for the proper storage and controlled movement of waste materials.

- Implementing a materials handling plan for the proper storage and controlled movement of materials.

- Implementing a construction traffic management plan for control of vehicle and plant access and movements, including wheel wash and plant inspection at site entrance.

- Ensuring that all vehicles and construction plant arriving on site are reasonably clean and free of significant deposits of mud and plant debris (particularly tyres, wheel arches, excavator buckets and tracks) that might be a vector for spread of IAS.
- Cordoning off any IAS locations on site.
- Washing down machinery that has operated in IAS infested areas in designated locations before moving within the site or leaving the site.
- Inclusion of IAS awareness in toolbox talks using visual aids to identification for the most likely species to be encountered based on the initial IAS risk assessment.
- Notification of any suspected new occurrences of IAS to the ECoW.

3.5.2.3 Early detection and rapid eradication

A surveillance system will be put in place to detect the presence of IAS of concern as early as possible to allow rapid eradication measures to be implemented where possible to prevent them from establishing. The ECoW will undertake regular inspections of the site to detect any new IAS occurrences or colonies. Measures which will be implemented will include:

- Ongoing monitoring of the Proposed Development for IAS and updating the Initial IAS Assessment as necessary.
- Mapping of distribution of existing and new IAS colonies and occurrences throughout the Proposed Development.
- Confirmation of identification of any IAS and collation of relevant best practice management and eradication methods.
- Cordoning off of IAS infested area to limit movement of people / machinery in the area and relevant buffer zones, and appropriate signage.
- Implementation of recommended control/eradication measures by qualified and experienced personnel.
- Monitoring of treated area to determine effectiveness of measures or need for further actions.
- Handling and disposal of treated material appropriately to prevent further spread.

3.5.2.4 Management - Containment / Treatment

If any established IAS is identified on the construction site, the management plan will aim to contain its spread in the first instance and subsequently eradicate it if possible from the site. This will include implementation of the following measures:

- Cordoning off any invasive species infestations to limit movement of people / machinery in infested area and relevant buffer zones, and appropriate signage.
- Confirmation of the identification of the species concerned, and collation of relevant best practice management and eradication information.
- Selection of the most appropriate best practice methods for control / treatment.
- Prioritisation of treatment areas.
- Undertaking physical or chemical control measures as appropriate in line with best practice guidance and in compliance with health and safety requirements.
- Ensuring control measures are undertaken by suitably qualified personnel.
- Handling and disposal of treated material appropriately to prevent further spread.

The ECoW will be responsible for ensuring that appropriate mitigation is in place as part of the Construction Environmental Management Plan during the implementation of the Proposed Development.

3.5.3 Draft Resource Waste Management Plan

This draft RWMP provides an assessment of the potential impacts arising from the generation of waste materials during demolition and construction of the Proposed Development. Measures are included to ensure that all construction and demolition wastes associated with the Proposed Development are managed and controlled to prevent the risk of environmental pollution or ecological damage.

The draft RWMP will be finalised in the event that development consent is obtained, in order to incorporate additional requirements pursuant to conditions attached to statutory consents, and methods and plant in use by the appointed Contractor.

3.5.3.1 Objectives of the CWMP

In line with the objectives of the Waste Framework directive (WFD) (2008/98/EC) of 19 November 2008, this document prescribes a proactive approach to the management of construction and demolition waste during the Proposed Development and promotes sustainable development, environmental protection and optimum use of resources. The CWMP is based on the fundamental waste management prioritisation principles i.e. prevent, reduce, reuse, recycle. The following definitions are given in the WFD:

- Prevention – means measures taken before a substance, material or product has become waste, that reduce:

  (a) The quantity of waste, including through the re-use of products or the extension of the life span of products;

  (b) The adverse impacts of the generated waste on the environment and human health; or

  (c) The content of harmful substances in materials and products.

- Preparing for re-use – means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.
- Recycling - means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
- Other recovery e.g. energy recovery - means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II (to the WFD) sets out a non-exhaustive list of recovery operations.
- Disposal - means any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I sets out a non-exhaustive list of disposal operations.

This waste management hierarchy will be applied wherever possible as part of this waste management process.

The objectives of this CWMP are as follows:

- Compliance with requirements for waste management during all works.
- Minimisation of the risk of environmental pollution or ecological damage during the works.
- Application of best environmental practices in relation to waste management on site.

3.5.3.2 Definition of Waste

Waste is defined as ‘any substance or object the holder discards, intends to discard or is required to discard’ under the Waste Framework Directive (European Directive 2006/12/EC as amended by Directive 2008/98/EC). Materials become wastes when deemed surplus to the needs of a development project and are about to be discarded. Once a substance has become waste it will remain waste until it has been fully recovered and no longer poses a potential risk to the environment or human health. From that moment onwards, the material ceases to be waste.

This applies to waste used as aggregate or construction material in civil engineering applications and to excess top soils and sub-soils which need to be moved off-site.

Waste recovery can be achieved when such waste is incorporated into a road, building or other infrastructure works, or in the case of inert waste, after processing if such a process is conducted following the criteria

specified in the relevant quality protocols[1]. All wastes must be handled by permitted collectors and brought to authorised facilities.

All wastes are either inert, non-hazardous or hazardous. Laboratory testing of representative samples is required to characterise waste materials. The waste acceptance criteria test is established and reliable, the results providing certainty of treatment. The ultimate classification of material dictates the destination facility where waste materials can be sent.

3.5.3.3 Anticipated Waste Arisings

The proposed works will generate construction and demolition waste (CDW). Detailed estimates of all predicted waste generation will be produced before commencement of the construction phase. These estimates will indicate the type and the predicted quantities of wastes classified by EWC Code. The waste generation document will be a live document and updated throughout the project. Table 3.1 shows the current estimates of material to be excavated and imported, which will be updated subject to detailed design.

Table 3.1: Volume of material required to be excavated and imported for the flood embankments at Burrow Road and Marsh Lane.

Metric	Marsh Lane Embankment	Burrow Road Embankment	Total
Volume of existing material to excavate [m^3]	776	856	1,632m^3
Volume of clay material to import [m^3]	198	190	388m^3
Volume of granular fill to import [m^3]	1,250	567	1,817m^3

3.5.3.4 Roles & Responsibilities

The ECoW will ensure commitment, operational efficiency and accountability during the construction and demolition phase with regard to waste management, including the procedures that will be followed for ensuring implementation of the CWMP through the onsite management structure but also across all members of the construction team.

The ECoW will obtain and maintain hard copies of:

- all waste collection permits, waste facility permits, waste licences, industrial emission licences and certificates of registration for all facilities to be used throughout the project.
- all waste classification tests carried out on materials, where applicable.
- sign-off all Waste Transfer Forms for empty/full skips.
- maintain a Waste Tracking Register for all hazardous and non-hazardous waste movements off-site.

[1] Quality Protocols have been developed by Waste and Resources Action Programme (WRAP) and the Environment Agency (EA) to encourage the recovery of waste materials while at the same time increasing confidence in quality of products made from waste.

- All waste types and amounts generated will be recorded and reviewed at regular intervals, to allow for continuous analysis and review of procedures that will be made to reduce waste to landfill, increase the percentage of recycling and reduce waste overall as much as possible.

Records will be kept for all waste material that leaves the site, whether for reuse on another site, recovery, recycling or disposal. A system will be put in place to record the construction waste arising on site. The ECoW or delegate will record the following:

- Waste taken off-site for reuse.
- Waste taken off-site for recovery.
- Waste taken off-site for recycling.
- Waste taken off-site for disposal.

For each movement of waste off-site a signed waste collection docket will be obtained by the ECoW from the Contractor. This will be carried out for each material type. This system will also be linked with the delivery records. A signed waste acceptance docket will be issued for each movement of waste on-site.

The appointed ECoW will be responsible for conducting waste audits and checks during the construction phase of the Proposed Development and monitoring RWMP implementation including:

- regular waste audits to ensure full adherence to this waste management plan and agreed procedures.
- confirming that each waste facility being used during the project is operating in accordance with its licence or permit conditions and is managing waste in accordance with the agreed method set out at the start of the project.
- ensuring that all non-hazardous waste materials being placed in skips/other receptacles are being fully de-labelled.
- Requesting skip/bin exchanges from the non-hazardous waste Contractor and acting as spotter when the collection vehicle is on site.

A review of all records for the waste generated and transported off-site, will be undertaken mid-way through the construction phase.

The storage and reuse of demolition or excavation wastes on site may be subject to a number of waste licensing requirements. If these wastes are to be stored on site, prior to potential reuse or recovery during construction, this activity will be subject to a Waste Management Licence Exemption with a limited tonnage of material permitted to be stored on site. Storage will take place in a secure area on-site and the ECoW will monitor the amount of waste stored to ensure that the permitted limits of the Exemption are not exceeded. FCC and its appointed Contractor will consult with the EPA prior to construction to ensure that the appropriate Waste Management Licence or Exemption is in place.

If waste movements are not accounted for, the reasons for this will be established in order to see if and why the record keeping system has not been maintained. Each material type will be examined in order to see where the largest percentage of waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Upon completion of the construction phase a final report will be prepared summarising the outcomes of the waste management processes adopted and the total recycling / reuse / recovery figures for the development. To that end a method to calculate the difference between expected waste quantities prior to commencement of the project and actual waste quantities after project completion will be provided.

The ECoW will be given responsibility and authority to select a waste team if required i.e. members of the site crew that will aid them in the organisation, operation and recording the waste management system implemented on-site.

The ECoW will have overall responsibility to oversee records and provide feedback to FCC on everyday waste management on the site. Authority will be given to ECoW to delegate responsibility to sub-Contractors where necessary and to co-ordinate with suppliers, service providers and sub-Contractors to prioritise waste prevention and salvage.

The ECoW will be trained in how to set up and maintain a record keeping system, how to perform, audit and how to establish targets for waste management on site. The ECoW will also be trained in the best method for segregation and storage of recyclable materials, have information on the materials that can be reused on-site and implement the RWMP.

Training of staff on site is the responsibility of the ECoW and as such, a waste training programme will be organised. A basic awareness course will be held for all crew to outline the RWMP and to detail the segregation of waste at source. This may be incorporated with other training needs (e.g. general site induction, safety training etc.). This basic course will describe the materials to be segregated, the storage methods and the location of waste storage areas. A subsection on hazardous wastes will be incorporated and the particular dangers of each hazardous waste will be explained.

The ECoW will provide daily support to the site crews on waste segregation, storage and decontamination, and provide weekly input at toolbox talks on waste related subjects.

3.5.3.5 Guidance

The requirements for best practice and adherence to the following relevant Irish policies, strategies, legislation, and guidelines, or recognised international guidelines where Irish guidelines are not available will be required:

National and Regional Policies and Strategies

- Changing Our Ways; A Policy Statement on Waste Management, Department of Environment, Heritage and Local Government, 1998.
- Preventing and Recycling Waste – Delivering Change, Department of Environment, Heritage and Local Government, 2002.

- Taking Stock and Moving Forward, Department of Environment, Heritage and Local Government, 2004.
- National Strategy on Biodegradable Waste, Department of Environment, Heritage and Local Government, 2006.
- A Resource Opportunity – Waste Management Policy in Ireland, Department of the Environment, Community and Local Government (DECLG), 2012.
- National Hazardous Waste Management Plan 2014 – 2020, EPA, 2014.
- The Eastern-Midlands Region Waste Management Plan 2015-2021, Twelve Local Authorities, 2015.

National and European Legislation

- Waste Framework Directive (2008/98/EC).
- Waste Management Act 1996 (as amended).
- Waste Management (Facility Permit and Registration) Regulations, S.I No. 821 of 2007 (as amended).
- Waste Management (Collection Permit) Regulations (as amended) 2008 (S.I. No 87 of 2008).
- Waste Management (Packaging) Regulations 2003 (as amended) (S.I. No. 61 of 2003).
- Waste Management (Planning) Regulations 1997 (S.I. 137 of 1997).
- Waste Management (Hazardous Waste) Regulations 1998 (S.I. 163 of 1998).
- Waste Management (Landfill Levy) Regulations 2011 (S.I. No. 434 of 2011) as amended 2012 (S.I. No. 221 of 2012).
- European Communities (Waste Electrical Electronic Equipment) Regulations 2011.
- Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009).
- Local Government Act 1994 (and Amendments) and Regulations (S.I. No. 8 of 1994).
- Litter Pollution Act 1997 (S.I. No. 12 of 1997).
- Protection of the Environment Act 2003 (No. 27 of 2003).
- Industrial Emissions Directive (2010/75/EU).
- European Communities (Waste Directive) Regulations, 2011.

3.5.4 Draft Noise Management Plan

This draft Noise Management Plan (NMP) details the environmental monitoring and noise mitigation measures that will be implemented during the works to minimise the effects of the site operations on environmental receptors. The draft NMP will be finalised in the event that development consent is obtained, in order to incorporate additional requirements pursuant to conditions attached to statutory consents, and methods and plant in use by the appointed Contractor.

This NMP will be fully in accordance with the following documents;

- EIAR Chapter 7 Terrestrial Noise & Vibration mitigation measures.
- British Standard BS5228:2009+A1:2014 Noise & vibration control on construction and open sites.
- NRA Guidelines for the Treatment of Noise and Vibration in National Road Schemes (2004).
- NRA Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes (2014).

The purpose and aims of the NMP are to:

- Establish noise guidance criteria to be used;
- Detail the monitoring programme to be adopted including information on instrumentation, monitoring locations, monitoring procedure/methodology;
- Detail all proposed mitigation measures to control and minimise noise from all phases and areas of construction activity;
- Outline management procedures for ensuring that the appropriate mitigation measures are appropriately managed;
- Outline procedures for liaising with the public and FCC.

The proposals for noise monitoring and noise mitigation measures included in this document relate to the entire duration of construction works associated with the Proposed Development.

The draft Noise Management Plan will be finalised when Contractors are appointed, and liaison with FCC has taken place with regard to approval of the updated NMP. The updated NMP will detail the specific roles and responsibilities of personnel related to the implementation of the NMP.

3.5.4.1 Mitigation Measures

Mitigation measures will include the requirements for best practice and adherence to the following relevant Irish policies, strategies, legislation, and guidelines, or recognised international guidelines where Irish guidelines are not available. The following mitigation measures, presented in the EIAR (Chapter 7), shall be

adhered to, in compliance with British Standard BS5228:2009+A1:2014 – Noise and vibration control on construction and open sites.

- Ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order;
- Careful selection of quiet plant and machinery to undertake the required work where available;
- All major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use;
- Any ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers;
- Machines in intermittent use will be shut down in the intervening periods between work;
- Ancillary plant such as generators, compressors and pumps will be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines will be placed away from sensitive locations, in order to cause minimum noise disturbance. Where possible, in potentially sensitive areas, acoustic barriers of enclosures will be utilised around noisy plant and equipment.
- Handling of all materials will take place in a manner which minimises noise emissions;
- Audible warning systems will be switched to the minimum setting required by the Health & Safety Authority.

A complaints procedure shall be operated throughout the construction phase and the Contractor will be instructed to make all efforts to address any noise issues at the nearest noise sensitive properties.

FCC will engage in a neighbour notification exercise prior to the commencement of the construction phase. The extent of residents to be notified of construction activities will be determined by a noise modelling exercise which will determine what residents are likely to hear the construction phase activities.

3.5.4.2 Noise Monitoring Programme

Prior to the commencement of construction, the Contractor will set out and agree a schedule of noise and vibration monitoring with FCC to include the number and locations at which monitoring will be carried out, the frequency and duration of the monitoring and the reporting of results.

3.5.5 Draft Dust Management Plan

Dust emissions from the Proposed Development have the potential to impact on neighbouring areas in the absence of mitigation. This section outlines the mitigation measures that will be employed to reduce the dust impact on sensitive receptors. These measures are the minimum required and will form the basis of a detailed Dust Management Plan to be prepared by the Contractor when appointed.

The Dust Minimisation Plan is based upon the industry guidelines in the Building Research Establishment document entitled 'Control of Dust from Construction and Demolition Activities' (BRE 2003). In order to ensure that any dust nuisance is minimised, a series of mitigation measures have been listed below, which will be implemented in the event that development consent is granted:

- Any construction compound will be located as far as practicable from sensitive receptors such as residential dwellings but also at a sufficient distance from ecological receptors.
- Site roads will be regularly cleaned and maintained as appropriate. Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic only.
- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential).
- All HGVs and other site vehicles exiting the site will make use of a wheel wash facility prior to entering onto public roads, to ensure mud and other wastes are not tracked onto the roads. Wheel washes will be self-contained systems that do not require discharge of the wastewater to water bodies.
- Public roads outside the site will be regularly inspected for cleanliness, and cleaned as necessary.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind.
- Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- Site traffic will be restricted to 20km/hr to minimise dust re-suspension

The level of mitigation will be dictated by the monitoring results and the levels of rainfall experienced in a given period. This will prevent the excessive use of water for dust suppression on site when not required to minimise secondary drainage impacts.

As part of a broader audit of the works under the CEMP, the application of the above measures will be assessed and recorded. Where required, corrective actions will be identified and presented to the Contractor to fully implement the above measures to minimise dust.

3.5.6 Draft Marine Mammals Management Plan

3.5.6.1 Existing Environment

Rockabill to Dalkey Island is designated as a SAC located 2.5km east of the Proposed Development. Its Annex I qualifying interests of relevance to benthic habitats and their conservation objectives are Reefs (Maintain favourable condition). Its Annex II qualifying interests of relevance to marine mammals and their conservation objectives are Harbour porpoise *Phocoena* [1351] (Maintain favourable condition).

Lambay Island is designated as a SAC and is 5km east of the Proposed Development. Its Annex I qualifying interests of relevance to benthic habitats and their conservation objectives are Reefs (Maintain favourable conditions). Its Annex II qualifying interests of relevance to marine mammals and their conservation objectives are Grey seals *Halichoerus grypus* [1364] (Maintain favourable condition) and Common seals *Phoca vitulina* [1365] (Maintain favourable condition). These designated sites which contain feature marine mammals are displayed in Figure 3.1.

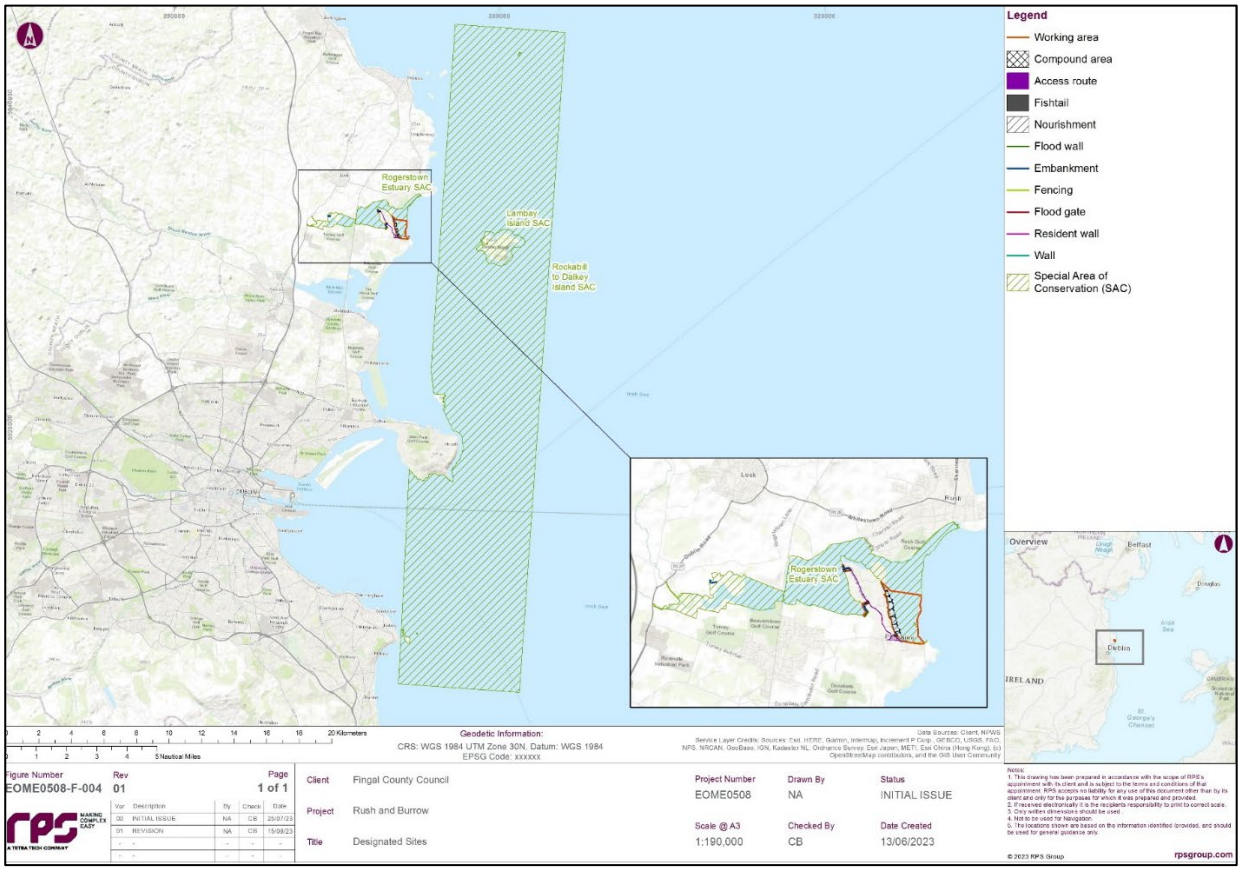

Figure 3.1: Designated sites in the proximity of the Burrow.

3.5.6.2 Mitigation Measures

The following precautionary measures will be undertaken to minimise the risk of injury or disturbance to marine mammals in the area of operations in line with National Parks and Wildlife Service (NPWS) Guidelines (2014):

- A trained and experienced Marine Mammal Observer (MMO) will be put in place during all piling and demolition works within the foreshore and dumping operations. The MMO will scan the surrounding area to ensure no marine mammals are in a pre-determined exclusion zone in the 30-minute period prior to operations commencing. The NPWS exclusion zone is 500m for demolition works and 1,000m for piling activities.

- Noise-producing activities will only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring is not possible, the sound-producing activities will be postponed until effective visual monitoring is possible. Visual scanning for marine mammals will only be effective during daylight hours and if sea conditions are WMO Sea State 4 (≈Beaufort Force 4 conditions) or less. The Beaufort scale, which is used in Met Office marine forecasts, is an empirical measure for describing wind intensity based on observed sea conditions.

- For piling activities, where the output peak sound pressure level (in water) exceeds 170 dB re: 1µPa @ 1m, a ramp-up procedure will be employed following the pre-start monitoring.

- If there is a break in piling activity for a period greater than 30 minutes then all pre-activity monitoring measures and ramp-up (where this is necessary) will recommence as for start-up.

- Once normal operations commence (including appropriate ramp-up procedures), there is no requirement to halt or discontinue the activity at night-time, nor if weather or visibility conditions deteriorate, nor if marine mammals occur within a radial distance of the sound source that is 500m for demolition works, and 1,000m for piling activities.

- Any approach by marine mammals into the immediate (<50m) works area will be reported to the NPWS.

The MMO will keep a record of the monitoring using a 'MMO form location and effort (coastal works)' available from the NPWS and submit it to the NPWS on completion of the works.

3.5.7 Draft Birds Management Plan

3.5.7.1 Existing Environment

3.5.7.1.1 Wintering Birds

Wetland bird surveys of the site and the wider Rogerstown Estuary SPA were undertaken across the wintering period in 2021/2022. These surveys recorded that intertidal and coastal habitat within the proposed working areas, within and outside of the Rogerstown Estuary SPA boundary, were utilised by wintering populations of waders and waterfowl which represent a significant proportion of those SCI bird populations for which the SPA is designated. In particular, intertidal habitat to the west of the Burrow and in the bay adjacent to the end of Marsh Lane, was recorded to support large numbers of SCI species including light-bellied brent geese *Branta bernicla hrota,* black-tailed godwit *Limosa limosa*, dunlin *Calidris alpina*, knot

Calidris canutus, grey plover *Pluvialis squatarola*, oystercatcher *Haematopus ostralegus*, redshank *Tringa totanus*, ringed plover *Charadrius hiaticula* and shelduck *Tadorna tadorna* throughout the surveys and across all tidal states with lower numbers and occurrence at high tide, typically for foraging. Lower numbers of a range of species including oystercatcher, dunlin and ringed plover were also recorded within the proposed working area to the east of the Burrow.

Populations of these species were also recorded to utilise other areas of the SPA, distant from the Proposed Development throughout the surveys and again across all tidal states and it is therefore considered that the proposed working areas do not represent areas of the SPA which are solely relied upon by any SCI bird populations during any particular period of the winter or tidal state. Habitats within the proposed working area are rather considered to form a valuable component of a patchwork of suitable foraging and roosting habitat for the SCI bird populations throughout the SPA which is used variably according to tidal state, food availability and level of disturbance.

In addition to SCI species, areas of intertidal habitat within and in proximity to the proposed working area, particularly areas along the western shore of the Burrow, with lower numbers to the east, were recorded to support significant wintering populations of whimbrel *Numenius phaeopus*, turnstone *Arenaria interpres*, teal *Anas crecca*, sanderling *Calidris alba*, red-breasted merganser *Mergus serrator*, herring gull *Larus argentatus*, grey heron *Ardea cinerea*, greenshank *Tringa nebularia*, great black-backed gull *Larus marinus*, little egret *Egretta garzetta*, curlew *Numenius arquata*, common gull *Larus canus*, black-headed gull *Chroicocephalus ridibundus* and bar-tailed godwit *Limosa lapponica*.

3.5.7.1.2 Breeding Birds

Terrestrial areas of the site proposed for works support limited habitat with potential to offer opportunities for breeding birds, including areas of woodland and scrub, hedgerows, scattered trees which have potential to support a range of common and widespread species and areas of dry grassland along the west of the Burrow, which have some potential to support ground nesting birds such as meadow pipit *Anthus pratensis*.

Surveys recorded the presence of breeding meadow pipit and skylark *Alauda arvensis* within grasslands along the west of the Burrow, and a limited range of common and widespread species including wren *Troglodytes*, dunnock *Prunella modularis*, robin *Erithacus rubecula*, blackbird *Turdus merula*, great tit *Parus major*, chaffinch *Fringilla coelebs* among other typical species within hedgerows, scrub and agricultural land adjacent to the proposed working areas.

The proposed working area, along the eastern coastline of the Burrow, supports two sections of embankment, approximately 14m^2 and 4m^2 respectively, which support a small colony of sand martin *Riparia*. A peak count of 12 adult individuals was recorded.

The north-east corner of the Burrow, which comprises a shingle beach with developing dune system, supports a colony of nesting little tern *Sternula albifrons*, with a peak count of 40 individuals (20 pairs) recorded in July. This site is subject to monitoring and protection from volunteers and is spread across a fenced area to reduce the risk of predation. This area also supports a colony of nesting ringed plover, a

maximum of six nesting pairs recorded during the surveys. This area of the Burrow lies outside and to the north of the proposed working area.

The Proposed Development and its surrounds, inclusive of areas of intertidal habitat to the east of the Burrow, during high, and high falling and high rising tidal states was recorded to support foraging populations of a range of tern species including common tern *Sterna hirundo* (peak count of 150 birds), sandwich tern *Thalasseus sandvicensis* (peak count of 26 birds) and little tern (peak count 10 birds). Coastal waters which are largely covered by seawater at low tide, to the north of the proposed working area where flows from the Rogerstown Estuary discharge to the bay between Rush and Portrane, were recorded to be of importance for foraging tern species. These areas supported significant numbers of foraging common tern, arctic tern *Sterna paradisaea* and roseate tern *Sterna dougallii*. These populations are likely to be those breeding within the Rockabill SPA which is well within the known mean foraging ranges for each of these species (Woodward et al. 2019).

3.5.7.1.3 Non-Breeding and Passage Birds

Surveys recorded that areas of intertidal habitat within and in proximity to the proposed working area are utilised by a range of non-breeding waterbirds outside the wintering period.

Variable but typically small numbers of gulls including great black-backed gull, common gull, herring gull and black-headed gull were recorded to forage within these areas throughout the year.

Low numbers of grey heron were recorded to forage within these areas throughout the year.

Populations of non-breeding waders including black-tailed godwit, curlew, greenshank and other species persisted at various times throughout the year, in relatively lower numbers compared to those recorded during the wintering period. These populations also utilised a variety of locations within intertidal habitat throughout the Rogerstown Estuary SPA.

3.5.7.2 Mitigation Measures

In order to minimise the potential for disturbance to SCI bird populations within the SPA, it will be necessary for all construction works proposed within the SPA boundary to take place outside of the wintering bird season (October to March).

Subject to the implementation of this measure it is considered that the proposals would have limited potential to give rise to any significant disturbance to wintering bird populations.

Some limited disturbance to non-wintering populations of waders and waterfowl, including SCI bird species, which were recorded to utilise the site would still occur, however surveys have demonstrated that significant areas of the SPA remain suitable for these populations should any small-scale and temporary displacement occur.

Where limited works are required within the terrestrial environment, to facilitate the proposals, which require the removal of vegetation including scrub, scattered trees and lengths of non-native hedgerows, it is

recommended that this work take place outside of the nesting bird season (1st March to 31st August inclusive). Such works should be undertaken during the winter prior to the proposed start of works to ensure that conflicting constraints are appropriately managed.

3.5.8 Draft Archaeology and Cultural Heritage Management Plan

3.5.8.1 Existing Environment

3.5.8.1.1 Recorded Monuments and Features

The recorded monuments (Figure 3.2) in Portrane and Burrow townlands include medieval-period sites associated with the Archbishop's landholdings at Portrane. Archaeological geophysical conducted under licence 16E0228 over the grounds located adjacent to Stella's Castle, DU008-030, recorded a series of potential archaeological features. Archaeological test excavation has taken place to the east of the castle under licence 12E401, in advance of residential development. No archaeologically significant levels were recorded. Archaeological excavation has also taken place within the graveyard (DU008-03102) of Portrane Church, under licence 02E1451. The work revealed disarticulated human bone, a wall fragment, deposits of shell and a series of artefacts that includes one stone tool that is probably from early prehistory. The remaining artefacts comprise medieval and post-medieval pieces.

The one known archaeological site that lies within the working area of the Proposed Development is a burial site located in Quay townland, to the east of Portrane townland. Site DU008-032. The site lies just east of a small formal burial ground, recorded on the historic OS maps as the 'Asylum Burial Ground'.

While there is a series of entries for Burrow townland in the Topographical Files of the National Museum of Ireland, they refer to remains recovered from Burrow in Sutton. There are no finds recorded for the Burrow or Portrane.

There are no entries in the National Inventory of Architectural Heritage for locations within the development area. The closest site lies to the south and refers to St Ita's Hospital, built in the 1890s, reference NIAH 11330003.

FCC's Record of Protected Structures includes the archaeological sites noted above, as well as a small collection of additional sites. The additional sites lie outside of the working area of the Proposed Development and include a terrace of single-storeyed redbrick cottages that formerly served as the staffing quarters of St Ita's Hospital. The asylum burial ground would have been associated with the hospital.

The potential for shipwreck to be identified at Portrane is highlighted by the large numbers of known wrecks recorded on Portmarnock strand to the south, where a similar but larger sand spit contains the remains of a significant number of timber shipwrecks that are exposed at Low Water Springs. There are five recorded shipwrecking events associated with Portrane, but there are no known shipwrecks to date within the Proposed Development area, and no new sites have come to light as a result of archaeological underwater inspections within Rogerstown estuary carried out by Rex Bangerter of ADCO under licences 05D0009, 05R0006.

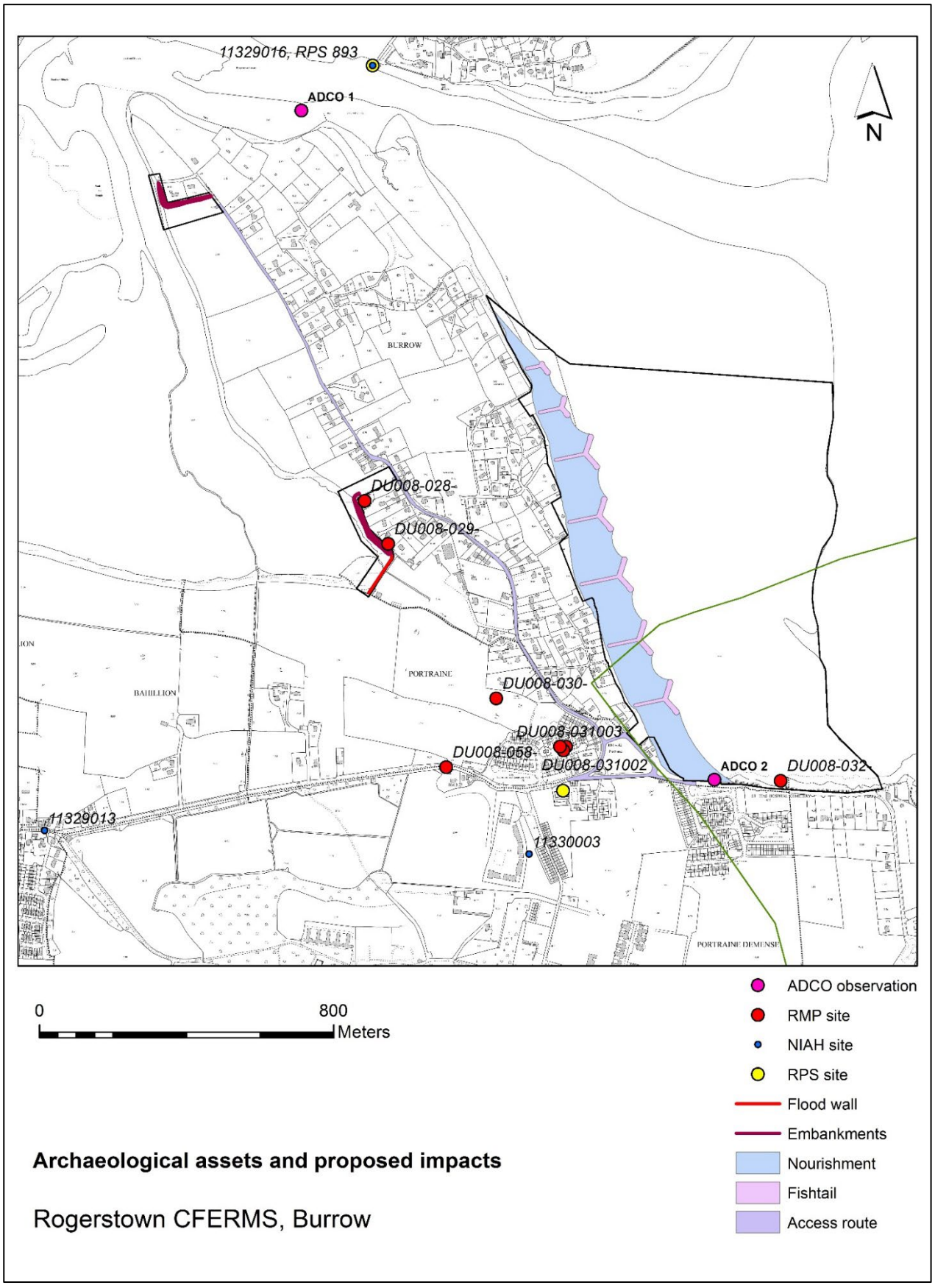

Figure 3.2: Archaeological assets near the Proposed Development

3.5.8.1.2 Archaeological Survey

An intertidal archaeology survey was carried out at Low Water and focused on the project impact area, extending from the most south-westerly point of the sand spit in the Burrow townland, proceeding north in a clockwise manner to conclude at a south-easterly point in Quay townland. The survey reached along the foreshore and along the corresponding roadways. No impediments to access were encountered. A series of features were observed in addition to those recorded already.

Marsh Lane is the existing road that runs southwest from DU008-029 (Figure 3.3). It is bound by a low poured concrete and stone-tempered parapet wall. The wall is probably of early twentieth century construction and includes a culvert at its base to facilitate a tidal stream. A new flood wall will be constructed along here as part of the Proposed Development.

The foreshore to the north along Marsh Lane has a low earthen embankment that runs alongside the lane and offers localised flood protection. The ground is recently disturbed, indicating that there has been impacts along here. It is intended to construct a formal flood embankment that will run north to enclose the perimeter of the former R.C. Chapel site, DU008-028 (Figure 3.3).

The Holy Well site, DU008-029, as positioned by the National Monuments Service is located west of Marsh Lane, but FCC's records state that the well is located in the rear garden of a recently renovated house. Holy Well sites tend to move, as the source spring can relocate over time. Given the proximity of the well site to the proposed works, it is recommended that the location be confirmed, and that the project works avoid impacting the site. The current state of overgrowth in this location prevented confirmation of location.

The site of the R.C. Chapel, DU008-028, is also quite overgrown and does not permit access to confirm the presence of the chapel building recorded on the First Edition OS map.

At the west side of the Burrow, the foreshore continues to be almost flat with a very gentle slope seaward. Rough grasses and low shrub populate the shoreline, covering over a sandy surface with light shingle. The foreshore is more clearly defined at the north end of the western shore, where a more pronounced slope is established and where the vegetation cover does not reach below the High Water Mark (HWM). A soft sand surface is populated with shingle. Localised rock armour protection exists in the vicinity of a residential complex at Burrow Road. The current soil cover at the HWM is a boulder clay till that has been introduced and lies above the rock armour, indicating that there has been localised reclamation in this location. The reclamation stands up to 2m high above the foreshore. The historic OS maps record Lugg Ford crossed the estuary from this location but there is no indication of the ford today.

The north shore of the Burrow slopes gently into the estuary channel. It retains a series of now largely ruined concrete panelling that offered coastal protection. It also retains the remains of the former ferry landing jetty that operated across the estuary to the pier head (NIAH 11329016) in Rush townland. The jetty was constructed on a series of poured concrete-and-stone-tempered piers that supported precast concrete panels. A concrete slab laid on the shore along the west side of the jetty served as a slipway. The jetty and slipway are aligned northwest to southeast. The jetty extends approximately 22m in length, with the slipway extending further at approximately 32m in length. While the line of ferry route is recorded on historic OS maps, neither the jetty nor the slipway are recorded, but they do appear on orthoimagery.

There were no additional features noted to record around the north end of the sand spit. Along its eastern side, low sand dunes are established measuring between 1m and 2m in height. A grey-coloured clay stratum is visible at the base of the dunes in places that has small stone inclusions. There was no indication of associated human activity within the stratum, such as charcoal fragments, seashells or stone tools/lithics that might otherwise indicate the presence of prehistoric-period activity.

The remaining extent of the eastern side of the Burrow has a distribution of three lines of octagonal-shaped concrete coastal defence units known as seabees, that are placed on the sandy foreshore at some distance seaward of the High Water Mark. Residential properties located above the HWM have elements of additional rock armour protection added, and in other locations there are sandbags.

Along the southern extent of the Burrow and just north of the former Coastguard Station, broken concrete slabs which cover an outfall pipe traverses the foreshore. This location is also where the town dump was, and its eroding face is exposed above the foreshore.

Rock armour is placed along the most southerly part of the development area on Portrane Beach. An approximately 100m-long stretch of retaining wall along Quay Road is part of the stone-built retaining wall. This structure is not recorded on the existing heritage inventories. The wall is constructed from shaped limestone blocks and survives to eight courses above the sand. It has a slightly battered profile and the pointing appears to employ cement.

3.5.8.2 Mitigation Measures

The following mitigation measures will be implemented by the contractor:

- Fencing will be erected at DU008-028 and DU008-029 prior to construction proceeding to ensure that no impacts, direct or indirect, occur at the protected sites. The fencing should be located at least 5m away from the known perimeter of both sites.
- Archaeological monitoring will be carried out by suitably qualified and experienced maritime archaeological personnel licensed by DHLGH. Archaeological monitoring is conducted during all terrestrial, inter-tidal/foreshore and seabed disturbances associated with the development.
- The monitoring will be undertaken in a safe working environment that will facilitate archaeological observation and the retrieval of objects that may be observed and that require consideration during the course of the works.
- The monitoring will include a finds retrieval strategy that complies with the requirements of the National Museum of Ireland.
- The time scale for the construction phase will be made available to the archaeologist, with information on where and when ground disturbances will take place.
- In the event of archaeologically significant features or material being uncovered during the construction phase, machine work will cease in the immediate area to allow the archaeologist/s to inspect any such material.

- If the presence of archaeologically significant material is established, full archaeological recording of such material is recommended. If it is not possible for the construction works to avoid the material, full excavation is recommended. The extent and duration of excavation will be a matter for discussion between the client and the licensing authorities.
- It is recommended that the core of a suitable archaeological team be on standby to deal with any such rescue excavation. This would be complemented in the event of a full excavation.
- Impacts on associated features of cultural heritage interest should be avoided. These include:
    - DU008-028, chapel
    - DU008-029, Holy Well
    - ADCO 2, sea wall
- Should impacts on the above be unavoidable, a full archaeological survey should be conducted prior to impacts and subject to the approval of the NMS at DHLGH, and FCC.

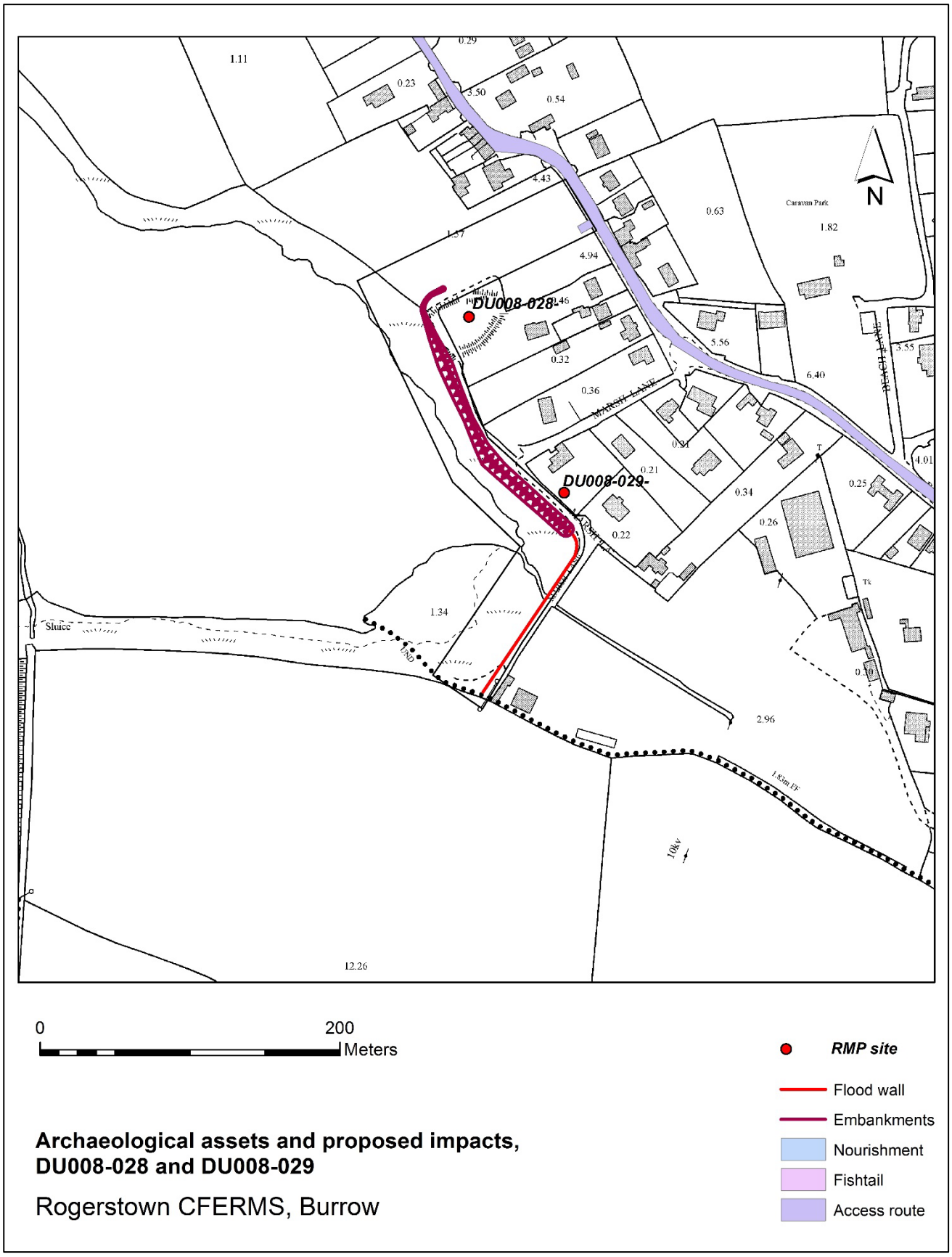

Figure 3.3: Archaeological assets DU008-028 and DU008-029 adjacent to and within project area, with proposed impacts overlaid

3.5.9 Draft Water Quality Management Plan

The objective of the Water Quality Management Plan is to ensure that the mitigation measures specified in Chapter 9 of the EIAR are adhered to and that a monitoring regime is put in place to confirm the efficacy of the mitigation measures implemented so as to further safeguard the receiving water environment.

Temporary impacts on water quality have the potential to occur during the construction phase of the works. Mobilised suspended sediment and cement release through construction activities are the principal potential sources of water quality impact. The following have been considered in assessing the mitigation measures required:

- Increased suspended sediment levels due to the accidental release of sediment to the water column during:
    - Demolition of structures.
    - Construction of walls and groynes.
    - Beach renourishment.
    - Landside ancillary works.
- Accidental release of highly alkaline contaminants from concrete and cement.
- General water quality impacts associated with works machinery, infrastructure and on-land operations including the temporary storage of construction materials, oils, fuels and chemicals.

Existing and proposed surface water drainage and discharge points should be mapped and noted on construction site plans to ensure they are protected accordingly, ensuring water bodies are not impacted from sediment and other pollutants by using measures to intercept the pathway for such pollutants.

3.5.9.1 Mitigation Measures

3.5.9.1.1 Construction Phase Best Practice Measures

Mitigation measures will include the requirements for the adoption of best practice and adherence to the following relevant Irish guidelines and recognised international guidelines:

- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA, 2001);
- Netregs Guidance for Pollution Prevention series (GPP), Pollution prevention guidelines (PPGs) in relation to a variety of activities developed by the Environment Agency (EA), the Scottish Environmental Agency (SEPA) and the Northern Ireland Environment Agency (NIEA);
    - GPP2: Above Ground oil storage tanks.
    - PPG3: use and design of oil separators in surface water drainage.

- GPP5: Works and maintenance in or near water.
- PPG6: Working at construction and demolition sites.
- GPP8: Safe Storage and disposal of used oils.
- GPP13: Vehicle washing and cleaning.
- PPG20: Dewatering underground ducts and chambers.
- GPP21: Pollution incident response planning.
- GPP22: Dealing with spills.

- Fisheries Guidelines for Local Authority Works. Department of Communications, Marine & Natural Resources, Dublin, (Anonymous, 1998);
- Guidelines on protection of fisheries habitats during construction projects (Eastern Regional Fisheries Board, 2006);
- International Convention for the Prevention of Pollution From Ships, 1973, as modified by the Protocol of 1978 (MARPOL) for domestic waste discharges to the environment;
- International Marine Organisation guidelines; and
- Control of Substances Hazardous to Health (COSHH) Handling of Hazardous Materials.

3.5.9.1.2 Suspended Sediment and Sedimentation Measures

Suspended sediment, including all soils, sands and rubble is the single main pollutant to the aquatic environment generated at construction sites and largely arises from the erosion of exposed soils and sediments by surface water runoff. Appropriate erosion and sediment controls during construction to prevent sediment pollution will therefore be implemented.

The mitigation and control measures to address the impact from suspended sediments associated with these activities will follow sound design principles and good working practices as listed in the Netregs Pollution Prevention Guidelines. In addition to the requirements of best practice and relevant guidelines, the following mitigation measures will be employed by the principal Contractor during the construction phase.

Where preferential surface flow paths occur, silt fencing or other suitable barriers will be used to ensure silt-laden or contaminated surface runoff from the site does not discharge directly to a water body or surface water drain.

In the event that dewatering of foundations or drainage trenches is required during construction and/or discharge of surface water from sumps, a treatment system prior to the discharge will be used; silt traps, settlement skips etc. This measure will allow additional settlement of any suspended solids within water arising from the construction areas.

3.5.9.1.3 Concrete and Cement Pollution Measures

The impacts in relation to cement and concrete for the Proposed Development are, for the most part (but not limited to); construction of flood walls and foundations and construction of any landside ancillary works.

The following mitigation measures will be implemented:

- Concrete use and production will adhere to control measures outlined in Guidance for Pollution Prevention (GPP5): Works and maintenance in or near water. Any on-site concrete production will have the following mitigation measures: bunded designated concrete washout area; closed circuit wheel wash etc.; and initial siting of any concrete mixing facilities such that there is no production within a minimum of 10 metres from the aquatic zone.

- The use of concrete in close proximity to water bodies requires a great deal of care. Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution in water bodies. It is essential to ensure that the use of wet concrete and cement in or close to any water body is carefully controlled so as to minimise the risk of any material entering the water, particularly from shuttered structures or the washing of equipment.

- Where concrete is to be placed under water or in tidal conditions, specific fast-setting mix is required to limit segregation and washout of fine material / cement. This will normally be achieved by having either a higher than normal fines content, a higher cement content or the use of chemical admixtures.

3.5.9.1.4 Fuels, Oils and Chemicals

The risk of water quality impacts associated with works machinery, infrastructure and on-land operations (for example leakages/spillages of fuels, oils, other chemicals and waste water) will be controlled through good site management and the adherence to codes and practices which limit the risk to within acceptable levels.

The use of oils and chemicals on-site will receive significant care and attention. The following procedures will be followed to reduce the potential risk from oils and chemicals:

- Fuel, oil and chemical storage will be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of adequate capacity. The control measures in GPP2: Above Ground Oil Storage Tanks and PPG 26 Safe storage – drums and intermediate bulk containers (Environment Agency, 2011) shall be implemented to ensure safe storage of oils and chemicals.

- Spill kits will be fully stocked with appropriate materials such as PPE, containment booms, absorbent pads, and drip traps, and sited near fuel storage areas or designated fuelling zones.

- The safe operation of refuelling activities shall be in accordance with PPG 7 Safe Storage – The safe operation of refuelling facilities (Environment Agency, 2011).

The Contractors' site supervisors will work closely with the ECoW to monitor activities and ensure that all relevant environmental legislation is complied with and that the requirements of the CEMP and conditions of all relevant permits are implemented.

The Contractor will notify the ECoW immediately on the occurrence of:

- any incident or accident that significantly affects the environment.
- any breach of licence or permit conditions.
- any malfunction or breakdown of key control equipment or monitoring equipment that is likely to lead to loss of control or environmental mitigation measures.
- any incident with the potential for environmental contamination, or posing a threat to the aquatic environment, or requiring an emergency response by the Local Authority.

This will include the date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions, measures taken to restore compliance where breach of a licence condition has occurred.

3.5.9.1.5 Incident Response / General Observations

In the event of possible environmental incidents, staff will undertake additional investigations as required to seek to identify the possible source and nature of any pollutants present. They will record any general observations relevant to the event which may inform the investigation including:

- Weather conditions.
- Any unusual water attributes (e.g. unusual colour or smell of sample, foam, scum).
- Any other observations including works within or surrounding the site.
- Any other general observations.

In this regard, written and photographic records will be made as appropriate.

3.5.10 Draft Pollution Incident Response Plan

This draft Pollution Incident Response Plan (PIRP) sets out best practice for dealing with potential environmental incidents on the Proposed Development site. The PIRP will help to prevent or reduce environmental damage if such an incident occurs. The PIRP should be read in conjunction with the other environmental management plans presented in this CEMP which list the potential environmental impacts that may arise and the mitigation that will be implemented to prevent impact.

The draft PIRP will be finalised in the event that development consent is obtained, in order to incorporate additional requirements pursuant to conditions attached to statutory consents, and methods and plant in use by the appointed Contractor.

The purpose of this PIRP is to provide clear guidelines on responses to pollution incidents to allow a rapid and efficient response to any incident in order to minimize environmental impact or damage. It is presumed that all relevant mitigation outlined in the individual environmental management plans in this CEMP is fully and effectively implemented.

The Main Works Contractor's designated representative (e.g. HSE Manager, Site Manager, ECoW) will be responsible for coordinating the PIRP and ensuring adequate resources are available for implementation. The PIRP will ensure all appropriate and relevant resources are identified in advance and made available as quickly as possible during a pollution response event. The plan is intended for guidance purposes only and any response may be adapted depending on the specific circumstances of a particular pollution event.

3.5.10.1 Pollution Scenarios

The PIRP will detail the response required to pollution events including emissions to water such as sediment, and emissions to air such as dust.

3.5.10.2 Key Provisions of the PIRP

The PIRP will include site and project-specific pollution incident response measures including:

- Preparation of a Project Organization Chart indicating the area of responsibilities and the reporting lines of the project personnel.
- Contact details of ECoW.
- Contact details for Main Contractor representatives responsible for coordinating pollution response (e.g. HSE Manager, Site Manager, ECoW)
- Personnel on site and roles in PIRP implementation.
- Date of PIRP issue and review dates.
- PIRP distribution list and number of copies and version.
- Detailed site plan.

- Detailed drainage map of the site including location of all interceptors and outfalls.
- Contact details for internal and external services and agencies with a role in pollution response or stakeholders whose assets may be impacted.
- Details of chemicals held on site including maximum quantity, storage locations and containment conditions, Safety Information Data Sheets.
- Detailed inventory of pollution prevention equipment - on and off site resources listed with calibration, service details.

3.5.10.3 Pollution Response Initiation

All operatives and personnel on site will comply with all relevant mitigation measures to prevent pollution outlined in the individual environmental management plans. Any person who detects a pollution incident will notify the representative responsible (HSE Manager, Site Manager, ECoW).

On receipt of notification of any such incident the Contractor's representative will:

- Inform the ECoW (if not already informed).
- Establish the nature of the spill, the source, direction of travel and quantity of material involved.
- Assess the extent, nature and potential impact of the pollution event on the receiving environment.
- Halt the activities giving rise to the pollution if possible.
- Mobilise the pollution response team to take immediate appropriate steps to stop further pollution and contain polluting material where possible by deploying pollution control equipment (i.e. spill kits) as required.
- Consider whether additional resources are required to mitigate the event.
- In the case of significant pollution, inform stakeholders that may be impacted.
- Gather as much further information as possible relating to the incident including noting wind direction and speed.
- Inform the relevant regulatory authorities (e.g. FCC's Pollution Control Section 01 890 5000 or 24 Hrs. contact 01 6796186; EPA; National Parks and Wildlife Services).
- Put monitoring in place to measure the duration and extent of the event, and the concentration of known pollutants.
- Keep a diary record of all actions.
- Take comprehensive photographic records of the event.

- Ensure all expenditure in response to the spill is tracked under a single project number.
- Liaise closely with relevant FCC personnel as identified in the PIRP contacts list.

3.5.10.4 Training and Records

Training in appropriate pollution response procedures will be provided to all site personnel. This will be undertaken at induction training and through regular toolbox talks to ensure that information in relation to the current construction phase of the Proposed Development is kept up to date.

The ECoW will be responsible for implementing the training programme. The ECoW will also carry out regular inspections of essential pollution prevention equipment to ensure it is adequately serviced, in calibration or certification and fit for purpose.

The ECoW will maintain a detailed record of all pollution events and responses, costs incurred and environmental impacts. The record will include a comprehensive debriefing of participants to provide an analysis of causes of the pollution event, detail lessons learned, and preventive or corrective actions taken to prevent event recurrence or similar events.

4 SITE SAFETY

4.1 Weather and Working Conditions

4.1.1 Weather Forecasting

The contractor should sign up to Met Éireann's flood warning service in order to get notified when the area is at risk of flooding (tidal warning). This system provides both 3 and 5 day forecasts and is updated daily. The weather forecasting service will be regularly monitored to indicate any periods of upcoming adverse weather conditions. Appropriate actions will then be taken to mitigate any potential situations that may arise. These actions should be documented in the safety management system, detailing the specific weather conditions that will necessitate action(s).

4.1.2 Operational Weather Limits

Operational weather limits will be set to ensure work is not carried out when conditions are considered to be unsafe. These limits will be dictated by maximum wave and wind limits and will be detailed in the Contractor's Risk Assessment Method Statement.

4.1.3 Health and Safety

Safety will be of prime importance during the construction works. The works will be subject to the Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Construction) Regulations, 2013. All aspects of design construction will be reviewed with regard to health and safety and a risk assessment will be carried out.

A Project Supervisor (Design Process) will be appointed by FCC to produce a pre-tender Health and Safety Plan for the project. The Principal Contractor will be responsible for the control and co-ordination of health and safety during the works and will be appointed as the Project Supervisor (Construction Stage). All individuals working on the Project will be required to undertake induction procedures. Such will be designed to make individuals aware of all the issues associated with the Project and will include, but not be limited to:

- The terms of the CEMP.
- Marine Safety.
- Working Hours.
- Access arrangements.
- Health, Safety and environmental policy and procedures.
- Code of Conduct within the site and surrounding environs.
- Statutory obligations of individuals on site.
- Traffic Management.
- Site parking.
- Public Access.
- Lighting requirements.
- Complaints and disciplinary procedures.
- Protection of the water environment.
- Protection of wildlife and habitats.
- Dust and air quality.
- Noise and vibration.
- Emergency procedures.

Visitors will not be allowed onto the site unless in possession of a current Safe Pass (or equivalent) demonstrating they have undertaken appropriate construction site Health & safety training and have received formal induction or are accompanied by an authorised person who has completed the induction. All visitors will be required to sign a visitor's book.

5 CONCLUSION

This oCEMP sets out the overall management strategy for the Proposed Development. The oCEMP aims to ensure the management of pre-construction and construction activity is carried out in a planned, structured and considerate manner which minimises the impacts of the works on the local environment, residents and commercial activities in the vicinity of the site. Due to the nature of construction works, there may be unforeseen events which occur at the site and the project team will actively manage any changes and discuss with the relevant authorities, where required.

Fingal County Council are committed to ensuring that the construction activities to be carried out are pro-actively managed so as to minimise potential impacts.