Submission From:	Environmental Protection Agency (EPA)
Submission Date:	30/04/2021

Submission:

A Waste Water Discharge Licence (WWDL) (Register No: D0423-01) held by Irish Water issued on 08.10.2015 for the waste water discharges from the waste water works serving the agglomeration of Whitegate / Aghada.

Details of the licence and any amendments made to the licence may be viewed on the Agency's website www.epa.ie. Currently, the Agency does not have on-hand an application for a review of this licence.

The population equivalent of the agglomeration to which the licence relates is 2,000. We note that the foreshore application relates to a waste water treatment plant designed initially for a population equivalent of 2,479. Therefore, a review of the WWDL is required as the proposed development results in the waste water works serving the agglomeration with a population equivalent greater than that for which a licence was granted.

The WWDL specifies requirements for the protection of the environment including a requirement to install a new waste water treatment plant providing secondary treatment with associated emission limit values. As the development proposal involves a waste water treatment plant providing preliminary and primary treatment, a review of the WWDL is required. The location of the outfall pipe differs from the primary discharge location specified in the WWDL and therefore a review of the WWDL is required.

Response (Issued 04/05/2021):

As noted by the EPA in their observations, wastewater discharges from the Whitegate/Aghada agglomeration are currently authorised under an EPA Wastewater Discharge Licence (WWDL), Reference No. D0423-01, in accordance with the Waste Water Discharge (Authorisation) Regulations 2007, as amended, and the population equivalent of the agglomeration to which this licence relates is 2,000 PE.

The proposed scheme, when commissioned, will cater for additional loading up to design population of 2,479 PE and therefore a review of the existing agglomeration WWDL will be required. Irish Water propose to submit an application to the EPA for a review of the existing licence.

The Waste Water Discharge (Authorisation) Regulations 2007 (Part II – Duties on a Water Services Authority and the Agency), require that such an application be made "within the 6 months preceding the date prescribed in column (2) of Schedule 2 opposite the specified population equivalent of the agglomeration served by a waste water works or at least 6 months before the date on which a waste water works becomes operational, whichever is later". However Irish Water propose to submit a licence review application to the EPA shortly after planning has been granted and well in advance of the commencement of construction work. We also note that the EPA is a statutory consultee to the planning process and has been consulted by Cork County Council in that regard.

Submission From:	Marine Institute
Submission Date:	26/04/2021

Submission:

As part of a wider development whereby Irish Water proposed to install a wastewater treatment plant at Ballytigeen Townland and upgrade the current Whitegate and Aghada Sewerage Scheme, a foreshore application has been submitted to Department of Housing, Local Government and Heritage to carry out works on the foreshore. It is proposed that three elements of the development are to be located in the foreshore:
- Part of proposed Rostellan Wastewater Pump Station and Rising Main
- Part of proposed Whitegate Wastewater Pump Station and Rising Main
- Marine Outfall

Given that portions of the existing infrastructure at Rostellen and Whitegate are located within the foreshore, it is proposed that some of the newer elements of the scheme would also be carried out within the foreshore. In addition, the project in the foreshore culminates in the laying of a proposed 295m (approx.) long marine outfall (from the High Water Mark (HWM)) to convey treated effluent from the proposed Whitegate & Aghada Wastewater Treatment Plant (WwTP) to be discharged in White Bay. In addition, the construction works for the proposed development would also require temporary working areas to accommodate the required infrastructure within the foreshore. It is proposed that the outfall pipe would be laid within a trench and overlaid with a concrete mattress to act as scour protection which will be finished to bed level.

The foreshore application form was accompanied by a number of documents and figures including:
- Natura Impact Statement (NIS) + Appendices
- Dispersion Modelling
- Construction Environmental Management Plan (CEMP)
- Archaeological reports
- Numerous Drawings and Mapping

It should be noted that there is a distinction between licenced aquaculture sites and fishery orders. The practices are different, and they are subject to different regulatory oversight. Aquaculture licensing is overseen by the Department of Agriculture Food and the Marine, whereas Fishery Order Areas, by virtue of use of dredging to harvest oysters, are overseen by Inland Fisheries Ireland.
The closest (line of sight) licenced aquaculture site (T05-356A) to the various elements of the project is:
- Rostellen PS – 6km
- Whitegate PS – 5.25km
- Marine Outfall – 8.5km

The closest (line of sight) Shellfish Growing waters (SGW) to the various elements of the project are:
- Rostellen South SGW - Rostellen PS – 330m
- Rostellen West SGW - Whitegate PS – 500m
- Rostellen West SGW - Marine Outfall – 5.5km

Given that wastewater generated in Whitegate/Aghada is currently discharged into Cork Harbour with effectively no treatment, it is the view of the Marine Institute that proposed scheme is justified in that it will meet with the requirements of the Urban Waste Water Treatment Directive and will likely improve water quality in Cork Harbour. On the basis of distance, and outputs of modelling studies, it is unlikely that the proposed developments will impact on aquaculture operations. Furthermore, it is likely the proposed developments will improve the water quality as it relates to Shellfish Growing Waters Directive and the Water Framework Directive generally in Cork Harbour. Upon review of the documentation, it is apparent that the proposed outfall works in the foreshore are considered significant. However, it is clear based upon information in the application and accompanying documentation that it is unlikely the development will have lasting impact on the marine features including Natura features, aquaculture operations and shellfish growing waters. Given the majority of disturbance is likely to occur during construction, the Marine Institute advices that the duration of laying of the outfall pipe into White Bay be kept as short as possible and that all mitigation measures proposed be fully implemented.

Response (Issued 04/05/2021):

We have no comments on these observations.

Submission From:	Department of Agriculture
Submission Date:	02/06/2021

I refer to your request for comments/observations from the Dept of Agriculture Food and the Marine with regards to this application.
This Department has no objection to this application by Irish Water, please include the condition below in any licence that issues:-

· The Marine Institute advises that the duration of laying of the outfall pipe into White Bay be kept as short as possible and that all mitigation measures proposed be fully implemented.

Response:

We have no comments on these observations.

Submission From:	NPWS and UAU
Submission Date:	18/05/2021

Please find the heritage recommendations of the Department for the above mentioned application.
The NPWS and UAU have no comment to make on this application.

Response:

We have no comments on these observations.

Submission From:	Inland Fisheries Ireland
Submission Date:	17/05/2021

Overview:
The proposed development would consist of the construction of a wastewater collection and treatment system for the combined villages of Whitegate and Aghada, Co. Cork. Currently, there is no wastewater treatment facility serving the area and as a result untreated wastewater is being discharged directly into Cork Harbour. This process is not compliant with obligations of the Urban Wastewater Treatment Directive (UWWTD) 91/271/EEC. To rectify this problem and to facilitate future development in the area, currently constrained by the lack of adequate wastewater treatment, the proposed development is being advanced by Irish Water.

Applicant Information:
The elements of the project that will occur on the foreshore are clearly laid out in the application form as follows:
1. Marine Outfall,
2. Part of proposed Rostellan Wastewater Pump Station and Rising Main,
3. Part of proposed Whitegate Wastewater Pump Station and Rising Main.

The overall scheme would comprise the following elements:

- Wastewater Treatment Plants (WWTPs),
- Gravity Sewer-Outfall,
- Marine Outfall,
- Rostellan Wastewater Pumping Station and Rising Main,
- Lower Aghada Wastewater Pumping Station and Rising Main,
- Whitegate Wastewater Pumping Station and Rising Main,
- Ardnabourkey Gravity Sewer,
- Upgrade Works to Existing Sewerage System.

The estimated construction programme is anticipated to take approximately 16 months.

IFI Comment:

General
Inland Fisheries Ireland's (IFI) brief includes conservation of relevant fish species. Of relevance in the present case are resident and migratory species traversing the coastline and entering into the Cork Harbour SPA - including Atlantic salmon, sea trout, sea and river lamprey and European eel.

In terms of time windows, the following are relevant in regard to planning of construction work (see Table 1).

- Summer inward migration of 1-sea winter salmon or grilse into the Cork Harbour SPA,
- migration of adult river lamprey into the area from late summer through Autumn and
- Winter,
- Spring downstream migration (March – May) of salmon smolts moving out to sea,
- Winter – Spring glass eel recruitment and elver upstream migrations of European eel,
- Autumn – Spring downstream migration of adult silver eel, European eel.

Depending on the timing of the proposed works, these migratory species, (as well as sea trout) would be passing through the area where construction work would be on-going with potential to generate noise into the water column, and where suspended solids, construction materials and cements may be at risk of entering the water column.

In a marine context, the timings should be examined in regard to the spawning time and spawning area of commercially important fish species and input of Sea Fisheries Protection Authority (SFPA) should be sought here. Species of note would be sharks, such as tope and smoothhound. IFI would recommend the local angling clubs and fishermen are notified in advance of works commencing.

Table 1. Generalised timing of life stages of relevant migratory fish species using Cork Harbour SPA

Fish Species	EU Status	Life stage	Timing in Harbour SPA
Atlantic salmon	Habitats - Annex II	Adult upstream migration	All times of year: 'spring' fish; grilse run in June - July
		Smolt downstream run	March - June
River lamprey	Habitats - Annex II	Upstream Adult spawning migration	Autumn - Winter
		Seaward migration of young adults	Autumn - Winter
European Eel	EU Eel Action Plan	Upstream migration of elvers	Winter - Spring
		Downstream of adult fish	Autumn – Spring

The proposed application, while making reference to the importance of the Cork Harbour SPA for several fish species as spawning and/or nursery waters (including Atlantic mackerel, Horse Mackerel, Atlantic Cod, Atlantic Herring and Whiting) and shellfish aquaculture; does not consider the further importance of the waterbody to the migratory species listed in Table 1 above. These species were previously highlighted by IFI in the observation notes in relation to the initial marine site investigation for the proposed works (file ref FS006835 - Foreshore Application by Irish Water in respect of site investigations at Aghada - Whitegate, Co. Cork by (IFI, R&D, and (IFI, Macroom).

Specific construction elements (also listed 1-3 above)
1. Marine Outfall,
2. Part of proposed Rostellan Wastewater Pump Station and Rising Main,
3. Part of proposed Whitegate Wastewater Pump Station and Rising Main.

When considering the specifics of construction element 1 – the marine outfall, which is proposed to extend approximately 295m beyond the highwater mark and approximately 190m beyond the low water mark discharging in a water depth range of between 4.3m and 8m during a typical spring tide. The outfall has been designed as a 315mm OD HDPE pipe terminating at an 80mm diameter diffuser port. A 100m wide pipe laying corridor is specified in the application, to allow for construction. The pipe laying methodology is not specified and will be determined by the contractor. However, it is likely to be one of the following:

A. Horizontal directional drilling
B. Flood-and-float
C. Bottom-pull

IFI would have a clear preference for Option A (HDD) given its minimal adverse impact on the marine environment and does not require the installation of a concrete mattress for scour protection. The other options have significant impact in regard to trench excavation, lining and filling and mattress installation.

In relation to construction elements 2 and 3, construction of Wastewater Pump Stations and Rising Mains, the works will be intrusive at the construction phase in regard to noise generation due to the proposed sheet piling utilised. IFI acknowledges the significance of noise and vibration generation into the aquatic environment due to piling activity. The procedures proposed use instruments that can generate high sound pressure levels with potential for impacts to fish species but such issues are not addressed in the application. Mitigation measures should be undertaken to mitigate adverse impacts to the aquatic biota and should include the following:

- Pile driving to be undertaken only in daylight hours and for limited periods of time,
- Pile driving should not be occurring during critical environmental windows for migratory fish (see Table 1 and timings to be agreed with IFI Macroom),
- Use of vibrating hammer for pile driving in order to reduce noise generation and propagation,
- Use of bubbler curtain around the immediate area of pile driving in order to reduce noise dispersal into the aquatic environment,
- Use of cushion blocks to dampen hammer action,
- Use of soft-start and ramp-up procedures for any noise generating works undertaken both on a day-to-day basis and on re-start after any stoppages within any day,
- duration of noise-generating works to be reduced to the minimum necessary to complete works to a sufficient quality.

Finally, in relation to all three construction elements listed, IFI refers to its guidance in relation to construction works adjacent to water (https://www.fisheriesireland.ie/extranet/fisheries-management-1/624-guidelines-on-protection-of-

fisheries-during-construction-works-in-and-adjacent-to-waters.html), (IFI, 2006) and would require that all relevant measures specified therein should be adhered to. The document covers a range of issues including management of materials hazardous to the aquatic environment such as cements, grouting, oils, fuels and other chemicals, along with management of suspended solids and excavated materials. IFI proposes that compliance with this document should be a condition of foreshore permission. Details of Construction Environmental Management Plan (CEMP) should be agreed in advance with IFI.

References:

(2020). Natura Impact Statement (NIS) Whitegate-Aghada Sewerage Scheme (UTAS Cork Bundle). Environmental Consultants.

IFI (2006). Guidelines on protection of fisheries during construction work in and adjacent to waters. Inland Fisheries Ireland. (https://www.fisheriesireland.ie/extranet/fisheries-management-1/624-guidelines-on-protection-of-fisheries-during-construction-works-in-and-adjacent-to-waters.html).

Response:

Please refer to attached report, prepared by Dixon Brosnan Environmental Consultants.

(See below)

Submission From:	Foreshore Unit (Dpt. of Housing, Local Government and Heritage)
Submission Date:	21/07/2021

I have received the following queries from the prescribed bodies regarding your case.

MSO- Coordinates in upper right hand and lower left hand are incorrect on Foreshore Licence Map 1.

ENGINEER-

- ITM Grid Coordinates in upper right hand and lower left hand are incorrect on Foreshore Licence Map 2.
- Area of private land at old quay included on Foreshore Licence Map 2, the footprint of Constabulary Quay should be excluded from the proposed licence area.
- ITM Grid Coordinates in upper right hand and lower left hand are incorrect on Foreshore Licence Map 3.

Please give your clarification/comments on the following:

- Burial Depth to be achieved along marine outfall,
- Proposals in relation to emergency outfalls from the proposed pump stations, none is shown for Rostellan. Are these to be storm overflows also?
- It is not reasonable to request a closure of the beach at White Bay for an entire summer season, the beach should be available for public use in July and August as a minimum.

Response (Issued 16/08/2021):

Please see text below in repose to the submitted queries.

MSO: Co-ordinates in the upper right and lower left hand have been updated on Foreshore Licence Map 1- please see attached, the amended drawing.

Engineer:

- ITM Grid Co-ordinates in the upper right and lower left hand on Foreshore Licence Map 2 have been updated- please see attached, the amended drawing.
- Area of private land at old quay, and the footprint of Constabulary Quay presented on Foreshore Licence Map 2 have now been excluded from the proposed licence area- please see the attached amended drawing.
- ITM Grid Co-ordinates in the upper right and lower left hand on Foreshore Licence Map 3 have been updated- please see the attached amended drawing.

Clarification/ Commentary:

- **Burial depth to be achieved along the marine outfall**
  Minimum 1.2m.

- **Proposals in relation to emergency outfalls from the proposed pump stations, none is shown for Rostellan. Are these to be storm overflows also?**
  The existing outfall pipelines are to be repurposed to serve as combined Emergency Overflow / Surface Water Overflows. Connections to these existing pipelines will be made on-shore and there will be no additional works within the foreshore area.

- **It is not reasonable to request a closure of the beach at White Bay for an entire summer season, the beach should be available for public use in July and August as a minimum.**
  Agreed, the beech will remain open during these months.

Submission From:	Foreshore Unit (Dpt. of Housing, Local Government and Heritage)
Submission Date:	03/08/2021

In addition to the queries I already sent you regarding prescribed bodies consultation please confirm the following:
In order to complete the review and comment as required for the purposes of navigational safety, please indicate the position of the proposed outfall on an admiralty chart.

Response (Issued 16/08/2021):

The location of the proposed outfall is now presented on the drawing entitled 'Admiralty Chart; Sheet 2 of 2'- see attached. Updated on Website

Submission From:	Marine Survey Office (MSO)
Submission Date:	03/09/2021

I have the following comments:

1. Please confirm that if outfall pipe will be buried or just laid on the seabed. If laid on the seabed the pipe dimensions will need to be known.
2. In order for charts and nautical publications to be updated the British Admiralty Hydrographic Office at Taunton, UK is to be informed of the location and nature of the outfall pipe. (Fax:0044 1823 284077), Email: sdr@ukho.gov.uk
3. The applicant is required to apply to the Commissioners of Irish Lights (email: info@irishlights.ie) for sanction to establish any lights and marks that maybe required.

Response (Issued 21/09/2021):

Our responses are as follows:

1. The outfall pipeline will be buried below the seabed. At the outfall point, a diffuser consisting of small diameter (likely 100mm to 150mm) riser pipes (likely 3No.) will protrude above the seabed by circa 1m.
2. Noted. The British Admiralty Hydrographic Office will be informed of the location and nature of the pipeline.
3. Noted. The application will liaise with the Commissions of Irish Lights to establish any lights and marks required.

Submission From:	Marine Survey Office (MSO)
Submission Date:	13/10/2021

Good afternoon [redacted],
After reviewing the answers below in relation to this application the MSO has no further comment's with regard to the safety of navigation and is satisfied with the answers provided.

Response (Issued 20/10/2021):

We have no comments on this observation.

Submission From:	UAU
Submission Date:	02/06/2021

A chara,

Please find the heritage recommendations of the Department for the above mentioned application.

Underwater Archaeology
Having reviewed the proposals in conjunction with the accompanying Archaeological Impact Assessment Report undertaken by Archaeological Consultancy Services Unit (2018), it is our recommendation that the mitigation measures detailed in relation to the construction stage works are carried out in full.
Archaeological Monitoring & Testing shall consist of the following:

1. The applicant is required to engage the services of a suitably qualified archaeologist to monitor all areas the proposed works. It is recommended that the archaeologist be licensed under the National Monuments Acts 1930-2014 where a monitoring & testing strategy will be agreed by this office.

2. Should archaeological material, wreckage, timbers, or other artefacts be found during the course of monitoring the construction of the outfall pipe, the archaeologist shall have work on the site stopped, pending a decision as to how best to deal with the archaeology. The developer shall be advised by the Department of Housing, Local Government and Heritage with regard to any necessary mitigating action (e.g. preservation in situ, dive and/or geophysical survey or excavation). The applicant shall facilitate the archaeologist in recording any material found.

3. The National Monuments Service shall be furnished with a report describing the results of the monitoring & testing.

The NPWS have no comment to make.

Response (Issued 20/10/2021):

We have no comments on this observation. The mitigation measures outlined within the Archaeological reports will be implemented during construction phase .

Submission From:	Sea-Fisheries Protection Authority (SFPA)
Submission Date:	21/04/2021

1. *Possible impacts, if any, on existing wild fisheries in the area, with an emphasis on the possible implications for the SFPA conducting official controls and possible non-compliance issues that could arise.*

Having reviewed the application, it is considered unlikely that the installation will interfere in any major way with any sea-fishing operations. However, there is most likely an existing pot fishery for crustaceans in the proposed area of the single treated water outfall off White Bay, which may be temporarily impacted on by restricted access during the construction phase of the development. A marker buoy will mark the outfall diffuser. No implications for the SFPA conducting official controls are envisaged or any possible non-compliance issues.

2. *Impacts, if any, on shellfish growing areas adjacent to or within the area and the possible impact on the ability of the SFPA to conduct official controls and possible non-compliance issues that could arise.*

While the effects on the existing oyster producing operations in the classified shellfish production areas off Rostellan, as described in the applicant's maps, are unknown, it is not envisaged that they would be impacted upon by the development. Any improvements to Wastewater Treatment plants in the area, where effluent has heretofore been discharged untreated, may in fact prove beneficial to the overall seawater quality in that area of Cork harbour. No implications for the SFPA conducting official controls are envisaged or any possible non-compliance issues. The existing Shellsan monitoring program, via routine monthly bivalve sampling, will be maintained unhindered at the Rostellan site before, during and after the completion of the development. It was noted in the Cork UTAS Modelling document, on Page 17, Table 9:List of Classified Bivalve Mollusc in Cork Harbour, that Rostellan is incorrectly regarded as a "Dormant Fishery".

3. *Possible impacts, if any, on seafood safety.*

It is not anticipated that there will be any negative impacts on Seafood safety.

Response (Issued 20/10/2021):

We have no comments on this observation.

Submission From:	DHLGH
Submission Date:	14/09/2021

Applicant: Irish Water

Site Location: Rostellan, Whitegate and White Bay, Glanagow, County Cork.

Supporting Information submitted:

- Application Form.
- Drawings and Maps
- Dispersion Modelling
- Applicant's Screening for AA and NIS/AA
- Construction Environmental Management Plan (CEMP)
- Archaeology Assessments and Reports
- Other supporting Documents

1.0 **Project Overview and Background**

The proposed development consists of the construction of a wastewater collection system and a wastewater treatment plant (wwtp) at Ballytigeen for the villages of Whitegate and Aghada, Co. Cork. Currently wastewater from the villages of Whitegate and Aghada is being discharged untreated directly into Cork Harbour. This is not in compliance with obligations of the Urban Wastewater Treatment Directive (UWWTD) 91/271/EEC. The proposed development will rectify this issue and facilitate the future development in the villages which is currently constrained by the lack of adequate wastewater treatment. The overall developments consists of a wastewater treatment plant, upgrade works to existing sewerage system, extensive new sewage system, 3 no. pump stations and an marine outfall to the sea at White Bay.

1.1 Brief Description of the proposed works

The following are the elements of the development that are on foreshore and require a consent under the foreshore act;

i. Foreshore at Rostellan for part of proposed Pump Station and Rising Main.

ii. ii. Foreshore at Whitegate for part of proposed Pump Station, Rising Main and Emergency Overflow.

iii. Foreshore at White Bay, Glanaglow for Marine Outfall to the sea. The treated effluent from the proposed Whitegate and Aghada wwtp is to be discharged to the sea at White Bay via a marine outfall. The proposed outfall will extend approximately 295m beyond the high water mark and approx. 190m beyond the low water mark discharging in a water of minimum depth of 4.3m at low water spring tide. The outfall has been designed as a 315mm OD HDPE pipe terminating at an 80mm diameter diffuser port. The construction works for the proposed development would also require temporary working areas to accommodate the required infrastructure within the foreshore. Existing outfall pipelines are to be repurposed to serve as combined Emergency Overflow / Surface Water Overflows (EO/SWOs). Connections to these existing pipelines will be made on-shore and there will be no additional works within the foreshore area. However it is not apparent from the application as to the condition or status of these outfalls. Emergency overflows operate in the event of a pump failure or power outage at a pump station. In the event of an extended pump failure or power outage untreated wastewater could be discharged to surface waters, such events would be very rare. However rare it is not acceptable that untreated wastewater be discharged to intertidal foreshore and so it is required that all EO/SWOs must discharge to below the line of Mean Low Water Springs to ensure maximum dilution is achieved and nuisance avoided. For visual and amenity reasons the pipeline must be buried below the natural shore, beach and foreshore level over its entire length with adequate cover to ensure it is not exposed or damaged during storm events.

2.0 Estate Management

2.1 Site Inspection and Consent History

I inspected the 3 sites on the 15/07/2021 at approx. 12:30 (LW 16.03 0.72m).

i. Foreshore at Rostellan for part of proposed Pump Station and Rising Main. 2. no. areas lined red and marked Area A - 0.015ha and Area B - 0.011ha shown on Foreshore Licence Map 1.

While these works are on what is now "dry land" a small part of pump station and rising main at Rostellan is on state owned foreshore previously reclaimed adjacent to a public park and a piece previously reclaimed for the public road under existing licence FS004115 and so require a foreshore licence. There is no conflict with the use licenced under licence FS004115 and Irish Water have the consent of the licensee Cork County Council to conduct the works. (See Photo 1)

Foreshore at Whitegate for part of proposed Pump Station, Rising Main and Emergency Overflow 2. no. area lined red and marked Area C1 – 0.36ha and Area C2 – 0.33ha shown on Foreshore Licence Map 2. While these works are on what is now "dry land" part of the pump station, rising main and emergency overflow at Whitegate are on state owned foreshore it was previously reclaimed for the construction of the main road under existing licence FS004134 and Foreshore licence FS004178 for sewerage fall pipe so the works require a foreshore licence. There is no conflict with the developments licenced under licence FS004134 and FS004178 and Irish Water have the consent of the licensee Cork County Council to conduct the works. (See Photo 2)

ii. Foreshore at White Bay, Glanagow for Marine Outfall to the sea. 1. no. area lined red and marked Area D – 1.30ha shown on Foreshore Licence Map 3. This area over laps with foreshore licence FS006835 which was for site investigation works carried out to support the development the subject of this application. There is no conflict with the use licenced under licence FS006835 as the survey works are now complete. (See Photo3).

Total area of foreshore the subject of the application: 2.016ha.

All foreshore is presumed state owned unless proven otherwise. There are no known or established claims of private ownership of the foreshore at these locations. Therefore the foreshore the subject of this application is currently presumed state owned and proposed development does not conflict with the existing overlapping licences.

3.0 Public Interest

Section 2 and 3 of the Foreshore Act, as amended, states that a lease or licence of state foreshore may be granted "If, in the opinion of the Minister, it is in the public interest". As state owned foreshore is a finite and valuable state resource and a public amenity, it is important that each plan and project is fully assessed to ensure, that if consented to, it is a sustainable and proper use of that resource. Having considered the works proposed will bring to an end the unacceptable practice of waste water being discharged to the marine environment with only minimal treatment and that the works are required to comply with obligations of the Urban Wastewater Treatment Directive, I am satisfied that the proposed project is in the public interest.

4.0 Assessment & Conclusion

The foreshore the subject of this application at Rostellan, Whitegate and White Bay, Glanagow, County Cork is state owned, there are no conflicts with existing licences and the works as proposed are in the public interest. The works if completed as proposed will not have significant adverse impacts on the public use of and access to foreshore, navigation, fisheries or the environment (subject to MLVC confirmation).

5.0 Recommendation

I have no objection to the granting of Foreshore Licence under Section 3 of the Foreshore Act for this application subject to the following conditions;

1. The licensee shall use that part of the foreshore, the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever.
2. The drawings titled: Foreshore Licence Map 1, Drg. No: IW-10015229-03-04-001, Rev: I2, Rev Date: 04/08/21, Foreshore Licence Map 2, Drg. No: IW-10015229-03- 04-002, Rev: I2, Rev Date: 04/08/21 and Foreshore Licence Map 3, Drg. No: IW10015229-03-04-003, Rev: I2, Rev Date: 04/08/21 shall be attached to and referenced in the licence document.
3. The works shall be completed in accordance the application documents and drawings submitted by the licensee to the Department of Housing, Local Government and Heritage.
4. The licensee shall submit to the Department of Housing, Local Government and Heritage a detailed report on the existing outfall pipelines to be repurposed to serve as combined Emergency Overflows/Surface Water Overflows. The report shall include the location, detailed description and drawings, condition and licencing status etc. of the outfalls. Any short comings identified must be rectified to the satisfaction of the Department of Housing, Local Government and Heritage. Please note it is a requirement of this Department that Emergency Overflows/Surface Water Overflows shall discharge to below the line low water springs.
5. The construction works shall be scheduled so to avoid the bathing season from 1st May to 30th September at White Bay.

6. The licensee shall notify the Department of Housing, Local Government and Heritage at least 14 days in advance of the commencement of any works on the foreshore. This notification shall include an up to date Programme of Works for the completion of the project.

Response (Issued 20/10/2021):

We have no comments on this observation.

DixonBrosnan
environmental consultants

Response to observations by IFI on a proposed wastewater treatment marine outfall at Aghada-Whitegate, Cork Harbour.

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August 2021

www.dixonbrosnan.com

Project	Response to observations by IFI on a proposed wastewater treatment marine outfall at Aghada-Whitegate, Cork Harbour.	
Client	ARUP	
Project Ref.	2169	
Report No.	2169	
Client Ref.	-	
Date	**Revision**	**Prepared By**
05/08/21	1st draft	[redacted]
		[redacted]

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1. Introduction

DixonBrosnan Environmental Consultants were commissioned by ARUP to review and prepare a reply to observations made by Inland Fisheries Ireland in relation to observations made by Inland Fisheries Ireland (IFI) on a proposed marine outfall and associated works in the Whitegate/Aghada area within Cork Harbour from a wastewater treatment plant. The following queries were received and are addressed in this report.

Query 1

Inland Fisheries Ireland's (IFI) brief includes conservation of relevant fish species. Of relevance in the present case are resident and migratory species traversing the coastline and entering into the Cork Harbour SPA - including Atlantic salmon, sea trout, sea and river lamprey and European eel. In terms of time windows, the following are relevant in regard to planning of construction work (see Table 1).

- *Summer inward migration of 1-sea winter salmon or grilse into the Cork Harbour SPA,*
- *migration of adult river lamprey into the area from late summer through Autumn and Winter,*
- *Spring downstream migration (March – May) of salmon smolts moving out to sea,*
- *Winter – Spring glass eel recruitment and elver upstream migrations of European eel,*
- *Autumn – Spring downstream migration of adult silver eel, European eel.*

Depending on the timing of the proposed works, these migratory species, (as well as sea trout) would be passing through the area where construction work would be on-going with potential to generate noise into the water column, and where suspended solids, construction materials and cements may be at risk of entering the water column. In a marine context, the timings should be examined in regard to the spawning time and spawning area of commercially important fish species and input of

Sea Fisheries Protection Authority (SFPA) should be sought here. Species of note would be sharks, such as tope and smoothhound. IFI would recommend the local angling clubs and fishermen are notified in advance of works commencing.

Table 1. Generalised timing of life stages of relevant migratory fish species using Cork Harbour SPA

Fish Species	EU Status	Life stage	Timing in Harbour SPA
Atlantic salmon	Habitats - Annex II	Adult upstream migration	All times of year: 'spring' fish; grilse run in June - July
		Smolt downstream run	March - June
River lamprey	Habitats - Annex II	Upstream Adult spawning migration	Autumn - Winter
		Seaward migration of young adults	Autumn - Winter
European Eel	EU Eel Action Plan	Upstream migration of elvers	Winter - Spring
		Downstream of adult fish	Autumn – Spring

The proposed application, while making reference to the importance of the Cork Harbour SPA for several fish species as spawning and/or nursery waters (including Atlantic mackerel, Horse Mackerel, Atlantic Cod, Atlantic Herring and Whiting) and shellfish aquaculture; does not consider the further importance of the waterbody to the migratory species listed in Table 1 above. These species were previously highlighted by IFI in the observation notes in relation to the initial marine site investigation for the proposed works (file ref FS006835 - Foreshore Application by Irish Water in respect of site investigations at Aghada - Whitegate, Co. Cork by (IFI, R&D, and (IFI, Macroom).

Query 2

Specific construction elements (also listed 1-3 above)

1. Marine Outfall,

2. Part of proposed Rostellan Wastewater Pump Station and Rising Main,

3. Part of proposed Whitegate Wastewater Pump Station and Rising Main.

When considering the specifics of construction element 1 – the marine outfall, which is proposed to extend approximately 295m beyond the highwater mark and approximately 190m beyond the low water mark discharging in a water depth range of between 4.3m and 8m during a typical spring tide. The outfall has been designed as a 315mm OD HDPE pipe terminating at an 80mm diameter diffuser port. A 100m wide pipe laying corridor is specified in the application, to allow for construction.

The pipe laying methodology is not specified and will be determined by the contractor. However, it is likely to be one of the following:

A. Horizontal directional drilling

B. Flood-and-float C. Bottom-pull IFI would have a clear preference for Option A (HDD) given its minimal adverse impact on the marine environment and does not require the installation of a concrete mattress for scour protection.

The other options have significant impact in regard to trench excavation, lining and filling and mattress installation.

In relation to construction elements 2 and 3, construction of Wastewater Pump Stations and Rising Mains, the works will be intrusive at the construction phase in regard to noise generation due to the proposed sheet piling utilised. IFI acknowledges the significance of noise and vibration generation into the aquatic environment due to piling activity. The procedures proposed use instruments that can generate high sound pressure levels with potential for impacts to fish species but such issues are not addressed in the application.

Mitigation measures should be undertaken to mitigate adverse impacts to the aquatic biota and should include the following:

- *Pile driving to be undertaken only in daylight hours and for limited periods of time,*

- *Pile driving should not be occurring during critical environmental windows for migratory fish (see Table 1 and timings to be agreed with IFI Macroom),*

• Use of vibrating hammer for pile driving in order to reduce noise generation and propagation, on a day-to-day basis and on re-start after any stoppages within any day,

• duration of noise-generating works to be reduced to the minimum necessary to complete works to a sufficient quality.

Finally, in relation to all three construction elements listed, IFI refers to its guidance in relation to construction works adjacent to water (https://www.fisheriesireland.ie/extranet/fisheriesmanagement-1/624-guidelines-on-protection-of-fisheries-during-construction-works-in-andadjacent-to-waters.html), (IFI, 2006) and would require that all relevant measures specified therein should be adhered to. The document covers a range of issues including management of materials hazardous to the aquatic environment such as cements, grouting, oils, fuels and other chemicals, along with management of suspended solids and excavated materials. IFI proposes that compliance with this document should be a condition of foreshore permission. Details of Construction Environmental Management Plan (CEMP) should be agreed in advance with IFI.

2. Response to Query 1

A specific response to query 1 has been prepared by AQUAFACT International Services Ltd and is attached as **Appendix 1.** The report concluded the following:

Given the fact that the listed fish species have evolved to migrate to estuaries and are therefore capable of tolerating elevated levels of suspended sediments and also that all but one of these species will move quickly through Cork Harbour, the potential level of impact on them from construction activities associated with pipe laying is considered to be very low.

3. Response to Query 2

3.1 Marine Outfall

Following consultation with the contractor it was determined that for the marine outfall multiple options were assessed at planning stage including both float and flood and HDD. However ground conditions are considered

unsuitable for HDD. The contractor's preferred methodology is float and flood, which consists of

- Excavating a trench using a barge mounted excavator
- Floating the welded pipe into position and sinking it using seawater as ballast
- Backfilling the trench with excavated material, using the excavator
- There is no piling proposed here and piling would not be an option for this element of the works.

3.2 Pumping Station (partially in the foreshore area)

This is an underground concrete chamber partially in the foreshore area. The temporary works for this will most likely require piling of some description.

4. Mitigation

The following mitigation as requested by IFI will be implemented:

- Pile driving to be undertaken only in daylight hours and for limited periods of time,
- Use of vibrating hammer for pile driving in order to reduce noise generation and propagation, on a day-to-day basis and on re-start after any stoppages within any day,
- Duration of noise-generating works to be reduced to the minimum necessary to complete works to a sufficient quality.
- IFI guidance in relation to construction works adjacent to water (https://www.fisheriesireland.ie/extranet/fisheriesmanagement-1/624-guidelines-on-protection-of-fisheries-during-construction-works-in-andadjacent-to-waters.html), (IFI, 2006) will be adhered to.
- Details of Construction Environmental Management Plan (CEMP) should be agreed in advance with IFI.

5. Conclusions

It is noted that avoidance of the critical windows for fish movement as specified in Table 1, will leave insufficient time to compete the works. It is also noted that the contractor's preferred methodology is float and flood for the marine outfall and that piling will not be required. Piling will only be required, if at all, for an underground concrete chamber partially in the foreshore area at Rostellan.

As noted in the Aquafact report migratory fish are adapted to the high levels of suspended solids that commonly occur in estuaries and any impact on migratory fish species will not be significant. Any minor spills of hydrocarbons or cement will be of negligible significance in the context of the dilution available in the marine/estuarine environment.

The implementation of mitigation measures as specified by IFI will ensure that impacts on fish species will not be significant. However, it has been concluded that avoidance of the critical windows for fish movement is not possible or required given the proposed methodology.

Appendix 1

Response to observations by IFI on a proposed wastewater treatment marine outfall at Aghada-Whitegate, Cork Harbour.

Produced by

AQUAFACT International Services Ltd

On behalf of

DIXONBROSNAN Environmental Consultants

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1. Introduction.

AQUAFACT International Services Ltd was commissioned by Carl Dixon of DixonBrosnan Environmental Consultants to review a prepare a reply to observations made by Inland Fisheries Ireland in relation to observations made by Inland Fisheries Ireland (IFI) on a proposed marine outfall in the Whitegate/Aghada area within Cork Harbour from a wastewater treatment plant.

The total length of the pipe from High water mark is 295m and water depth at Low water is 4.3m. Construction duration is estimated at 16 months.

2. IFI's main observations.

The main issue raised by IFI relates to the fact that a number of migratory fish (both anadromous and catadromous) species pass through Cork Harbour on their way to either spawn or to migrate up or down through the harbour at different times of the year. Species include Sea Lamprey (*Petromyzon marinus),* River Lamprey (*Lampetra fluviatilis*), Salmon (*Salmo salar*), Sea trout (*Salmo trutta morpha trutta*) and Eel (*Anguilla anguilla*). These species pass through the harbour at different times of the year and except for Sea Trout (that may remain in the harbour for extended periods of time), they move quickly through the system either on their way up or down the harbour to spawn or to return the sea.

The IFI document also lists a number of mitigation measures that include:
Pile driving to be under taken during daylight hours and for limited periods of time,
Pile driving to be undertaken outside peak migration periods of the fish species listed above,
Use of a vibrating hammer to reduce noise generation and propagation,
Use of a bubble curtain to reduce noise dispersion
Use of cushion blocks to dampen hammer action,
Use of soft start and ramp up procedures prior to start/re-start of pile driving and
Reduce noise-generation activities as much as possible.

Although not listed in the mitigation measures, IFI makes the recommendation of using horizontal directional drilling (HDD) to install the pipe. The document also refers to IFI's guidance on construction works adjacent to water and states that all relevant measures specified in the document should be adhered to.

The document also recommends that with regard to spawning periods and locations of fully marine fish species, input from the Sea Fisheries Protection Authority (SFPA) should be sought. [redacted] of SFPA was contacted in this regard and he said there are no species of commercial value that breed in the proposed outfall area.

3. Observations on these comments.

All the fish species listed above have evolved over geological time to migrate (either on their way up or down) through estuaries. As estuaries typically have high levels of suspended sediments (and the Lee is no exception to this), these species will be able to tolerate any elevated levels of suspended sediments generated by the construction activities. As noted above, all but Sea Trout move quickly through estuaries and do not deviate from their journeys. Because of this (and if they are in the area), they will swim directly through the location where the pipe is being laid.

4. Conclusion.

Given the fact that the listed fish species have evolved to migrate to estuaries and are therefore capable of tolerating elevated levels of suspended sediments and also that all but one of these species will move quickly through Cork Harbour, the potential level of impact on them from construction activities associated with pipe laying is considered to be very low.