# Technical Note on AA Screening Report

**FOR**

## Proposed Residential Development

**AT**

## Headford Road, Ballinfoyle, Co. Galway

**ON BEHALF OF**

Comhairle Cathrach na Gaillimhe
Galway City Council


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# DOCUMENT CONTROL SHEET

| | |
|---|---|
| **Client** | Galway City Council |
| **Project Title** | Proposed Residential Development at Headford Road, Ballinfoyle, Co. Galway |
| **Document Title** | Technical Note on AA Screening Report |

| Revision | Status | Author(s) | Reviewed | Approved | Issue Date |
|---|---|---|---|---|---|
| 00 | Draft for internal Review | Siobhan Atkinson *Senior Ecologist* | Colin Lennon *Technical Director* | - | - |
| 01 | Draft for client review | Siobhan Atkinson *Senior Ecologist* | Colin Lennon *Technical Director* | Colin Lennon *Technical Director* | 06/10/2021 |
| **02** | Final | Siobhan Atkinson *Senior Ecologist* | Colin Lennon *Technical Director* | Jim Dowdall *Director* | 13/04/2022 |
| **03** | Final | Siobhan Atkinson *Senior Ecologist* | Colin Lennon *Technical Director* | Jim Dowdall *Director* | 02/06/2022 |

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# 1 BACKGROUND

Enviroguide Consulting was commissioned by O'Briain Beary Architects on behalf of Galway City Council to carry out a review of an Appropriate Assessment Screening Report and subsequently prepare a Natura Impact Statement, for a Proposed Residential Development at Headford Road, Ballinfoyle, Co. Galway.

# 2 EVIDENCE OF TECHNICAL COMPETENCE AND EXPERIENCE

Synergy Environmental Ltd., T/A Enviroguide Consulting, is wholly Irish Owned multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All of Enviroguide's consultants carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development.

Enviroguide Consulting as a company remains fully briefed in European and Irish environmental policy and legislation. Enviroguide staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM).

Siobhán Atkinson has a B.Sc. (Hons) in Environmental Biology and a Ph.D. in Freshwater Biology from University College Dublin, and extensive experience in desktop research, Geographic Information Systems (GIS), literature review and reporting, as well as practical field and laboratory experience including environmental DNA analysis, freshwater macroinvertebrate sampling and identification, fish sampling and processing and habitat surveying. Siobhán has prepared Ecological Impact Assessments (EcIA), Stage I and Stage II Appropriate Assessment Reports, Habitat Surveys and Invasive Species Surveys and input and reviewed Ecological and Environmental assessments for several EIA Reports.

# 3 OVERVIEW OF AA SCREENING BY ECOFACT ENVIRONMENTAL CONSULTANTS

An Appropriate Assessment (AA) Screening Report was prepared for the Proposed Development by Ecofact Environmental Consultants. The AA Screening report concluded that the Proposed Development at Ballinfoyle, Co. Galway requires an Appropriate Assessment (Natura Impact Statement - NIS). The author lists two reasons as to why a NIS is required, namely the identification of potential pathways for significant effects (via Galway Wastewater Treatment Plant (WwTP) and via surface water run-off and groundwater impacts potentially affecting the Lough Corrib SAC), and uncertainty surrounding the effectiveness of treatment at the Galway WwTP.

The AA Screening Report states that "*Using the Source-pathway-receptor model, one pathway for significant indirect and cumulative impacts was identified via the Galway WwTP, which discharges directly into the Galway Bay Complex SAC and the Inner Galway Bay SPA. Another pathway is identified regarding surface water run-off and groundwater impacts,*

*affecting the Lough Corrib SAC which is c. 220m north-west, and the following habitats: Semi-natural dry grasslands and scrubland facies on calcareous substrates, Molinia meadows and Limestone pavement."*

Foul water treatment is considered to be a mitigation measure by the authors of the report. The report states that "*Mitigation is also required to ensure no significant impacts occur - as demonstrated in case C-323/17 People Over Wind and Peter Sweetman v Coillte, mitigation measures are not be taken into account at the screening stage of Appropriate Assessment. This includes for mitigation by a third party, which in this case would be foul water treatment by the Mutton Island plant. A full assessment and detailed examination of the Galway WwTP, expected discharge from the site, and calculations, is required. This cannot be carried out at the pre-assessment Screening stage. Nonetheless, the potential pathways remain."*

# 4 REVIEW OF AA SCREENING CONCLUSIONS

Overall, it is the considered opinion of Enviroguide Consulting that it is necessary to proceed to Stage 2 of the Appropriate Assessment process, and that a Natura Impact Statement is required for this Proposed Development.

Having reviewed the AA Screening Report, Enviroguide Consulting is in agreement with Ecofact Environmental Consultants that pathways to European Sites from the Proposed Development potentially exist. The foul waters from the Site (which are ultimately treated by Galway WwTP) provide potential pathways to European sites in Galway Bay. Furthermore, there is a pathway via groundwater flow which could affect the Lough Corrib SAC which is c. 290m north-west (of the present red line boundary), and a number of Annex I habitats associated with this SAC. Several habitats associated with this SAC are in close proximity to the Proposed Development Site (e.g. Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]; Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] and Limestone pavements [8240]). Although these Annex I habitats are located outside the boundary of the European Site, impacts to these habitats could impact on the structure and function of Lough Corrib SAC. Furthermore, groundwater vulnerability in the area ranges from X- rock at or near the surface and extreme, and the underlying bedrock aquifer is a *Regionally Important Aquifer - Karstified (conduit)*. As such, there is potential for significant effects on this SAC via the groundwater pathway. Furthermore, given the proximity of the Site to Annex I habitats associated with Lough Corrib SAC, there is potential for significant effects on these habitats and potentially also the SAC due to dust deposition. Annex I habitats in close proximity to the Proposed Development Site and Groundwater Vulnerability in the area are shown in Figure 2 and Figure 3.

It is deemed that there is no pathway to European Sites or Annex I habitats via overland surface water flows. The Proposed Development is located downgradient of Lough Corrib SAC. Based on the topographical survey carried out (Figure 1), surface water run-off from the Site would flow south-east towards the Headford Road, in the opposite direction of Lough Corrib SAC. Site levels fall from c. 30.0 m OD at the west of the Site and c. 20m OD at the north of the Site, to c. 17m OD to the south of the Site. There are no surface water sewers on the Headford Road adjacent to the Site which could convey surface water run-off to a nearby waterbody or European Site. According to the Engineering Services Report (DBFL, 2022), at

present, “all pluvial storm water that falls onto the site currently soaks away to ground or flows as sheet flow overland toward Headford Road. It then flows south along Headford Road and discharges to an existing marsh area. The marsh area is 150m south of the site on Headford Road, on the east side of Headford Road”.

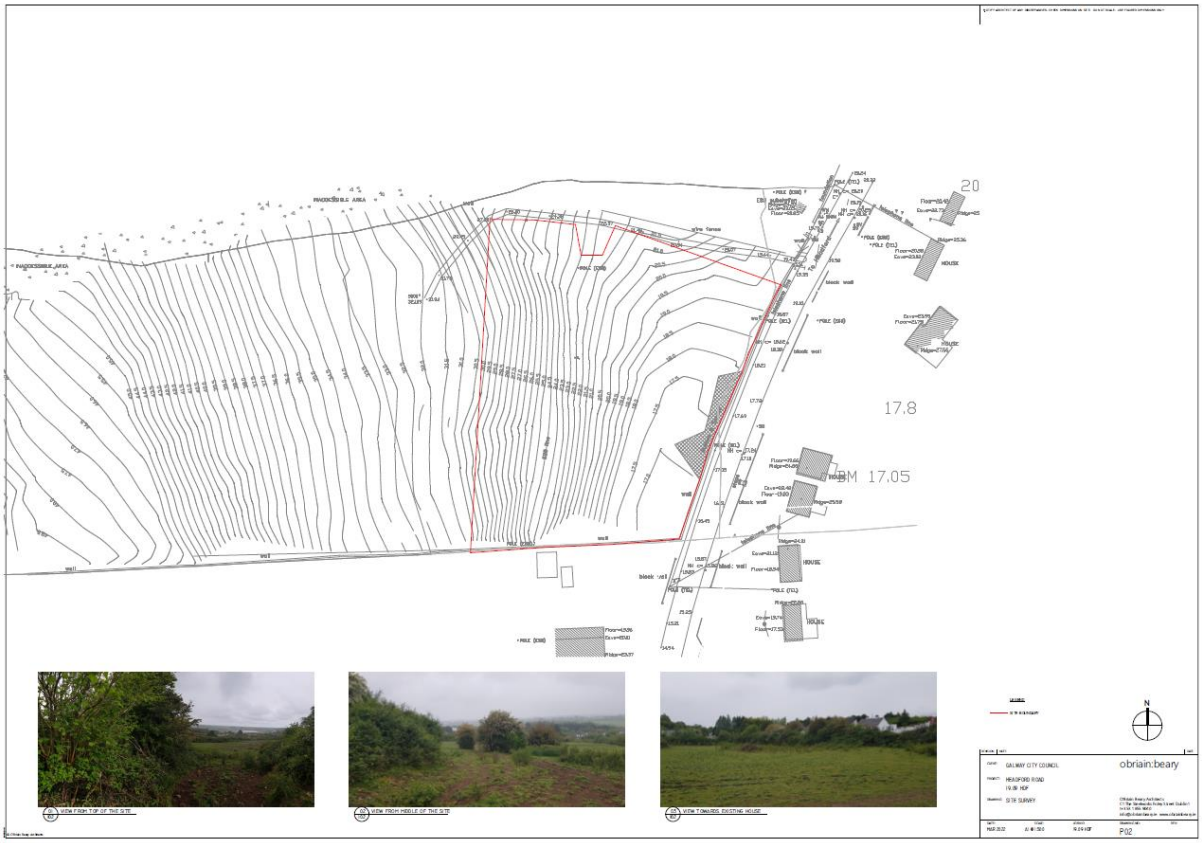


**FIGURE 1. SITE SURVEY (O'BRIAN BEARY, 2022).**

What is not considered in the AA Screening report is the potential for significant effects on Lough Corrib SPA, Galway Bay Complex SAC and the Inner Galway Bay SPA as a result of the Proposed Development due to hydrogeological pathways. It is understood that bulk excavation is required as part of the Proposed Development. Given the karst bedrock aquifer underlying the Site, there is a likelihood that groundwater within the Clare-Corrib groundwater body could interact with Lough Corrib, River Corrib and Terryland River, which are linked with Lough Corrib SAC, Lough Corrib SPA, Galway Bay Complex SAC and the Inner Galway Bay SPA. Typically, there is strong interconnection between surface water and groundwater in karstified bedrock aquifers (GSI, 2017). In addition, there is potential for *ex-situ* sites linked with Lough Corrib SPA and/or Inner Galway Bay SPA to be affected. The requirement to consider the potential use of habitat areas outside of an SPA by SCI bird species is set out in the Inner Galway Bay Special Protection Area, Conservation Objectives Supporting Document, Version 1[1]. These areas, referred to as ‘*ex-situ’* sites and are defined as habitat situated within the immediate hinterland of the SPA, or in areas ecologically connected to it, which support SCI bird species. Wintering bird surveys were carried out at 60 potential ex-situ sites as part of the ecological surveys carried out for the N6 Galway City Ring Road EIAR/NIS.

[1] https://www.npws.ie/sites/default/files/publications/pdf/004031_Inner%20Galway%20Bay%20SPA%20Supporting%20Doc_V1.pdf

The closest ex-situ sites which were surveyed as part of the EIAR/NIS to the Proposed Development are Ballindooley Lough (WB02) and the Lackagh Quarry (WB16) (indicated in Volume 3 of the NIS - Figure 9). These are located c. 200m north-east and c. 220m west of the Proposed Development respectively. In an extreme scenario, with a pollution event of sufficient magnitude, Lough Corrib SAC, Lough Corrib SPA, Galway Bay Complex SAC and the Inner Galway Bay SPA could be affected by the proposed development. As groundwater vulnerability in the area is classed as *X- rock at or near the surface*, it is considered that there is potential for pollutants to migrate through the aquifer and surface waterbodies into the aforementioned European sites and wetland habitats in the surrounding area. It is extremely unlikely that a pollution event of such a magnitude would occur during construction - the Proposed Development is small in scale, and it would be anticipated that any pollution events that could occur would be relatively minor in comparison to the diluting capacity of a coastal water body the size of Galway Bay, or a lake water body the size of Lough Corrib, or to be any more than temporary in nature. Nevertheless, following the precautionary principle, impacts on habitats and species associated with Lough Corrib SAC, Lough Corrib SPA, Galway Bay Complex SAC and the Inner Galway Bay SPA due to hydrogeological pathways should be considered further. In addition, there is potential for birds utilising the ex-situ sites listed above to be disturbed as a result of noise pollution during the Construction Phase.

It is the considered opinion of Enviroguide Consulting that the treatment of wastewater at the Galway WwTP during the Operational Phase does not constitute a mitigation measure in the context of the Appropriate Assessment Screening Report.

Mitigation measures can be defined as “measures intended to avoid or reduce impacts to European sites”[2]. Mitigation measures cannot be taken into consideration at the AA Screening stage. As demonstrated in case C-323/17 People Over Wind and Peter Sweetman v Coillte:

"*a full and precise analysis of the measures capable of avoiding or reducing any significant effects on the site concerned must be carried out not at the screening stage, but specifically at the stage of the appropriate assessment*."

Treatment of wastewater, either via private facilities (e.g., septic tanks) or public services (e.g., treatment at a WwTP) *is a mandatory requirement* of all developments in Ireland. As such, connecting wastewater infrastructure from a proposed development site to public sewerage infrastructure should not be interpreted as a mitigation measure. WwTPs pre-date the designation of the Natura 2000 network, and their primary purpose is to provide public sanitation services. Whereas the treatment of foul waters at WwTPs serve to protect water quality, the service this infrastructure provides should not be construed as a specific mitigation measure for protecting European Sites from a given proposed development. As such, it is the opinion of Enviroguide Consulting that it is not appropriate to consider this as a mitigation measure in the context of an AA Screening Report.

As the Galway WwTP is not a mitigation measure, an assessment of the WwTP, discharge from the Site and calculations, for the purposes of informing the pre-assessment Screening stage is appropriate in this instance.

[2]https://www.opr.ie/wp-content/uploads/2021/03/9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf

A review of the Galway City Development Plan[3], WwTP Annual Environmental Report (AER) coupled with estimated foul discharges from the Site and calculations would inform the AA Screening as to whether or not there is a risk wastewater from the site could significantly affect European sites in Galway Bay, thereby removing any uncertainty regarding the potential effect of wastewater discharges from the Proposed Development alone and in combination with other developments.

[3] Galway City Council Development Plan 2017-2023. Available at: https://www.galwaycity.ie/development-plan-downloads-2017


**FIGURE 2. THE PROPOSED DEVELOPMENT SITE LOCATION IN RELATION TO ANNEX I HABITATS AND DESIGNATED SITES.**

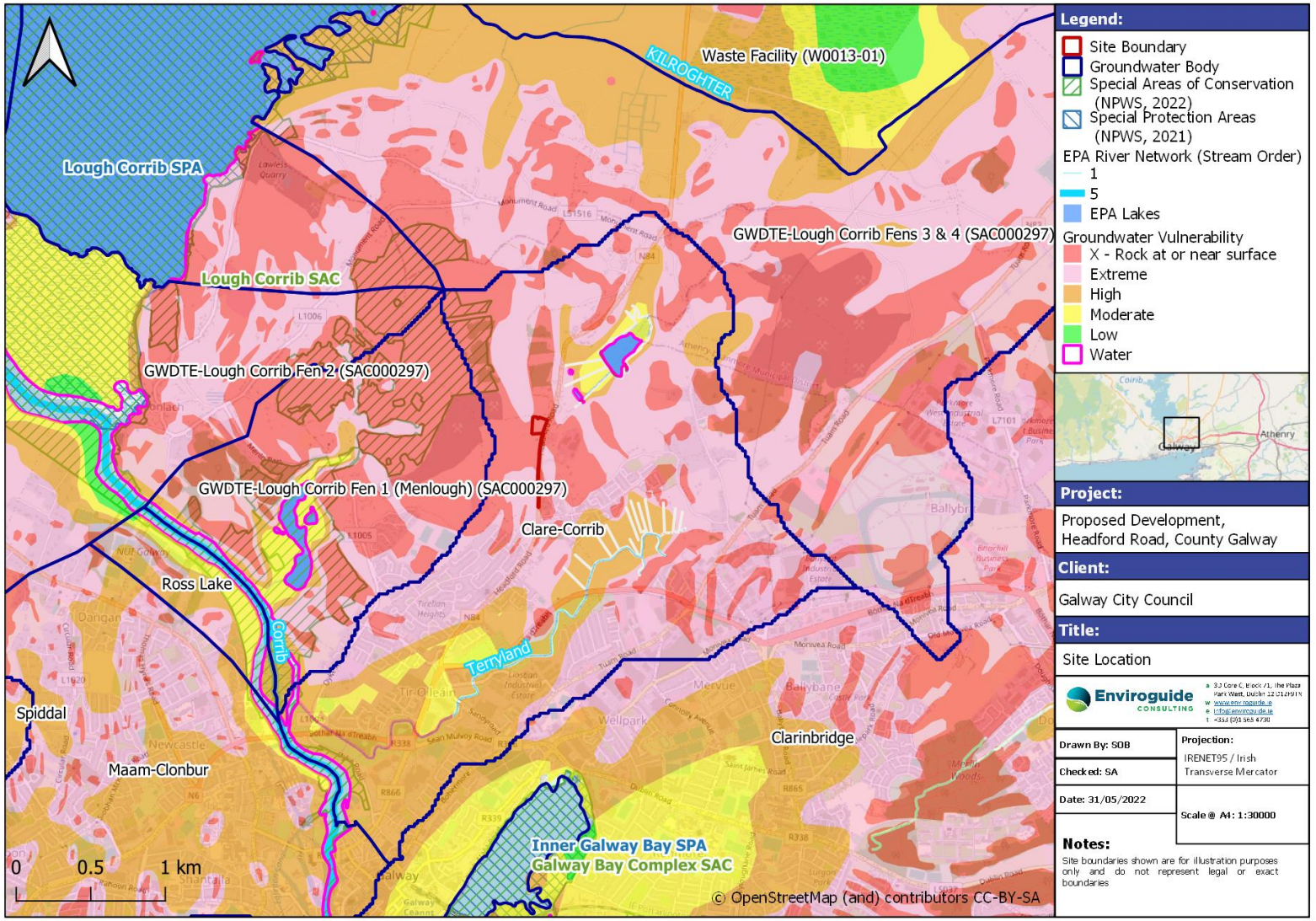


**FIGURE 3. SITE LOCATION.**

# 5 FOUL WATER DISCHARGES FROM THE SITE

### Existing Wastewater Infrastructure in Galway City

Galway City and environs are served by the Galway City WwTP located on Mutton Island. The city is served by foul, storm and combined sewers.

The Galway WwTP was upgraded in 2017 to 170,000 P.E. The most recent available Annual Environmental Report (AER) of Galway WwTP indicates that discharge from the facility at the time (2021) was compliant, and the annual mean and maximum hydraulic loading is less than the peak Treatment Plant Capacity. The remaining capacity of the plant is given as 66744 PE for 2021 and the AER notes that the capacity will not be exceeded in the next three years. The AER also notes upgrades planned at the plant to completed with many noted to be at the planning stage (Irish Water, 2021).

With regards to the impact of the operation of the WwTP on protected marine communities and water quality, the following measures incorporated into the design of the WwTP are highlighted as having "*a high certainty of effectiveness*" for protected intertidal and subtidal marine communities and the waters of Galway Bay during the operational phase of the WwTP in the Marine Ecology chapter of the EIAR for Galway WwTP[4]:

- "*Continued use of existing diffuser comprising 10 ports below 10m CD will dissipate energy of the flow and facilitate effective dispersion of the treated effluent.*
- *Water quality standards will be maintained through compliance with the UWWTR* [Urban Waste Water Treatment Regulation] *standards and effective dilution and dispersion to maintain low levels of suspended sediment.*
- *Design of the sewage treatment processes to achieve the UWWTR quality standards will prevent any significant adverse effects on the water quality of the receiving water.*
- *Standards are designed to be environmentally protective and to comply with the relevant legislation."*

Despite the upgrade of the WwTP, it is acknowledged in the Galway City Development Plan (2017-2023) that "*there are issues with combined sewer overflows on the wastewater sewer network in Galway City*" which "*may be an intermittent source of pollution for water bodies*". To address this, the Irish Water Capital Investment Plan includes investment in a Drainage Area Plan (DAP) for Galway City to identify the current performance level of the collection systems and the intervention measures to cater for exiting loadings and future growth areas. The DAP for Galway City will determine the solutions required to bring combined sewer overflows into compliance.

### Effect of Foul Water Discharges from the Site on European Sites

The increase of a maximum load of **97** Population Equivalent (PE) at the Galway WwTP as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered to be an insignificant increase in terms of the overall scale of the Galway WwTP. This potential maximum increased load does not have the capacity to alter

[4] Galway City Council (2006) Mutton Island WWTP Upgrade. Environmental Impact Statement

the effluent released from the WwTP to such an extent as to result in likely significant effects on the SACs and SPAs connected hydrologically with Galway WwTP.

Furthermore, the design of the Proposed Development is such that stormwater will be handled separately to foul water. According to the Engineering Services Report:

"*As there is no public surface sewer network close to the site, it has been proposed to use an onsite underground surface water drainage network (gulley, manhole and pipe network) with a below ground soakaway system that will let the surface water runoff to infiltrate to ground.*"

As stormwater will be handled separately to foul water, it can be concluded that any stormwater discharges from the Site will not lead to increased surface water loading on any combined sewers in the Galway area or the Galway WwTP. Furthermore, it is a policy of Galway City Council (Policy 9.8) to "*Ensure the use of Sustainable Urban Drainage Systems (SUDS) and sustainable surface water drainage management, wherever practical in the design of development to enable surface water run-off to be managed as near to its source as possible and achieve wider benefits such as sustainable development, water quality, biodiversity and local amenity".* Furthermore, *"Proposals for Sustainable Urban Drainage Systems (SUDS) should include provisions for the long-term management, operation and maintenance of these systems."* Considering the above, it is deemed there is no potential for in-combination impacts to arise due to surface water discharges during the Construction and Operational Phases of the Proposed Development.

Considering that:

- Discharge from the Galway WwTP is compliant according to the most recent AER (2021)
- A suite of measures has been incorporated into the design of the WwTP to protect intertidal and subtidal marine communities and the waters of Galway Bay during the operational phase of the WwTP
- A Drainage Area Plan (DAP) for Galway City will determine the solutions required to bring combined sewer overflows into compliance
- Sustainable Urban Drainage Systems (SUDS) and sustainable surface water drainage management will be incorporated into future development in Galway City where practical
- Surface water from the Proposed Development will be manged as per the above requirements of the Galway City Development Plan (i.e., surface water will drain to ground at the Site via SuDS measures and will not enter the combined sewer network)

it can be concluded that there is no possibility for significant effects on Galway Bay Complex SAC and the Inner Galway Bay SPA via foul waters generated at the Site either alone or in combination with other projects.

# 6 CONCLUSIONS

It is concluded that an NIS is required for the Proposed Development for the following reasons:

- Potential for significant effects via groundwater pathways which could affect the Lough Corrib SAC which is c. 290m north-west, and a number of Annex I habitats associated with this SAC adjacent to the Site.
- Potential for significant effects on a number of Annex I habitats associated with this SAC adjacent to the Site due to dust deposition.

- Potential for significant effects via groundwater pathways which could affect Lough Corrib SPA, Galway Bay Complex SAC and the Inner Galway Bay SPA.
- Potential for significant effects on SCI bird species at ex-situ feeding sites due to noise disturbance and/or groundwater contamination