

APPROPRIATE ASSESSMENT

STAGE 1 SCREENING

ERAS ECO LTD.

FOXHOLE

YOUGHAL

CO. CORK

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Client		Eras Eco Ltd		
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1. INTRODUCTION

ERAS ECO Ltd. (ERAS ECO) commissioned O'Callaghan Moran & Associates (OCM) to carry out an Appropriate Assessment Screening of its Youghal anaerobic digestion (AD) facility. The assessment is required to support a licence review application to reflect changes to site operations.

The Habitats Directive, which is implemented under the European Communities Birds and Natural Habitats) Regulations 2011 (S.I. No 477 of 2011), requires an "appropriate assessment" of the potential impacts any proposed development that may have an impact on the conservation objectives of any Natura 2000 site.

Article 6(3) of the Directive stipulates that *any plan or project not directly connected with or necessary to the management of a Natura 2000 Site, but likely to have a significant effect thereon...shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.*

Guidance documents issued by Department of Environment, Heritage and Local Government (DEHLG) and the National Parks and Wildlife Services (NPWS) recommend that the assessment be completed in a series of Stages, which comprise:

Stage 1: Screening

The purpose of this Stage is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a Natura 2000 Site in respect of the site's conservation objectives.

Stage 2: Appropriate Assessment

This Stage is required if the Stage 1 Screening exercise identifies that the project is likely to have a significant impact on a Natura 2000 Site.

Stage 3: Assessment of Alternative Solutions.

If Stage 2 determines that the project will have an adverse impact upon the integrity of a Natura 2000 Site, despite the implementation of mitigation measures, it must be objectively concluded that no alternative solutions exist before the plan can proceed.

Stage 4: Compensatory Measures:

Where no alternative solutions are feasible and where adverse impacts remain but imperative reasons of overriding public interest require the implementation of a project an assessment of compensatory measures that will effectively offset the damage to the Natura Site 2000 is required.

1.1 Methodology

The Screening Assessment was based on a site inspection and the nature and scale of the proposed development. It comprised a Source-Pathway-Receptor risk evaluation. This starts with the source i.e. the hazard, which can include air emissions, noise, surface water run-off, wastewater and raw

materials and wastes handling and storage. The next step is to identify how a hazard can travel through the environment i.e. the pathway. The final step is to determine the receptors that could be affected by the hazard.

The assessment followed the guidance presented in the DEHLG (2009, revised February 2010) Appropriate Assessment of Plans and Projects in Ireland and the NPWS (2010) Circular NPW 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. The information sources included;

- National Parks & Wildlife Service (NPWS) - www.npws.ie
- Environmental Protection Agency (EPA) – www.epa.ie
- National Biodiversity Data Centre – www.biodiversityireland.ie

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2. DESCRIPTION OF PROJECT

2.1 Site Location & Layout

The installation is approximately 2km from Youghal, adjacent to the former Youghal Landfill. The site and the surrounding area are situated on low lying land reclaimed from the Blackwater Estuary which is known locally as Youghal Mudlands. The northern and western boundaries of the site are defined by a public access road and an adjacent development respectively. The site layout is shown on Drawing No 21-193-01, it encompasses 1.6 hectares and comprises; Building 1 – Anaerobic digestions feed area, Building 2 – Former sludge drying area, Site Office, Transformer building, 2 Anaerobic Digesters, 1 Digestate Storage Tank, Combined Heat & Power Units and Transformers, Gas Flare, an above ground Diesel Tank, water storage tank, electrical substation, weighbridge and open yard areas.

2.2 Site Operations

Unless otherwise approved by the Agency, wastes are only accepted and digestate dispatched from between 07.00 and 19.00 Monday to Saturday inclusive. Except for the biological treatment processes, which operate continuously, the operational hours are 07.00 and 19.00 Monday to Saturday inclusive.

The current licence authorises a) sludge drying, b) anaerobic digestion and c) general waste handling and transfer of mixed dry recyclable wastes. The handling of mixed dry recyclables ceased in 2013 and sludge drying ended in 2018.

The AD plant comprises four liquid storage tanks, a feed hopper and conveyor, two pasteuriser tanks and a quarantine tank located in Building 1 and two digester tanks and a digestate storage tank located in the south of the site. The digesters have a combined annual processing capacity of 65,000 tonnes.

The digesters are fully enclosed, heated to 37°C and are continuously agitated and fed with organic wastes. The process produces a biogas and a digestate. The biogas is a mix of approximately 65% methane and 35% carbon dioxide with trace levels of other gases including hydrogen sulphide.

Hydrogen sulphide is corrosive and therefore the biogas is scrubbed to remove it before the biogas is used as fuel in two on-site gas engines. The engines generate electricity that is exported to the national electricity grid. A gas flare is provided as a back-up for periods when the gas engines are being serviced or malfunction. It is envisaged that in the future the gas will be exported directly to the national gas grid and this will require the provision of a gas upgrader to remove the carbon dioxide

Where the feed stock includes animal by-products, the digestate is pasteurised to facilitate its use as a fertiliser. The temperature in the pasteurisers is raised to the required level (71°C) using water heated by the CHP engines. The pasteurised digestate is stored in the quarantine tank pending the results of the confirmatory testing.

The digestate has a significant nutrient and soil enhancement value and after pasteurisation, depending on the time of the year, is either immediately sent off site in road tankers for application to agricultural lands, or stored on site until the Good Agricultural Practice Regulations allow land application.



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CLIENT
 ERAS ECO Ltd

Drawing No.
 21-193-01

TITLE
 Site Layout

SCALE
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2.3 Services

The site has connections to the main electricity supply and telecoms systems. Water is obtained from the Irish Water public supply.

Process wastewater is not generated and sanitary wastewater from the offices is treated in a proprietary treatment system (Puraflo ©) adjacent to the northern site boundary, before being discharged to the Irish Water foul sewer that connects to the municipal wastewater treatment plant in Youghal.

Stormwater run-off will continue to discharge to the drainage that runs through the former sludge drying area. This includes two silt/oil interceptors (Class 1) and a storm water retention tank. The outlet valve from the tank is normally closed and only opened to release water to the estuary via a non-return valve after an inspection confirms that water quality is satisfactory.

2.4 Hydrology

The site is located on reclaimed land to the west of the estuary of the Blackwater River. The Tourig River enters the Blackwater to the north of the site. A drainage ditch, which runs adjacent to the access road to the north-west of the site, receives run-off from the access road and from reclaimed land to the north-west. There are a number of other drains to the east and south-east of the site, all of which enter the estuary.

2.5 Geology and Hydrogeology

The soils comprise up to 3m of made ground, comprising gravelly clay soils with fragments of plastic (4-5%), wood (1%), glass (2%) and ceramics (2-3%). It is underlain by a stiff gravelly clay that is more than 14m thick. The bedrock underlying the site is Waulsortian Limestone, which consists of massive, unbedded mounds of calcareous deposits in the form of mudstones, wackestones and packstones.

The Geological Survey of Ireland (GSI) has classified the bedrock that underlies the site as a Locally Important Karstified Aquifer. A search of the GSI well database identified one well used for water supply located approximately 5km west of the site (i.e. up-gradient) and has a reported yield of 979m³/d.

The aquifer vulnerability rating shown on the GSI Vulnerability Map is "High"; however, a site investigation completed in 2007 encountered up to 14m of gravelly clays beneath the site, giving a site specific vulnerability rating of Moderate. The groundwater flow direction is to the south-east towards the estuary at low tide, but the direction could vary during high tide.

2.6 Proposed Development

It is proposed to amend a number of the licence conditions to reflect the changes in the waste operations; allow the acceptance and digestion of 65,000 tonnes/per year of organic waste; bring the licence into alignment with the Industrial Emissions Directive (2010/75/EU) (the Directive) and S.I. No. 605/2017 - European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017, as amended, and facilitate the pre-treatment of waste for anaerobic digestion and future biogas connection to the national gas grid.

The changes do not require the construction of any new buildings, alterations to the foul and surface water drainage system and will not result in any new point or fugitive emissions to air, surface water, ground and groundwater and will not be a new or additional source of noise and light emissions. Therefore control measures to mitigate the impacts of the proposed development on Natura 2000 Sites are not required.

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3. NATURA 2000 SITES

SACs are selected for the conservation and protection of habitats listed on Annex I and species (other than birds) listed on Annex II of the Habitats Directive, and their habitats. The habitats on Annex I require special conservation measures. SPAs are selected for the conservation and protection of bird species listed on Annex I of the Birds Directive and regularly occurring migratory species, and their habitats, particularly wetlands. The selected habitats and species are termed Qualifying Interests.

A statement of Conservation Objectives is prepared for each designated site which identifies the qualifying interests or conservation features. The Conservation Objectives are intended to ensure that the relevant habitats and species present on a site are maintained, and where necessary restored, at a Favourable Conservation Status.

Favourable Conservation Status of a habitat, as defined in 2011 Birds and Natural Habitats Regulations, is when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable

Conservation Status of a species is when:

- the Favourable population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats,
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

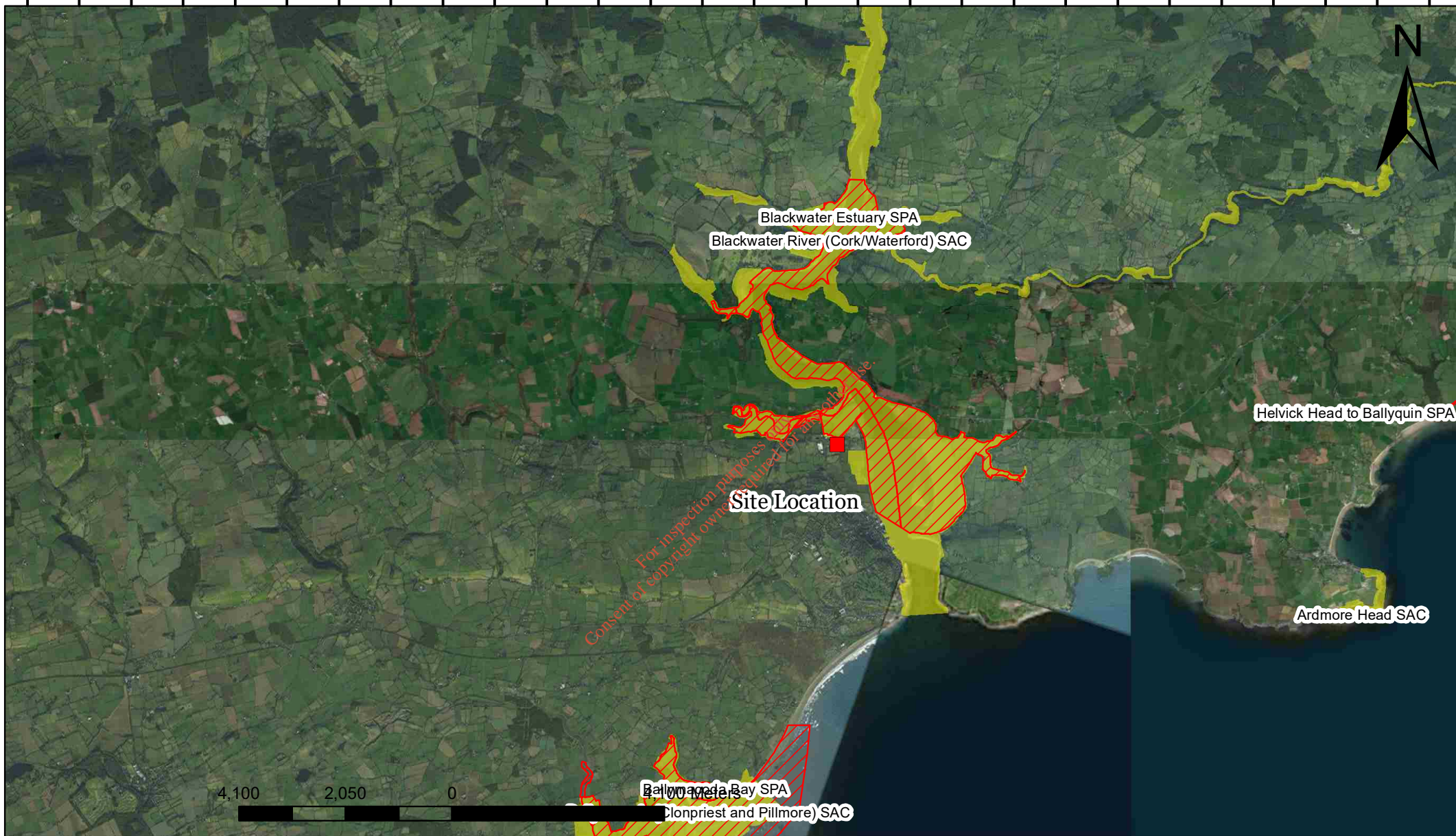
3.1 Natura 2000 Sites Potentially Affected by the Project

The development site is located adjacent to several designated conservation sites, but there are a number of European and nationally designated sites present in the wider area. The Natura 2000 sites located within 10 km of the installation are listed on Table 3.1 and Figure 3.1.

Table 3.1. Natura 2000 Sites within 10 km of the proposed Development

Site	Code	Distance (km)
Blackwater Estuary SPA	004028	adjacent
Blackwater River SAC	002170	adjacent
Blackwater River & Estuary pNHA	000072	adjacent
Ballyvergan Marsh pNHA	000078	4 km S
Ballymacoda Bay SPA	004023	7 km S
Ballymacoda (Clonpriest & Pilmore) SAC and pNHA	000077	7 km S
Capel Island & Knockadoon Head pNHA	000083	9.8 km S

194000 195000 196000 197000 198000 199000 200000 201000 202000 203000 204000 205000 206000 207000 208000 209000 210000 211000 212000 213000 214000 215000 216000 217000 218000 219000 220000 221000



 <p>O'Callaghan Moran & Associates, Unit 15 Melbourne Business Park, Model Farm Road, Cork. Tel. (021) 4345366 email: info@ocallaghanmoran.com</p>	CLIENT	Eras Eco Ltd	<p>Details:</p> <ul style="list-style-type: none"> ■ Site Location SPA SAC
	TITLE	NPWS	

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Figure 3.1

3.2 SPAs

Blackwater Estuary SPA

The Blackwater Estuary SPA is a moderately sized, sheltered south-facing estuary which extends from Youghal New Bridge to the Ferry Point peninsula, close to where the river enters the sea. It comprises a section of the main channel of the River Blackwater to Ballynaclash Quay. At low tide, intertidal flats are exposed on both sides of the channel. On the eastern side of the intertidal channel as far as Kinsalebeg and Moord Cross Roads is included, while on the west side the site includes part of the estuary of the Tourig River as far as Kilmanger.

The Site Synopsis, which lists the full Qualifying Interests, and the Conservation Objectives are accessible at <https://www.npws.ie/protected-sites/spa/004024> and the information is summarised below.

Qualifying Interests

The site is special conservation interest for the following species:

- Wigeon [A050]
- Golden Plover [A140]
- Lapwing [A142]
- Dunlin [A149]
- Black-tailed Godwit [A156]
- Bar-tailed Godwit [A157]
- Curlew [A160]
- Redshank [A162]
- Wetland and Waterbirds [A999]

The Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is an internationally important wetland site on account of the population of Black-tailed Godwit it supports. It is also of high importance in a national context, with seven species having populations which exceed the thresholds for national importance. The occurrence of Little Egret, Golden Plover and Bar-tailed Godwit is of particular note as these species are listed on Annex I of the E.U. Birds Directive. The Blackwater Estuary is also a Ramsar Convention site.

Conservation Objectives

The conservation objectives are to maintain or restore the favorable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SPA has been selected.

Ballymacoda Bay SPA

The Ballymacoda Bay SPA stretches north-east from Ballymacoda to within several kilometres of Youghal, Co. Cork. It comprises the estuary of the Womagh River, a substantial river which drains a large agricultural catchment. Part of the tidal section of the river is included in the site and on the seaward side the boundary extends to, and includes, Bog Rock, Barrel Rocks and Black Rock. The Site Synopsis, which lists the full Qualifying Interests, and the Conservation Objectives are accessible at <https://www.npws.ie/protected-sites/spa/004023> and the information is summarised below.

Qualifying Interests

The site is of special conservation interest for the following species:

- Wigeon [A050]
- Teal [A052]
- Ringed Plover [A137]
- Golden Plover [A140]
- Grey Plover [A141]
- Lapwing [A142]
- Sanderling [A144]
- Dunlin [A149]
- Black-tailed Godwit [A156]
- Bar-tailed Godwit [A157]
- Curlew [A160]
- Redshank [A162]
- Turnstone [A169]
- Black-headed Gull [A179]
- Common Gull [A182]
- Lesser Black-backed Gull [A183]
- Wetland and Waterbirds [A999]

The Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is one of the most important sites in the country for wintering water fowl. It qualifies for international importance on the basis of regularly exceeding 20,000 wintering birds but also for its Golden Plover and Black-tailed Godwit populations. In addition, it supports nationally important populations of a further fourteen species. Ballymacoda Bay is also a Ramsar Convention site.

Conservation Objectives

The conservation objectives are to maintain or restore the favorable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SPA has been selected.

3.3 SACs

Blackwater River SAC

The River Blackwater is one of the largest rivers in Ireland, draining a major part of Co. Cork and five ranges of mountains. In times of heavy rainfall the levels can fluctuate widely by more than 12 feet on the gauge at Careysville. The peaty nature of the terrain in the upper reaches and of some of the tributaries gives the water a pronounced dark colour. The site consists of the freshwater stretches of

the River Blackwater as far upstream as Ballydesmond, the tidal stretches as far as Youghal Harbour and many tributaries, the larger of which include the Licky, Bride, Flesk, Chimneyfield, Finisk, Araglin, Awbeg (Buttevant), Clyda, Glen, Allow, Dalua, Brogeen, Rathcool, Finnow, Owentaraglin and Awnaskirtaun. The portions of the Blackwater and its tributaries that fall within this SAC flow through the counties of Kerry, Cork, Limerick, Tipperary and Waterford.

The Site Synopsis, which lists the full Qualifying Interests, and the Conservation Objectives are accessible at <https://www.npws.ie/protected-sites/sac/002170> and the information is summarised below.

Qualifying Interests

The site is selected for the following habitats and/or species listed on Annex I/II of the Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- Estuaries [1130]
- Tidal Mudflats and Sandflats [1140]
- Perennial Vegetation of Stony Banks [1220]
- *Salicornia* Mud [1310]
- Atlantic Salt Meadows [1330]
- Mediterranean Salt Meadows [1410]
- Floating River Vegetation [3260]
- Old Oak Woodlands [91A0]
- Alluvial Forests* [91E0]
- Freshwater Pearl Mussel [1029]
- White-clawed Crayfish [1092]
- Sea Lamprey [1095]
- Brook Lamprey [1096]
- River Lamprey [1099]
- Twaite Shad [1103]
- Atlantic Salmon [1106]
- Otter [1355]
- Killarney Fern [1421]

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Conservation Objectives

The conservation objectives are to maintain or restore the favorable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:

Ballymacoda (Clonpriest and Pillmore) SAC

The coastal site stretches north-east from Ballymacoda to within about 6 km of Youghal, Co Cork. Although moderate in size, it has a good diversity of coastal habitats including several listed on Annex I of the E.U. Habitats Directive. It comprises the estuary of the Womanagh River, a substantial river which drains a large agricultural catchment.

The Site Synopsis, which lists the full Qualifying Interests, and the Conservation Objectives are accessible at <https://www.npws.ie/protected-sites/sac/000077> and the information is summarised below.

Qualifying Interests

The site is selected for the following habitats and/or species listed on Annex I/II of the Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- Estuaries [1130]
- Tidal Mudflats and Sandflats [1140]
- *Salicornia* Mud [1310]
- Atlantic Salt Meadows [1330]
- Mediterranean Salt Meadows [1410]

Conservation Objectives

The conservation objectives are to maintain or restore the favorable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:

3.4 Source-Pathway-Receptor Linkages

There is a direct hydrological connection between the installation and the Blackwater Estuary SPA and Blackwater River SAC. Stormwater run-off from the site will continue to pass through the two silt/oil interceptors (Class 1) and a storm water retention tank and discharge to the estuary at the authorised emission point. The outlet valve on the attenuation tank is normally closed and only opened to release water to the estuary via a non-return valve after an inspection confirms that water quality is satisfactory.

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4. LIKELY EFFECTS

4.1 Plan or Project

The proposed development does not require any construction works and will not result in any loss of habitats either within, or outside the site boundary. It will not result in any new or additional emissions to surface water, air, ground and groundwater, or any new noise and light emissions.

4.2 Direct Impacts

The installation is adjoining to a Natura 2000 Site and the proposed development will not result in any direct habitat loss or fragmentation of any SPA or SAC. There is a surface water pathway between the facility and the Blackwater Estuary SPA and the Blackwater River SAC and this is the only pathway between the facility and a Natura 2000 Site.

The proposed development will not result in any changes to either the volume or quality of the surface water run-off from the facility, which the routine testing has confirmed to be good. This means that the potential for any adverse impact on the SPA and SAC is not significant.

4.3 Indirect Impacts

The proposed development will not result in any new processes, there will be no changes to the existing emissions and it will not give rise to any new direct or indirect emission to air, surface water, ground, groundwater or the foul sewer and no new or addition noise and light emission. There will be no change to the currently authorised operational hours.

4.4 Cumulative Effects

As the proposed development will not result in any changes to the current emissions it will not contribute to the cumulative effects on the Blackwater Estuary SPA and Blackwater River SAC.

5. SCREENING CONCLUSION & STATEMENT

5.1 Conclusion

The proposed changes will not have any direct or indirect effects on a Natura 2002 Site.

5.2 Statement

The proposed development does not present a risk of significant effects on the Qualifying Interests and Conservation Objectives of any Natura 2000 Sites.

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