Our Ref: ABP-301908-18

An Bord Pleanála

Maire O Brien
Portmarnock Beach Committee,
Clean Coast Group
71 Wendell Ave
Portmarnock
Co. Dublin

Date: 22 August 2018

Re: Greater Dublin Drainage Project consisting of a new wastewater treatment plant, sludge hub centre, orbital sewer, outfall pipeline and regional biosolids storage facility
Townlands of Clonshagh, Dubber and Newtown, County Fingal and Dublin City

Dear Madam

An Bord Pleanála has received your recent submission in relation to the above mentioned proposed development and will take it into consideration in its determination of the matter. A receipt for the fee lodged is enclosed.

The Board will revert to you in due course with regard to the matter.

Please be advised that copies of all submissions / observations received in relation to the application will be made available for public inspection at the offices of Dublin City Council and Fingal County Council and at the offices of An Bord Pleanála when they have been processed by the Board.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: www.pleanala.ie.

If you have any queries in the meantime please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Kieran Somers
Executive Officer
Direct Line: 01-873 7107

Teil Tel (01) 858 8100
Glao Áitiúil LoCall 1890 275 175
Facs Fax (01) 872 2684
Láithreán Gréasáin Website www.pleanala.ie
Ríomhphost Email bord@pleanala.ie

64 Sráid Maoilbhride
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

Portmarnock Beach Committee, Clean Coast Group.

71 Wendell Ave.

Portmarnock,

Co Dublin

16th August 2018

A chara

Submission on Clonshaugh Greater Dublin Drainage (GDD) project. PL06F.301908 from Portmarnock Beach Committee Clean Coast Group.

***NEED FOR TERTIARY TREATMENT**

There is a need to treat waste water to Tertiary Level , using U V Light to denature Prions such as C J D and B S E. (Brain malfunction in humans and cattle.) and residual bacteria and viruses.

Treatment with ultra violet light denatures the protein structure of these pre life entities rendering them harmless.

There is NO safe level of CJD, any claims of a dilution factor at point of discharge are irrelevant, since this is a pre life structure, more primitive than phages, viruses and bacteria. During the B S E crisis (BSE is the cattle equivalent of human C J D, both are on the rise worldwide) in the 1990 s, wastewater treatment plants were thought to be the cause of the outbreak.

* New Superbugs, have closed down ED s in hospitals in Dublin and Limerick during August 2018.

See HSE document 1 st Jan 2018 : "Information for patients carrying CPE."

Page 4. This document states CPE is found in wastewater treatment plants.

Tertiary treatment will denature this Enterobacterium, rendering it harmless.

Many research documents are available online relating to the need for Tertiary treatment in Northern Hemisphere countries, where u v from strong sunlight is unavailable all year round.

Ref:

Subject: Information for patients carrying CPE

For: Patients, relatives and healthcare workers

Version 1; January 2018

Developed by the HSE HCAI/AMR Implementation Team

"we know it is sometimes found in the environment where sewage flows into the sea but right now in Ireland it seems to spread mostly in hospitals"

https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/cpe/fact-sheet-4-information-for-patients-carrying-cpe.pdf Accessed 16th August

Other countries in Northern Europe have incorporated tertiary treatment, moving beyond the basic requirements of the Directive. This treatment has the added public health advantage of denaturing hormone mimicking substances and antibiotics released in waste water.

Pharmaceutical Products

Pharmaceuticals have recently become the object of considerable attention and concern due to their possible toxicity and potential to cause adverse effects in aquatic organisms and the potential for direct human exposure via ingestion of contaminated seafood. Pharmaceuticals primarily enter the aquatic environment via treated municipal wastewater released by wastewater treatment plants. Human actions, termed as 'involuntary' (pharmaceutical excretion through the body or washing of topical medicines down the drain) and 'purposeful' (disposal of unused or out of date medicines) are primarily responsible for the release of pharmaceuticals into the environment. Human pharmaceuticals are excreted into the sewage system as a mixture of the parent compound and its metabolites.

The level of pharmaceutical product content must be one of the water quality parameters to be assessed by Irish Water, and measures put in place to minimise the environmental hazard.

APPENDIX 1 From EEA '**Changes in urban waste water treatment in central Europe**'

SYNTHETIC MICRO-PLASTICS

Microbeads in personal care products are designed to be discarded down the drain during normal use – but like all microplastic, have the potential to contaminate food chains, including seafood products consumed by people. Microbeads are typically made of polyethylene, which is neither light enough to float to the top of water nor heavy enough to sink to the bottom of water. Because of this, they are not removed during the primary treatment settling process. Most wastewater treatment plant technology is not capable of removing them as they require high heat processing to break down, which municipal sewage systems are typically unable to do. They are not removed through the secondary treatment process either because:

(i) they are not a food source for the microorganisms, which means they are not eaten like the other remaining solids; and

(ii) they are not small enough to be attracted to the charges that the microorganisms put out as they begin to grow, which means they do not become part of the solids that are removed at the end of this step.

Microplastics are not biodegradable and once they enter the marine environment, they persist for decades where they accumulate hazardous chemicals – they have been reported in hundreds of species globally, including marine mammals, turtles, seabirds, fish and invertebrates.

"Microplastics are a ubiquitous pollutant in our seas today and are known to have detrimental effects on a variety of organisms. Over the past decade numerous studies have documented microplastic ingestion by marine species with more recent investigations focusing on the secondary impacts of microplastic ingestion on ecosystem processes."

https://www.frontiersin.org/articles/10.3389/fmars.2018.00039/full

While there are moves afoot within the E.U. and Ireland to remove microbeads from products, microfibres will continue to be discarded from clothes washing process. Most of our clothes now incorporate 'synthetics' which are essentially plastics. Their breakdown, we all know clothes get 'thinner' with washing, produces microfibres.

Our group conducts clean-ups summer and winter and regularly removes plastics from the beach. While these 'macro plastics' have many sources and break down to form microplastics, the 'point source, of an S.T.P. can remove them at source.

Given that microplastics were not on the environmental radar when this project was developed it is not surprising that this pollutant was not addressed. However, this facility will be operational beyond our lifetimes and should address what is becoming a major challenge to the marine environment. It is easier and cheaper to remove at source than clean up the effects, especially once they are incorporated into the food chain. Humans are at the top of that food chain and are already eating plastic contaminated fish and filter feeders.

There are engineering solutions to this problem and these should be incorporated into the treatment process.

*** BLUE FLAG IN VELVET STRAND, PORTMARNOCK**

Since Ringsend Treatment Plant has been operational, Dollymount Beach lost its Blue Flag. No other Fingal or Dublin Beach has a Blue Flag in 2018.

Dollymount beach, even when it had its Blue Flag, was subject to algal blooms, from excess nutrients in the waters of Dublin Bay, which ruined the swimming experience.
Given the number of beach users of The Velvet Strand, it would be unacceptable to lose this prestigious award due the actions of Irish Water and the EPA.

***. LENGTH OF OUTFALL PIPE FROM COAST.**

The pipe outfall point should be at least 10 km <u>from the coast</u>.
The original GDDS documents stated the outfall position to be 6 km from the coast.
This is not true, it is 6 km from Portmarnock Bridge, which is not on the coast.

This sea depth map shows the small green pocket of deeper water off Ireland s Eye.
However, to the East of this deep water, the sand bank wraps around, and the sea bed becomes shallow again, trapping the outflow from the sewage treatment plant in a swirl pool.
This map clearly shows the only option is to extend the outflow pipe beyond the Kish Sandbank. (more than 11 km from Howth)
Appendix 2

***. DREDGING**

"There is a possibility of habitat loss occurring as this element of the Proposed Project is located in proximity to nearshore waters of Velvet Strand within Baldoyle Bay SAC." From Natura Impact Statement

The pipeline must be tunnelled for its entire length out to sea.
There are 16 historical wrecks, documented in The National Archives buried under the sand on Portmarnock Beach. They should not be disturbed.

Trench and fill will disturb the substrate under the Velvet Strand, causing damage to sediment patterns which have maintained this sandy beach for thousands of years.
Such damage is clearly visible from the air, and also at low tide in Sutton Creek, where channels were wholly disturbed due to trench and fill for the pipe from Sutton Cross to Ringsend.

*** A G S TO REMOVE PHOSPHATE**

As part of the secondary treatment process, AGS is financially worthwhile, since phosphorus is a valuable super element.
Nitrate should also be removed at this stage, to prevent algal blooms in the Irish Sea.

***ATTENUATION TANKS at M 50**

The public must be made aware that these tanks will contain sewage at certain times, within meters of Blanchardstown Hospital and The National Aquatic Centre.
These tanks are in addition to 3 similar size tanks in the same location, to be placed in this location by Irish Water.

Angela O'Flynn Angela O'Flynn

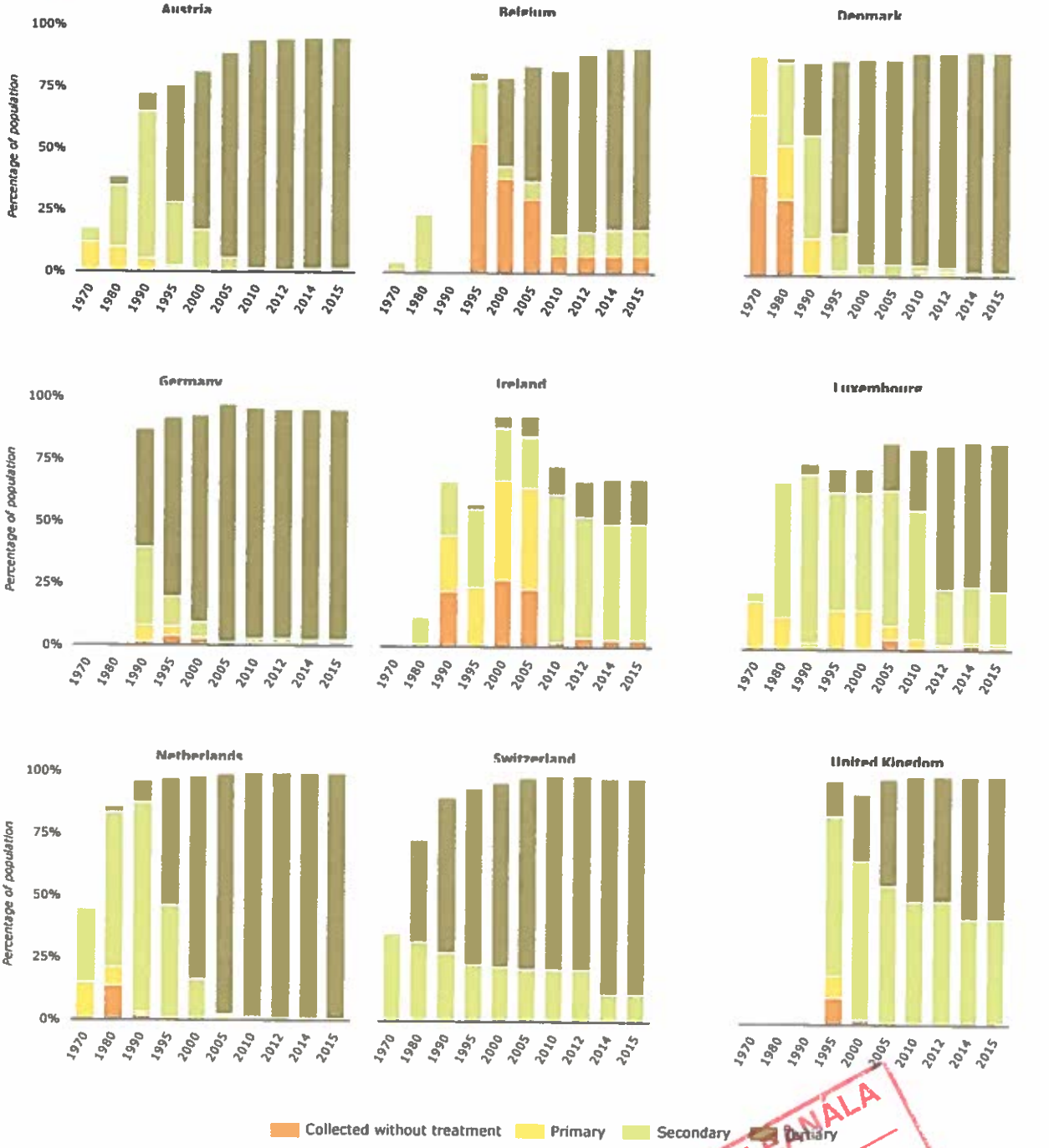
Máire O'Brien Máire O'Brien

APPENDIX I

Changes in urban waste water treatment in central Europe

This figure shows the improvement in collection and level of treatment of sewage, over time.

- Dashboard
- Table



Note:

Initially, for the treatment of waste water, sewage collection systems must be installed (orange bars). Waste water can then be subject to primary treatment (ye bars), such as settling, followed by secondary treatment (green bars) to reduce the amount of dissolved and suspended organic material. Secondary treatment include those using biological methods. More stringent 'tertiary' treatment (dark green bars) can then be applied to remove mainly nutrients.

APPENDIX 2 Bathymetry around Dublin Bay