



Mayo County Council

Derrinnumera Sludge Hub Centre & Leachate Treatment Facility

ENVIRONMENTAL IMPACT STATEMENT
(PREPARED FOR REVIEW OF WASTE LICENCE W0021-01)

VOLUME IV. APPENDICES

May, 2007

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TOBIN CONSULTING ENGINEERS



VOLUME IV APPENDICES

PROJECT: **Derrinmera Sludge Hub Centre & Leachate Treatment Facility – Environmental Impact Statement**

CLIENT: **Mayo County Council**
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Title: Volume IV Appendices – Environmental Impact Statement

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TOBIN Consulting Engineers							



LIST OF APPENDICES

Appendix 1	Letters Sent to Consulted Bodies
Appendix 2	Correspondence Received
Appendix 3	The Marine Discharge of Treated Leachate [TOBIN, 2007]
Appendix 4	Terrestrial Ecological Assessment (Pipeline Route) [Biosphere Environmental Services, 2005]
Appendix 5	Margaritifera Margaritifera Survey (Pipeline Route) [Moorkens, 2005]
Appendix 6	Laboratory Results for Kick Sample [TES, 2003]
Appendix 7	Report on Biological Survey of Glaishty River [EPA, 2004]
Appendix 8	Soil, Geology and Hydrogeology of the Development Site [TES, 2003]
Appendix 9	Site Investigation Results – Historical & Recent
Appendix 10	Leachate Characterisation Report [TES, 2003]
Appendix 11	Water Quality [TES, 2003]
Appendix 12	Water Analysis Results – Historical & Recent
Appendix 13	Odour Impact Assessment [TES & Odour Monitoring Ireland Ltd., 2003]
Appendix 14	Met Eireann Windrose for Claremorris
Appendix 15	Archaeological Study of Development Site [Gibbons, 1998]
Appendix 16	Preliminary Archaeological Assessment (Pipeline Route) [Beirne]

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APPENDIX 1

Letters Sent to Consulted Bodies

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DR. MICHAEL HENRY
WASTE LICENSING INSPECTOR
EPA REGIONAL OFFICE
SWIMMING POOL ROAD
CASTLEBAR,
CO. MAYO

TOBIN CONSULTING ENGINEERS CASTLEBAR 23 rd May 2003		
PROJECT NO		
FILE REF:		
Date Received	27 MAY 2003	
PASS TO	ISSUED BY	DATE

Re: Derrinnumera Landfill, Newport, County Mayo – 21-1 and Proposed Sludge Hub Centre at Derrinnumera Landfill Site

Dear Dr. Henry,

Mayo County Council, in accordance with Part 3 of S.I. No. 185 of 2000 the Waste Management (Licensing) Regulations and Article 6 of S.I. No. 336 of 2002 Waste Management (Licensing) (Amendment) Regulations wish to seek clarification from the Environmental Protection Agency (EPA) with regard to the need for, and scope of, a review of the current waste license 21-1 for the Derrinnumera Landfill, Derrinnumera, Newport, County Mayo.

General

The broad grounds on which we seek the review are:

- (a) it is proposed to include a Co. Mayo Sludge Hub Centre (SHC) at the existing landfill facility, which SHC is required for the fulfilment of the Mayo Sludge Management Plan, adopted by the Members.

- (b) the Council wish to include within the review, the option to temporarily relocate to Derrinnumera, an existing interim sludge drying/lime-dosing system, currently in use at Castlebar WWTP, and which would be retired upon commissioning of the Sludge Hub Centre permanent plant, and
- (c) the Council wish to implement leachate treatment at Derrinnumera, in preparation for compliance with a Bórd Pleanála instruction to cease leachate imports to Castlebar WWTP. The preferred alternative is to treat leachate on site, and pump the treated leachate to the outfall of the proposed Newport WWTP.

Specific matters arising on the Sludge Hub Centre (SHC)

The SHC would be constructed and operated under a Design Build Operate contract for the collection, drying, temporary storage and sustainable re-use or disposal of treated municipal sludge collected from wastewater treatment plants throughout County Mayo.

The likelihood is, having regard to scoring of proposals in terms of ultimate sustainability of disposal options, that the method of production of biosolids offered in the DBO tendering process, will be thermal drying.

The Sludge Hub Centre would stand on its own fenced site, with biosolids manufacture separate from all other waste handling activities at the site. Sharing of weighbridge and wheelwash facilities, internal road access, and utilities such as water and sewage would take place.

The SHC will handle an estimated 11,950 tpa of dewatered sludge cake on startup, rising to 14641 tpa by the year 2020. The dry solids content of the sludge entering the facility will range from small amounts of liquid sludge at 3%, with the bulk of it being dewatered to 15- 20 % DS.

The SHC (as shown in Drawing No. 1908-2400) will have a number of elements, including:

- A sludge reception area- for the acceptance and mixing of sludges from different sources;
- A number of sludge holding hoppers- for the storage of sludge prior to drying;
- A sludge drying building- which will house a sludge drying, pelletising and bagging system, with facilities for filling dried product bulk storage;
- A dried biosolids storage area- for the temporary storage of the dried biosolids product;
- A water storage tank- for the storage of process water;
- Fuel storage, and
- A control building- for the control and administration of the facility.

The proposed SHC will be expected to have additional environmental impacts including:

- *Traffic*- there will be increased traffic going to the landfill. 5 no. 10 tonne vehicles per day will be hauling sludge to the facility on a six day week from locations around County Mayo. There will also be additional traffic generated by vehicles hauling the dried material off-site. There will also be additional traffic generated by the staff employed by the operators of the SHC;
- *Noise*- the additional traffic will add to the noise levels generated by the site. The additional facilities and equipment (the sludge drier, the temporary drier/lime stabilization plant, pumps etc.) will also add to noise levels;
- *Odour*- even though the facilities will be indoors there may be additional generation of odour at the inlet hoppers;
- *Air Emissions*- there will be additional emissions to the air from the sludge drying process, which will include dust recovery. This will vary with the type of Sludge Drier offered, whether it is Direct or Indirect in design, the proposed drying temperature, and the proposed fuel source.

It is unlikely that mains natural gas will be available as a fuel source at Derrinnumera; the feasibility of gas and diesel fueling through stored fuel supplies will be investigated.

Some of the existing site infrastructure would have to be extended to accommodate the proposed SHC, including:

- The foul water collection system;
- The surface water collection system;
- Relocation of the gas flare;
- Security fencing; and
- Site roads.

Specific matters related to the relocation of the Rotospiral Temporary Drying-Lime Dosing Plant

- It is proposed to relocate the sludge drying and lime stabilisation plant, rated at 2 t/hr and currently located at the Castlebar wastewater treatment plant, to the existing Machinery Garage building which is located within the Licensed Site Boundary and would ultimately be incorporated within the fenced boundary of the proposed SHC facility.
- An Bórd Pleanála have prohibited importation of sludges to Castlebar WWTP once the WWTP Extension Contract goes ahead.
- A second, similar Plant has been commissioned at Ballina WWTP recently, rated at 2.5 t/hr. These two plants share the load from satellite WWTP's at present
- This Interim Plant currently produces a material which is dried to approximately 65% DS, with a lime content of 10% expressed by wet cake weight. It is reused as a cover material and as a soil supplement to encourage vegetation on earthen embankments at the landfill.
- If permitted, this Interim Plant would be operated by Mayo Co Council staff until such time as the DBO Contractor was appointed. Directly on appointment, that Contractor would be required to operate the interim plant, until his permanent drying plant was commissioned, at which time he would retire the interim plant. The expected operation period of the Interim Plant at Derrinumera would be 3 years.
- The interim plant is diesel fueled; fuel storage facilities and bunding for these would be required.
- The existing plant includes carbon filters for scrubbing of the exhaust from the drying drum.

Specific matters related to on site Leachate Treatment

At present, tankering of leachate for treatment at Castlebar WWTP is costing Mayo Co. Council in excess of €0.5m in direct costs. The operation has adverse environmental impacts due to transportation in Castlebar, and it ties up in excess of 1,000 pe of valuable wastewater treatment capacity at Castlebar WWTP. It is prohibited to bring leachates there once the DBO Contract to extend the Plant commences.

Mayo County Council therefore wish to include leachate treatment in the scope of the review, and may wish to include this treatment within the scope of the DBO Contract at the proposed SHC, subject to such inclusion not jeopardizing the status that the Hub Centre might otherwise have under any agreed national approaches to biosolids generation plants.

It is proposed to treat the leachate at the landfill and to pump the treated leachate to the marine outfall discharge for treated municipal wastewater at Newport. Broadly speaking the Council would propose BATNEEC approaches to leachate treatment, and would be guided by the Agency as to the required treated leachate standards, having regard to the known consistent performance of current technology in treating leachates.

This matter has been the subject of previous correspondence to your Agency (see copies attached) and your Agency has approved the use of the Ballinrobe Waste Water Treatment Plant as a disposal route for the leachate on an interim basis. The new Westport Waste Water Treatment Plant has recently been commissioned and this Council may consider diverting either treated or untreated leachate to Westport until the Newport outfall pipeline is constructed.

Procedural matters Arising

In preparing your response to our request, the following points have occurred to us in looking at our existing Licence:

- (a) The existing Waste Licence No 21-1 at Derrinnumera authorizes, inter alia at Schedule A, "*the collection and pumping of leachate to a treatment plant*"

- (b) The existing Waste Licence No 21-1 at Derrinnumera authorizes, inter alia at the Licensed Waste Activities, *Class 7 Activity, which covers " physico-chemical treatment not referred to elsewhere in this (Third) Schedule (including evaporation, drying and calcinations) which results in final compounds or mixtures which are disposed of by means of any activity in paragraphs 1 to 10 of this Schedule.*

We feel that while Schedule A of the Licence restricts the interpretation of Class 6 and Class 7 activities to the **leachate treatment** process alone, the Rotospiral system of treating and stabilizing sludges generically falls either under Class 7, or Class 6 (given that the lime acts to sterilize the material in storage), and Class 13 would, if the above is accepted, cover any associated hoppers or balancing storage of dewatered sludge. The disposal route is Class 1, *Deposit on, in or under land*, since the dried and limed material is beneficially used at the landfill. In short, and taking a minimalist view of the beneficial re-use currently resulting from the rotospiral dried material, we feel we are already licensed for the correct Class of Activity involved in the temporary Rotospiral Plant, if the Agency are of a mind to lift the restriction in Schedule A.

If we could certify that the Rotospiral treated product were a biosolids, as defined in the Agricultural Re-use of Sludge Regulations, we would argue that it constitutes a waste recovery activity. While the material is sterile in all samples we have taken, it is neither a dried product as defined in the Regulations, nor is it a lime stabilized product, rather it is a hybrid, and not therefore a biosolids.

- (c) The drying of sludges to 90% DS produces a biosolids capable of re-use in agriculture or of supplanting artificial fertilizers used in horticulture, forestry, landscaping of road margins, parks, embankments, all to the nutritional benefit of catchments which have surplus nutrients at present. As such we feel it is *a reclamation of organic substances not used as solvents* and is thereby a Class 2 Waste Recovery Activity. Our Licence restricts the interpretation of this to the organic wastes arising within the civic amenity facility at present, but if the Agency agree that generically we are Licensed to the correct Class, then perhaps the restriction can be lifted or broadened on review.

- (d) In relation to the European Communities (Environmental Impact Assessment) (Amendment) Regulations 1999 (SI No 93 of 1999), while the permanent Sludge Hub Centre intake will ultimately exceed the 5000 tonnes limit annually in Schedule 1 Part 2, Section 11 (d), and will require an EIS, the intake to the temporary Rotospiral Plant is unlikely to exceed the threshold requiring an EIS over the expected 3 year life of the temporary installation.
- (e) Broadly speaking, we consider the Licence terms in relation to leachate, as drafted, aim to prevent discharge to the Glaishty River, but otherwise do not object to on site Treatment, with sustainable discharge elsewhere. Class 10 covers *Release of waste into a water body (including a seabed insertion)*, it is specifically excluded from our Licence (presumably related to the Glaishty River) but the Activity would appear to cover marine discharge of a treated leachate.
- (f) Mayo Co Council have sought direction from An Bórd Pleanála as to the scope of an EIS for the Newport WWTP and marine outfall, we would welcome the views of the Agency as to how the definition of environmental standards will be defined for this treated leachate.

In summary, could you please provide guidance to the Council on whether or not a Review for the current Waste Licence 21-1 is required, for each of the three elements we would like to cover, and if so what information will be required for the review? We would be available to meet with the Agency to discuss the matter at your convenience. If you require any further information or clarification, please do not hesitate to contact me.

Yours sincerely,

DIR. OF SERVICES & CO. ENGINEER

c.c. MR. M. GARRICK, B.E., M/S. P.J. TOBIN & CO.

Manager,
Development Application Section,
Department of the Environment, Heritage and Local Government,
7, Ely Place,
Dublin 2.

13/11/2003

Dear Sir/Madam

For your information, TES Consulting Engineers are currently involved in a review of the current EPA waste licence for the Mayo County Council landfill at Derrinnumera, near Castlebar, Co. Mayo. The broad grounds on which we seek the review are:

- (a) It is proposed to include a County Mayo Sludge Hub Centre (SHC) at the existing landfill facility, which SHC is required for the fulfilment of the Mayo Sludge Management Plan, adopted by the Members.
- (b) The Council wish to include within the review, the option to temporarily relocate to Derrinnumera, an existing interim sludge drying/lime-dosing system, currently in use at Castlebar WWTP, and which would be retired upon operation of the Sludge Hub Centre permanent plant, and
- (c) The Council wish to implement leachate treatment at Derrinnumera, in preparation for compliance with a Bórd Pleanála instruction to cease leachate imports to Castlebar WWTP. The preferred alternative is to treat leachate on site, and pump the treated leachate to the outfall of the proposed Newport WWTP.

The Sludge Hub Centre would stand on its own fenced site, with biosolids manufacture separate from all other waste handling activities at the site. Sharing of weighbridge and wheelwash facilities, internal road access, and utilities such as water and sewage would take place.

The SHC will handle an estimated 11,950 tonnes per annum (tpa) of dewatered sludge cake on startup, rising to 15,900 tpa by the year 2020. The dry solids content of the sludge entering the facility will range from small amounts of liquid sludge at 3%, with the bulk of it being dewatered to 17- 20 % DS.

TES - (Tobin Environmental Services Ltd.) - is a subsidiary of Tobin Consulting Engineers

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• A. Brinkmann MSc (Civil) • B.J. Downes BE M Proj Mgmt CEng MIEI • M.F. Garrick BE MEng Sc MBA CEng FIEI MCWEM M Cons EI • D.M. Grehan BE MEng Sc CEng MIEI • R.F. Tobin BE MBA CEng FIEI

Company Secretary: E.J. Harrigan BComm H Dip In Ed MBA ACMA MCT

Senior Consultant: A. Butler BE MSc CEng FIEI

Registered in Ireland No. 257315 Vat No. 08257315G

It is proposed to relocate the sludge drying and lime stabilisation plant, rated at 2 t/hr and currently located at the Castlebar wastewater treatment plant, to the existing Machinery Garage building which is located within the Licensed Site Boundary and would ultimately be incorporated within the fenced boundary of the proposed SHC facility. An Bórd Pleanála have prohibited importation of sludges to Castlebar WWTP once the WWTP Extension Contract goes ahead.

This interim plant currently produces a material which is dried to approximately 65% DS, with a lime content of 10% expressed by wet cake weight. It is reused as a cover material and as a soil supplement to encourage vegetation on earthen embankments at the landfill. If permitted, this interim plant would be operated by Mayo County Council staff until such time as the DBO Contractor was appointed. Directly on appointment, that Contractor would be required to operate the interim plant, until his permanent drying plant was commissioned, at which time he would retire the interim plant. The expected operation period of the Interim Plant at Derrinnumera would be 3 years. The interim plant is diesel fueled; fuel storage facilities and bunding for these would be required. The plant also includes carbon filters for scrubbing of the exhaust from the drying drum.

At present, tankering of leachate for treatment at Castlebar WWTP is costing Mayo Co. Council in excess of €0.5m annually in direct costs. The operation has adverse environmental impacts due to transportation in Castlebar, and it ties up in excess of 1,000 pe of valuable wastewater treatment capacity at Castlebar WWTP. It is prohibited to bring leachates there once the DBO Contract to extend the Plant commences.

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It is proposed to treat the leachate at the landfill and to pump the treated leachate to the marine outfall discharge for treated municipal wastewater at Newport. Broadly speaking the Council would propose a best available techniques approaches to leachate treatment, and would be guided by the Environmental Protection Agency as to the required treated leachate standards, having regard to the known consistent performance of current technology in treating leachates.

Please find enclosed a map showing the location of the propose developments in relation to the existing landfill site.

TES

CONSULTING ENGINEERS

I would value any comments or concerns in relation to this item. If you require any further information, please do not hesitate to contact me on 01 8030401.

Yours sincerely



Dermot Burke B.E., M.Eng.Sc., M.I.E.I.
Project Manager.

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The Secretary,
Local Authority Projects Section,
An Bord Pleanála,
64 Marlborough Street,
Dublin 1.

26/11/03

Dear Sir/Madam

For your information, TES Consulting Engineers are currently involved in a review of the current EPA waste licence for the Mayo County Council landfill at Derrinnumera, near Castlebar, Co. Mayo. The broad grounds on which we seek the review are:

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TES

CONSULTING ENGINEERS

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Yours sincerely



Dermot Burke B.E., M.Eng.Sc., M.I.E.I.
Project Manager.

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APPENDIX 2

Correspondence Received

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Clew Bay Marine Forum Ltd.

Knockbreaga, Newport, Co. Mayo

Tel/fax: (098) 41616

E-mail innishoo@hotmail.com

Mr. Pat Commons,
SEO, Capital Works,
Mayo County Council,
Aras an Chontae,
Castlebar,
Co. Mayo.

12th December 2002

Dear Sir,

**Newport Sewerage Scheme and proposed Derrinumerá Landfill
Leachate outflow to Newport Bay.**

We wish to thank Mayo County Council for the initial consultation on December 5th regarding the proposals for a sewage treatment plant in Newport and the proposals for an outflow of treated Leachate from the Derrinumerá Landfill site.

Arising from the meeting the Board of Directors of Clew Bay Marine Forum (CBMF) feel further discussion and clarification is required to ensure that the marine industries in Clew Bay are not adversely effected should these proposals go ahead.

CBMF welcomes the proposal for a sewage treatment plant in Newport with the resulting improvement to the water quality of Clew Bay. There are however some concerns regarding the location of the outflow pipe, which are outlined in the accompanying document.

CBMF also welcome the provision of the Westport sewage treatment works but we are concerned that UV treatment is not to be included because it was not a stipulation of the Dept of Marine Foreshore Licence. Since bacterial and viral contamination to shellfish poses a clear risk to human health we request that UV treatment be included prior to the plant becoming operational. This treatment should also be installed in the proposed Newport Plant.

We were particularly interested that storm runoff is only anticipated once a year. We would like to know how this estimate was arrived at and how it compares with what happens in other sewage works. We also request that plans for notifying shellfish

producers in the event of storm surge runoff in Westport and Newport be put in place via a hotline which CBMF will facilitate.

The proposal to pipe treated leachate to Newport Bay is of a completely different nature to the sewage outflow. In particular we are concerned that the Council consider that an EIS is not required as the population equivalents are below 10,000. However, since toxicity levels contained within leachate do not relate to population equivalents we feel strongly that this proposal must be accompanied by a full EIS, which will address the toxic content of the leachate. Some recommendations regarding the EIS are also contained in the accompanying document.

As mentioned by the consultants, a baseline information study will be required of receiving waters and this information should include toxic elements, known to be contained in leachate. CBMF already have some sampling sites in situ and possess some bacterial and viral information which can be added to this study as well as having access to boats and shellfish for sampling purposes. We would expect to be able to play an active role in the gathering of baseline information and have prior input regarding the type of testing to be carried out. We request that Pettits consult with us on their proposals for a baseline study and that we assist them in undertaking it in full. We also request that we be given the results of the tests as they are received.

Furthermore, we urge the council to carry out an expert and independent assessment of the long-term effects that leachate discharge has had over the past 2-3 years. A study of the effects of the toxic elements on the Castlebar River and connecting waterways will be essential in assessing the likely effects on marine life in Clew Bay. We should also be grateful if you would supply us with An Bord Pleanála's reasons for not allowing the treatment of leachate in the new Castlebar sewage works.

The Forum are strongly opposed to suggestions / proposals that leachate is to be treated in Westport as a temporary measure until the Derrinmera plant & pipeline is operational. This facility was not built for this type of treatment. Any plans to transport the leachate to Westport would need to be the subject of an in-depth and updated EIS to ensure that SI No. 200/1994 is not contravened. Without this there is no way of assessing the possible impacts on the waters of Westport Bay and rest of Clew Bay. Such temporary arrangements without solution will only transfer the problem from one area to another and lead to a proliferation of contaminated areas.

There was considerable surprise at Tobins comment that they would not be able to reduce levels of some elements to conform to the wastewater treatment act but that the levels would decrease after initial dilution. We believe that the act covers what comes out of the pipe and not what it dilutes down and the fact that the consultants appeared to be publicly advocating a course of action that may not conform to legislation is a matter of grave concern to us.

The treatment of the leachate will need to be of a very high standard to achieve the requirements of The Quality of Shellfish Waters Regulations. It would seem to be impossible to have any improvement in the quality of water if the Newport sewage treatment plant does not go ahead. There were concerns regarding the transparency of the original consultation for a location for a sewage outflow pipe when leachate disposal was not mentioned during this process. However it seems that the two

proposals are inextricably linked in that it would not appear to be legally possible to discharge leachate without simultaneously improving the water quality by providing a sewage treatment plant.

We would be grateful for the opportunity to discuss these points further at your earliest convenience and look forward to your reply.

Yours sincerely,

Niall O'Boyle.
CBMF Secretary.

cc: Board Members,
Cllr. Frank Chambers, Newport.
Clew Bay Oyster Co - Op.
B.I.M. Offices, Newport.
Marine Institute, Furnace.
NADDCO

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CLEW BAY OYSTER Co-Operative Society Limited

THE QUAY, NEWPORT, COUNTY MAYO, IRELAND. (098) 41402.

Mr. Pat Commons,
SEO, Capital Works,
Mayo County Council,
Aras an Chontae,
Castlebar,
Co. Mayo.

6th January, 2003

Dear Sir,

Newport Sewerage Scheme and proposed Derrinumera Landfill Leachate outfall to Newport Bay

I would like to take this opportunity to thank the Mayo County Council and its offices for the informed and timely meeting on December 5th in order to discuss the proposals for treatment of the Leachate from the Derrinumera Landfill site.

The Board of Directors of Clew Bay Oyster Co-operative (CBOC) welcome any works that will reduce the human faecal coliform and viral loadings on the waters of Clew Bay, as these measures will reduce the likelihood of oysters and other shellfish from being unfit to present to the market for human consumption, and in broad terms, waste water treatment plants at Westport and Newport could be seen to help improve overall water quality.

However there are a number of issues that arise from the meeting on December 5th, and on foot of the Oyster Fishery (Clew Bay) Order, 1979, the Board of Directors of Clew Bay Oyster Co-operative feels that these issues are in need of further discussion and clarification in order to protect the stocks of Native Oysters in Clew Bay : These issues arise as a result of the proposals to haul leachate from Derrinumera by road to Westport Waste Water Treatment Plant (WWTP), and subsequently to pipe the leachate directly to an outfall in Newport Bay.

cont.....



CLEW BAY OYSTER

Co-Operative Society Limited

THE QUAY, NEWPORT, COUNTY MAYO, IRELAND. (098) 41402

Page Two, Derrinumerá Landfill Leachate cont.....

CBOC's concerns are listed as follows:

- The Leachate from Derrinumerá, if it is to be pumped or hauled either to Newport or Westport, must be rendered as clean as best current technology permits before despatch from Derrinumerá. Further cleaning of the leachate by filtration and active chemical treatment must take place at Derrinumerá, and the material removed from the leachate before despatch must remain in a closed waste cell at Derrinumerá. Given the "industry standard acceptable levels of contaminants" in page five of the hard copy of Mr. Micheal Garrick's presentation on 5th December 2002; and given his estimate of the volume of leachate at present being hauled by tanker to Castlebar is 100,000m³ per year, a discharge of up to 2 tonnes per annum of, for example, arsenic would be possible before any action is taken to further treat the leachate. A similar situation surrounds the discharge of other listed contaminants into the marine environment which is stocked with economically exploited shellfish and seaweeds. These shellfish and seaweeds are also "bio-accumulators" and will continue to take up and fix these contaminants in their tissues for as long as the contaminants are present in the marine environment, before being harvested and entering the human food chain. There is a first risk that accumulation of toxic contamination will render CBOC's oysters unfit for consumption, and therefore unsaleable. There is a second risk that the oysters will over time be rendered in some way unable to grow and reproduce successfully because of interruptions to their biology, or because of a significant disturbance to the very sensitive and delicate marine ecosystem in which they live, as a result of accumulating contaminants from the Derrinumerá landfill leachate.
- Mr. Micheal Garrick's presentation also states that dilution at the effluent discharge point will be the method used by which the concentrations of known contaminants will be reduced to industry's accepted standards. This approach is unacceptable to CBOC. Dilution at the point of discharge simply means more contaminants added to the marine environment, and for the same reason as cited above cannot be allowed to happen.
- There are no figures given for concentrations in the leachate of the following: Silver; Cadmium; Mercury; organohalogenated compounds except Dichloromethane and Xylene; phenols and other solvents; organophosphates; hydrocarbon oil and fuel residues; synergistic effects of these and other chemicals. There may well other



CLEW BAY OYSTER Co-Operative Society Limited

THE QUAY, NEWPORT, COUNTY MAYO, IRELAND. (098) 41402.

Page Three, Derrinnumera Landfill Leachate cont.....

- harmful and potentially dangerous compounds which must be identified by independent, expert and complete analysis of the leachate by a competent authority, and measures put in place at Derrinnumera to ensure that any contaminants identified by this analysis are removed from the leachate on site.
- There is no figure given for the concentration of Tributyltin in the leachate. This substance is so effective as a marine biocide that its use in marine antifoulants has been banned in this country since 1987. It causes deformities in shellfish at concentrations as low as 0.001 microgramms per litre.
- Baseline studies of the receiving waters and environmental impact assessments must be undertaken before any leachate material is discharged to the marine environment. The baseline studies must identify the potential risks to the marine environment from discharge of the leachate, and that the marine environment will not be put at risk from any additional loadings from the effluent and leachate.
- The baseline study of the receiving waters and any further work must take into account the "Quality of Shellfish Water Regulations, 1994", S. I No. 200/1994.
- There is no mention of using U.V. treatment for reducing final concentrations of viruses and faecal coliforms in the discharge to Clew Bay in either Newport or Westport WWTP. Viral loadings in shellfish waters have been identified a risk to human health, and U.V. treatment will help reduce the overall risk of viral infection being passed on into the human food chain.
- The proposed location of the outfall discharge needs to be situated further to seaward as both research and anecdotal evidence indicate that the overall set of the water body in the north eastern corner of Clew Bay is in a northeasterly direction, which therefore limits the overall flushing rate of inner Newport Bay. It is indeed for this very reason that the Native oysters have managed to maintain a sustainable population over the years, as the spawn in summer time is held in the inner bay until "settlement". The proposed location does not provide for adequate outwards flushing of the discharge, especially if, as the current proposal suggests, the final concentrations of contaminants will be achieved by dilution with seawater at the outfall site, and contaminants may well accumulate at and around the proposed discharge site in close proximity to



CLEW BAY OYSTER Co-Operative Society Limited

THE QUAY, NEWPORT, COUNTY MAYO, IRELAND. (098) 41402.

Page Four, Derrinnumera Landfill Leachate cont....

- commercially exploited populations of Native oysters. The Marine Institute has this year developed a Hydrodynamic Modelling computer program for Clew Bay, at the request of the Co-ordinated Local Aquaculture Management Systems (CLAMS), of which CBOC is an active and founding participant. A study exploring other outfall locations using this model is recommended in order to select a site for the outfall location further to seaward that will ensure that the effluent, if it is to be discharged into Clew Bay, will be flushed to seaward, and not accumulate in the inner north eastern corner of Newport Bay.
- Continuing, thorough and transparent monitoring of the constituents of the leachate must also be provided for in any plan that relies on discharge at sea, and the results of any such monitoring must be available to CBOC and other marine users, as soon as they are evaluated.
- Westport WWTP was never designed to receive leachate, and leachate disposal was never explored in the original EIS for Westport WWTP, nor was leachate discussed in the original scoping documents for Newport WWTP circulated in 2001.

Please can you arrange to have these points discussed further at your earliest convenience. I look forward to your reply,

Yours sincerely,

FRANCIS O'DONNELL

Francis O'Donnell.
Secretary

cc: Board Members,
Cllr. Frank Chambers, Newport.
Clew Bay Marine Forum,
B.I.M. Offices, Newport.
MARINE INSTITUTE, FURNACE.



Bord Insearbh Mhara
Irish Sea Fisheries Board



Marine Institute
Eolas na Mara

Clew Bay CLAMS Group

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Alan Drumm, Mf Furnace (098) 41107
alan.drumm@marine.ie*

Mr. Pat Commons,
SEO, Capital Works,
Mayo County Council,
Aras an Chontae,
Castlebar,
Co. Mayo.

24th January 2003

**Newport Sewerage Scheme and Proposed Derrinumbera Landfill
Leachate outfall to Newport Bay**

Dear Mr. Commons,

At a recent meeting of the Clew Bay CLAMS Group all aquaculture producers in the Bay expressed grave concerns over the proposal to haul leachate from Derrinumbera by road to Westport Waste Water Treatment Plant and subsequently to pipe the leachate directly to an outfall from the proposed new treatment plant in Newport.

The Group welcomes the provision of the new Waste Water Treatment Plant (WWTP) in Westport and the proposal for a new plant in Newport, as it is seen that these plants will improve overall water quality by reducing human faecal coliforms and viral loading of the waters of Clew Bay.

However, following on from your informative meeting held on the 5th December 2002 at which consultants presented and discussed the new proposed Newport plant and proposals for treatment of the leachate from Derrinumbera Landfill, the CLAMS group wish to express the following concerns and feel that there is a need to receive clarification and hold further discussions regarding this matter so as to ensure the protection of their stock and livelihood.

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The CLAMS Group wish to reiterate many of the following concerns that have been voiced by the Clew Bay Marine Forum Ltd. and the Clew Bay Oyster Co-operative Society Ltd. in recent correspondence to you:

- The Leachate from Derrinumbera Dump must be rendered as clean as best current technology permits before dispatch from Derrinumbera Landfill to either Westport or Newport. Further cleaning of the leachate by filtration and active chemical treatment must take place at Derrinumbera and the material must be removed from the leachate before despatch and remain in a closed waste cell at the Derrinumbera site.
- The CLAMS Group is particularly concerned about the possible inclusion in leachate of toxins, dioxins, heavy metals, PCBs and endocrine disrupters.
- Baseline studies and a full environmental impact assessment of the receiving waters are required to establish current state of the marine environment before any effluent or leachate material is discharged. The EIA should assess and identify the potential risks to the marine environment from the discharge of leachate and that the marine environment will not be put at risk from any additional loadings from the effluent and leachate. Baseline studies and EIAs should take into account SI No. 200/1994 - "the Quality of Shellfish Waters Regulations".
- It should be noted that shellfish and seaweeds are "bio-accumulators" and take up and fix contaminants in their tissues for as long as the contaminants are present in the marine environment. There is a high risk that toxic contaminants from the leachate would accumulate in shellfish and seaweed and enter the human food chain and therefore result in them being unfit for human consumption. In addition there is a risk over time that contamination will affect growth and reproduction, and this is unacceptable to producers particularly the Clew Bay Oyster Co-operative.
- If leachate is to be treated at Derrinumbera, it should be examined by an independent and expert authority to identify all harmful and potentially dangerous compounds that may be present and measures must be put in place at Derrinumbera to ensure that any contaminants identified by this analysis are removed from the leachate on site.
- It is suggested that the Council investigate the effects that the leachate discharge has had in Castlebar and connecting waterways. And a question must be asked why permission was not granted by An Bórd Pleanála to expand on the importation of this leachate into Castlebar WWTP?
- The Group is opposed to the proposal that leachate from Derrinumbera would be transported to the new treatment plant in Westport on a temporary basis until such time that the new plant in Newport is up and running and pipeline to it from landfill is complete. The disposal of leachate at Westport was not explored in the initial EIA and the plant was not designed to receive leachate. Further studies are necessary to ensure that the marine environment is not affected and that the S.I. No. 200/1994 is not contravened.
- It should be noted that with the initial scoping documents for the Newport WWTP did not mention the possible disposal of the leachate through the plant's outfall.
- Concern has also been expressed that no U.V. treatment equipment is being installed in the new Westport WWTP. As bacterial and viral contamination in shellfish poses a clear risk to human health the Group request that U.V. equipment be installed in the Westport plant to further reduce final concentrations of faecal coliforms and viruses in the discharge. The Group also request that this equipment be installed in the proposed Newport plant.
- The proposed location of the outfall discharge in the Newport plant needs to be addressed as the location does not provide for adequate outwards flushing of the discharge. The Marine Institute has commissioned a hydrographic model for Clew Bay, which could be used to select the best suitable site for the outfall pipe, ensuring that no accumulation will take place in the inner north eastern corner of Newport Bay, the location of native oyster beds.

- Monitoring of the leachate, identifying all constituents must be carried out on an ongoing basis and must be thorough and transparent, with results being available to the public in particular the Clew Bay CLAMS Group, the Clew Bay Marine Forum, and the Clew Bay Oyster Co-operative.

We would be grateful for the opportunity to discuss these points further at your earliest convenience along with the Clew Bay Marine Forum Ltd. and the Clew Bay Oyster Co-operative Society Ltd..

Yours sincerely

Mary Hannan
Local Liaison Officer
Clew Bay CLAMS Group

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ENVIRONMENTAL PROTECTION AGENCY
An Ghníomhaireacht um Chaomhnú Comhshaoil



County Secretary
Mayo County Council
Aras an Chontae
Castlebar
Co. Mayo



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Bóthar Sheán de Mórdha
Caisleán an Bharraigh
Contae Mhaigh Eo, Éire
Email: info@epa.ie
Website: www.epa.ie

Date
9th June 2003

Our ref.

Your ref.

Dear Secretary,

I refer to Mayo Co. Co.'s correspondence of the 23rd May 2003 where it seeks clarification from the Agency on the need for, and scope of, a review of the waste licence for Derrinnumera Landfill (WL 21-1). The Agency notes the contents of the information submitted and would like to comment as follows:

- The provision of sludge treatment facilities (either 'interim' or permanent) at the Derrinnumera landfill facility is not provided for under the current waste licence (Reg. No. 21-1). Classes 6 and 7 of the Third Schedule (as specified under Schedule A of the waste licence) refer specifically to the biological/physico-chemical treatment of leachate only at the facility, while Class 2 of the Fourth Schedule is limited to the reclamation/recovery of organic wastes within the civic waste facility.
- The current waste licence (Reg. No. 21-1) does allow for the treatment of leachate at the facility and this is provided for under Classes 5, 6 and 7 of the Third Schedule as specified under Schedule A of the waste licence. However, the Agency considers that the discharge of treated leachate from the facility to the discharge outfall for treated wastewater from Newport WWTP could not be permitted under the current waste licence.
- Therefore, the Agency considers that the issues referred to above can only be dealt with by means of a review of waste licence Reg. No. 21-1. A full review application is not required in this instance and the revised review procedure (as allowed for under Article 6(e) of the Waste Management (Licensing)(Amendment) Regulations, 2002 will apply in this case. The following is required in order that your review may be processed by the Agency.

1. Publish and fix a site notice as specified in Articles 5, 6 and 7 of the Waste Management (Licensing) Regulations, 2000 (SI 185 of 2000).
2. Provide the information specified in Article 12(1) (a), 12(3) (a), and Article 12(4) of the Waste Management (Licensing) Regulations, 2000.
3. Provide a revised 'Site Plan' which shows the extent of the entire facility outlined in red.
4. Specify the class or classes of disposal and recovery activities concerned, in accordance with the Third and Fourth Schedule of the Waste Management Act and provide a summary description of each of the classes of activity applied for.
5. Provide details on the sludge treatment process proposed for your facility. This should include, *inter alia*, the following:
 - the types and quantities and characteristics of wastes to be accepted, the level of off-site treatment provided to incoming wastes together with the waste acceptance and waste handling procedures to be employed
 - the storage arrangements for incoming wastes together with analyses and characterisation of the wastes



- an overall plan (including its location on-site) of the sludge treatment process together with details of its management and maintenance; a description (including flow diagrams) of each unit operation within the process; details of the process control system indicating the control equipment, design capacity and throughput of the system; details of raw material, fuel and energy usage
 - particulars of the source, location, nature and composition of all emissions from the process together with an assessment of the impact of the emissions on the ambient environment
 - the abatement/treatment operations to be employed to minimise any potential impacts of emissions on the environment. This should include detailed information on how it is intended to control odour, dust and noise emissions from the proposed facility
 - the quality and quantity of the processed materials together with its proposed end uses. Details on how it is intended to dispose/recover any wastes off-site arising from the process (including those which do not meet the required specification) should be provided
 - details (including drawings) of surface water and contaminated water (leachate) drainage control to be employed
6. In relation to the treatment of leachate at the facility, provide the following information:
- a full description of the leachate treatment system proposed together with details of the nature, level and type of treatment and the design capacity of the plant to treat all leachate (current and future) arising at the facility
 - details on the quantity and quality of the treated leachate to be discharged from your facility together with an assessment of the impact of the treated leachate on the receiving environment. This assessment should include details on the quality and quantity of treated wastewater arising from the proposed Newport WWTP, the current impact of the WWTP discharge on the receiving environment and the anticipated impact of the combined discharge on the receiving environment (e.g. water quality, shellfish communities, dangerous substances regulations etc.).
 - details (including drawings) on the proposed route for discharge of treated leachate from the facility to the treated outfall from Newport WWTP
 - measures proposed for the facility to reduce the volumes of leachate requiring treatment (e.g. capping, restoration etc.)
 - contingency arrangements including provision for breakdown/maintenance
 - details on any further measures (including timeframes) which will be put in place to prevent the migration of leachate from your facility (as recently highlighted by the geophysical survey submitted as part of the enforcement of waste licence Reg. No. 21-1) apart from the geophysical survey and the installation of additional monitoring boreholes proposed.
7. Submit an evaluation report (prepared by suitably qualified personnel) on the landfill gas collection and flaring system which is currently in place at your facility. This report should include a review of the performance of the horizontal and vertical gas collection system, the need for optimising this gas collection system and a series of measures/actions for increasing the efficiency and operation of the landfill gas flaring system.
8. Outline the financial provisions and the charges proposed for your facility having regard to the provisions of the Landfill Directive and the Waste Management Licensing (Amendment) Regulations, 2002 (SI 336 of 2002).
9. Confirm whether the wastes to be accepted at the facility are in accordance with Articles 53 and 54 of the Waste Management Licensing (Amendment) Regulations 2002.
10. Describe how the sludge treatment facility complies with the Regional Waste Management Plan.
11. Provide clarification on whether an EIS will accompany the review application as per the requirements of Article 13 of the Waste Management (Licensing) Regulations, 2000 and the European Communities (Environmental Impact Assessment) Regulations, 1989 to 1999.

12. Provide any additional information for the purposes of satisfying the requirements of Section 40(4) of the Waste Management Act.
13. Submit the appropriate fee for the review of your licence in accordance with Article 43 of the Waste Management (Licensing) Regulations, 2000.
14. Provide details of any required revisions to the existing waste licence Conditions (including those arising from any plans agreed with the Agency under existing Conditions) to facilitate the proposed activities and justification for any proposed changes.
15. Submit groundwater trigger levels for a minimum of one upgradient and two downgradient boreholes in accordance with the requirements of the Landfill Directive 1999/31/EC.
16. Submit a non-technical summary of the information requested above.
17. The review application must be signed and where applicable, it should also be appropriately stamped.

Where revised drawings are submitted, provide a list of drawing titles, drawing numbers and revision status, which correlates the revised drawings with the superseded versions. The information requested for the review should be submitted using the relevant parts of the waste licence application form which is available from Waste Administration in Wexford. You may wish to cross reference to items that you have previously submitted to the Agency. When submitting your review application please supply Article 12 information in the form of an original and five copies.

Should you have any query regarding this communication, please contact the undersigned at the Castlebar Regional Inspectorate, John Moore Road, Castlebar, Co. Mayo.

Yours sincerely,



Dr. Michael Henry, Inspector
Environmental Management and Planning

cc. Mr. Joe Beirne, DOS, Mayo Co. Co.
Mr. Kevin Cooke, Landfill Manager

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ENVIRONMENTAL PROTECTION AGENCY
An Ghníomhaireacht um Chaomhánú Comhshaoil



Ms. Siobhan White
Executive Officer
An Bord Pleanála
64 Marlborough Street
Dublin 1

AM	29/09/03	Regional Inspectorate
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		Castlebar
	01 OCT 2003	County Mayo, Ireland
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Bóthar Sheán de Mórdha
Caisleán an Bharraigh
Contae Mhaigh Eo, Éire
Email: info@epa.ie
Website: www.epa.ie

Date

Our ref.

Your ref.

29/09/03

WL21-1

Re: Newport Wastewater Scheme and Derrinumera Landfill Leachate Disposal

Dear Ms. White

I refer to your correspondence which was received by the Agency on the 24th September 2003 in relation to the above. The Agency notes the contents of your correspondence and would like to comment as follows:

- A waste licence (Reg. No. 21-1) was issued to Mayo Co. Co. on the 21st December 1999 in relation to the operation of the landfill facility at Derrinumera, Newport Co. Mayo.
- On the 9th June 2003, the Agency wrote to Mayo Co. Co. stating the need for it to apply to the Agency for a review of waste licence Reg. No. 21-1. The Agency considered that a review of the waste licence Reg. No. 21-1 was necessary on the basis of two main issues, one of which was that the discharge of treated leachate from the facility to the discharge outfall for treated wastewater from Newport WWTP could not be permitted under the current waste licence. This letter also requested the submission of information on a number of issues related to the waste licence review. On receipt, the Agency will assess the information in accordance with the Regulations and make a decision accordingly.

If you have any questions in relation to the above please do not hesitate to Dr. Michael Henry at the above address.

Yours sincerely

Dr Michael Henry
Environmental Management and Planning



Guardians of the Environment

20th October 2003

Your Ref.: ES 16.ES2013
Our Ref.: G2003/656



The Secretary,
An Bord Pleanála,
64 Marlborough Street,
Dublin 1

AN ROINN COMHSHAOIL,
DIREACHTA AGUS
RIALTAIS ÁIRIÚIL
DEPARTMENT OF THE
ENVIRONMENT, HERITAGE
AND LOCAL GOVERNMENT

**Re: Newport Wastewater Scheme and
Derrinnumera Landfill Leachate Disposal**

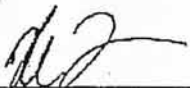
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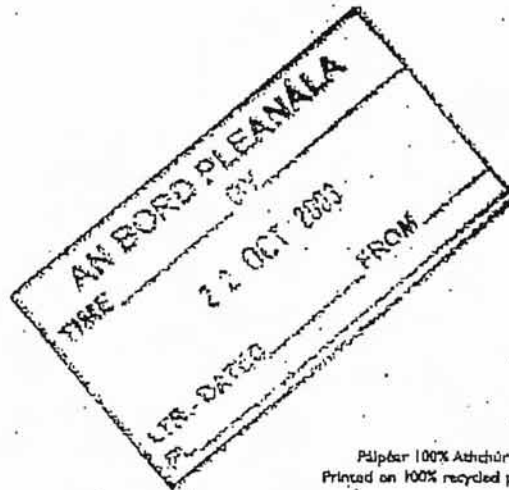
We refer to the Board's letter of the 22nd September 2003 regarding the above-proposed development. Outlined below are the underwater archaeological comments/recommendations of the Heritage and Planning Division of the Department of the Environment, Heritage and Local Government

This office would like to obtain more information on the proposed development such as exact location of the outfall pipes, their size and extent of excavation that might facilitate the outfall pipes. This would allow us to ascertain whether an underwater archaeological assessment in the form of an inter tidal survey with metal detection may need to be carried out as part of the cultural heritage section of the Environmental Impact Statement (EIS).

There are a large number of shipwrecks listed in the National Inventory for Newport and these are protected under the National Monuments Acts 1930-1994. Information regarding these should be supplied to us so that suitable mitigatory measures can be made. Outside of this, as part of the archaeological assessment for the EIS, impacts to watercourses associated with this development should also be assessed.

Mise le meas,


Helen Francis,
Development Applications Unit



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Printed on 100% recycled paper



21 November, 2003

Our Ref: G2003/794



Mr. Dermot Burke,
Project Manager,
TES Consulting Engineers,
Block 4B, Unit 5,
Blanchardstown Corporate Park,
Dublin 15.

Re: Review of EPA waste licence for Mayo County Council landfill at Derrinnumera, near Castlebar, Co. Wicklow

Dear Mr. Burke,

I wish to acknowledge receipt of your recent correspondence in relation to the above.

Your enquiry has been allocated the above reference number which should be used in all correspondence with this office. In addition your enquiry has been circulated to a number of relevant individuals/divisions within the Department for their comments and we will revert to you in due course.

If you need any further assistance please do not hesitate to contact us.

Yours sincerely,

Aoife O'Shea
Development Applications Unit

AN ROINN COMHSHAOIL,
OIÐHREACHTA AGUS
RIALTAIS ÁITIÚIL
DEPARTMENT OF THE
ENVIRONMENT, HERITAGE
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Unit Iascaigh Mhara
Irish Sea Fisheries Board



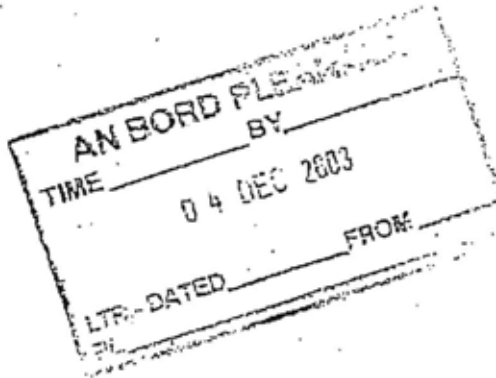
Marine Institute
Fíoras na Mara

Clew Bay CLAMS Group

C/o BIM Office
Carey Walsh Building
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Co. Mayo

Phone/Fax: (098) 41177
Mobile: Mary Hannan (08 7) 230667
hannan@bim.ie
Alan Drumon, MI Funnace (093) 41107
alan.drumon@marine.ie

3rd December 2003



Ms. Siobhan White
Executive Officer
An Bord Pleanála
64 Marlborough Street
Dublin 1

RE: Newport Wastewater Scheme and Derrinumerá Landfill Leachate Disposal

Dear Ms. White,

I have been asked by the Clew Bay C.L.A.M.S. (Co-ordinated Local Aquaculture Management Systems- aquaculture producers group) Group to write to you in connection with Newport Wastewater Scheme and Derrinumerá Landfill Leachate disposal. The Group have expressed grave concerns to Mayo County Council over the proposal to pipe leachate directly from Derrinumerá Landfill to an outfall from the proposed new treatment plant in Newport.

The Group wish to enquire if An Bord Pleanála will take into consideration EU and Irish legislation regarding water quality and discharge of dangerous substances (EU Directive 79/923/EEC, S.L. No. 200 of 1994 and the Water Quality (Dangerous Substances) Regulations 2001)? Given that Clew Bay is a Designated Area for Shellfish and that this matter is highly sensitive the CLAMS Group would also like to enquire why the Marine Institute and BIM have not been asked directly for a submission/observation to what information should be contained in an EIS that the Council propose to carry out ?

Please find attached submissions that were forwarded earlier in the year to Mayo County Council by the CLAMS Group, the Clew Bay Marine Forum and the Clew Bay Oyster Co-operative Society Ltd. with regard to the above proposal.

The Group would be most grateful if you would take into consideration the above observations in dealing with this matter.

Thanking you

Yours Sincerely

Mary Hannan
Local Liaison Officer
Clew bay CLAMS Group

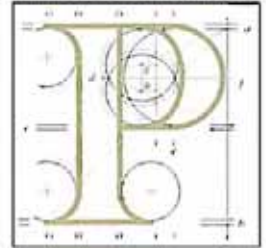
Our Ref: ES 16.ES2013

Your Ref: Mayo County Council

Dermot Burke
Tobin Environmental Services Ltd
Block 4B, Unit 5
Blanchardstown Corporate Park
Dublin 15



An Bord Pleanála




3rd December 2003

Re: Newport Wastewater Scheme and
Derrinnumera Landfill Leachate Disposal

Dear Sir,

An Bord Pleanála has received your recent letter in relation to the above-mentioned case. The contents have been noted.

Yours faithfully,


Siobhán White
Executive Officer

es06.ltr

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64 Sejid Mairbhride,
Baile Átha Cliath 1.

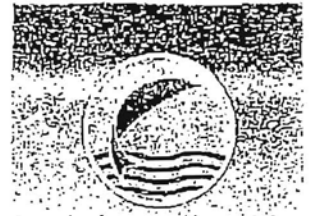
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Web: <http://www.pleanala.ie>
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64 Marlborough Street,
Dublin 1.



North Western Regional Fisheries Board

Bord Iascaigh Réigiúnach an Iarthuaiscirt



Fisheries Ireland
Our Natural Heritage

AN BORD PLEANALA	
TIME	BY
05 DEC 2003	
TR. DATED	FROM

4th December 2003

The Secretary,
An Bord Pleanala,
64, Marlborough Street,
Dublin 1.

RE: Newport Wastewater Scheme and Derrinmera Landfill Leachate Disposal

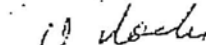
Dear Secretary,

With regard to the draft scoping document for the Environmental Impact Statement (EIS), in relation to the above-proposed development, the Board has the following comments to make:

The Board believes that a baseline survey of the shellfish in the bay is essential, especially the oyster beds at Ardagh and the smaller beds at Rosgibleen, to the east of the proposed outfall. This survey should assess, in detail, current contamination levels and impacts of the outfall on this resource. The EIS should also review the dispersal rates at Rossmore Point.

The Board looks forward to reviewing the EIS in due course.

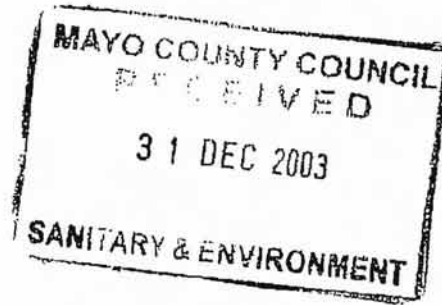
Yours sincerely,


VINCENT ROCHE
Chief Executive Officer
Abp-nwrrp123

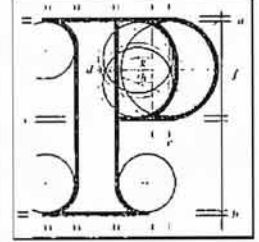
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The North Western Regional
Fisheries Board
Ardnaree House
Abbey Street
Ballina
Co. Mayo
TE (094) 22788

16. ES 2013



An Bord Pleanála



Pat Commons
Mayo County Council
Aras An Chontae
Castlebar
Co. Mayo

Re: Request for a written opinion on the information to be contained in the Environmental Impact Statement for the proposed wastewater treatment plant at Newport and discharge pipe i.e. marine outfall to Newport Bay.

Dear Sir/Madam,

An Bord Pleanála refer further to your request under article 117 of the Planning and Development Regulations 2001 for a written opinion on the information to be contained in the environmental impact statement for the above proposal.

In response to your request please now be advised that in accordance with article 95(4) of the Planning and Development Regulations 2001 the following constitutes the Board's written opinion on the information to be contained in the environmental impact statement to be prepared in respect of the above mentioned development.

The EIS for the project referred to above shall contain the information specified in paragraph 1 of Schedule 6 of the Planning and Development Regulations 2001 (S.I. no. 600 of 2001) and the information specified in paragraph 2 (referred to above) to the extent that this latter information is relevant to the approval procedure referred to in section 226 of the Planning and Development Act 2000, the nature of the development in question and the environmental features likely to be affected. The EIS shall also contain a summary in non-technical language of the information contained in the EIS.

The EIS shall be prepared having regard to the 'Guidelines on the information to be contained in Environmental Impact Statements' published by the Environmental Protection Agency in March 2002.

TOBIN CONSULTING ENGINEERS CASTLEBAR	
PROJECT NO. 16. ES 2013	DATE RECEIVED 9 AUG 2006
PASS TO	ACTION
64 Sháid Maoilbhríde, Búile Átha Cliath 1.	
Tel: (01) 858 3100 LoCall: 1890 275 175 Fax: (01) 872 2684 Web: http://www.pleanala.ie email: board@pleanala.ie	
64 Mathborough Street, Dublin 1.	

The EIS shall in particular contain information and address the issues referred to below.

Alternatives:

1. Information on alternative locations for the marine outfall. This should comprise of an outline of the main alternative studied and an indication of the main reasons for the developer's choice having regard to the effects on the environment.
2. Information on alternative sites considered for the location of the effluent treatment plant and an indication of the main reasons for the developer's choice having regard to the effects on the environment.
3. Information on alternative treatment processes considered and in particular alternative disinfection methods for the final effluent. The main reasons for the developer's choice should be indicated.

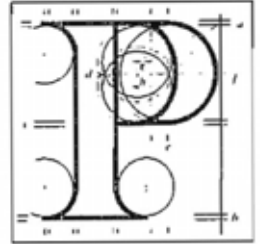
Construction phase:

1. Information on likely effects on human beings arising from construction activities eg. noise, dust etc.
2. Information on likely effects on flora and fauna of significant ecological value and on water quality arising from the construction phase of the proposed development. A baseline study of flora and fauna on the site of the proposed wastewater treatment plant and along the line of the discharge pipe is required in this regard.
3. Information on likely effects on items of archaeological interest arising from construction works. This will require a baseline study along the line of the discharge pipe including the intertidal and sea bed sections. Information on the size and location of the discharge pipe and of the extent of excavations required should be provided. An assessment of the likely effect on any shipwrecks impacted upon should be included.

Operational phase:

1. Information on the likely effects of the wastewater treatment plant on human beings in the vicinity due to odours, noise, traffic etc generated.

An Bord Pleanála



64 Sruil Mucilbhríde,
Baile Átha Cliath 1.

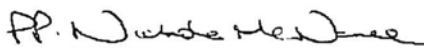
Tel: (01) 858 8100
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64 Marlborough Street,
Dublin 1.

2. Information on and an assessment of the impact of the treatment plant on the landscape.
3. Information on and an assessment of the impact of the discharge on water quality in the vicinity of the discharge point, in Newport Bay generally and upstream to Lough Furnace. Dispersal modelling shall be carried out as part of the assessment. Detailed information on the pollution potential and toxic nature of all discharges including leachate shall be contained in the EIS.
4. An assessment of the impact of the discharge on fish including shellfish. This shall include a baseline survey of shellfish in the vicinity which potentially may be impacted upon.
5. An assessment of the impact of the discharge on flora and fauna of ecological value. The likely impact on candidate Special Areas of Conservation in particular shall be assessed. The impact on priority habitats and protected flora and fauna shall be considered.
6. An assessment of the likely effects of the proposed stormwater overflow to the Newport Channel on water quality, fish life and flora and fauna of significant ecological value.

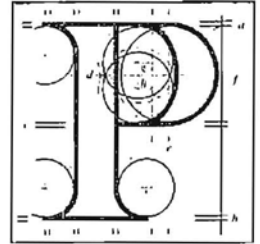
Also please find enclosed copies of observations received from the North Western Regional Fisheries Board, the Department of the Environment, Heritage and Local Government, the Environmental Protection Agency and the Clew Bay CLAMS Group.

Yours faithfully,



Nichola Mc Namee
Executive Officer

An Bord Pleanála



64 Sráid Maoilbhríde,
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64 Marlborough Street,
Dublin 1.

19 January, 2004

Our Ref: G2003/794

Mr. Dermot Burke,
Project Manager,
TES Consulting Engineers,
Block 4B, Unit 5,
Blanchardstown Corporate Park,
Dublin 15.



**Re: Review of current EPA Waste Licence for Mayo County Council
Landfill, Derrinnumera, Castlebar, Co. Mayo**

Dear Mr. Burke,

We refer to the Council notification in relation to the above-proposed development. Outlined below are the nature conservation recommendations of the Heritage and Planning Division of the Department of the Environment, Heritage and Local Government.

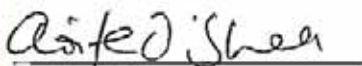
We note that a stream on the northern boundary of this landfill site flows into the Galishwy River, which in turn flows into Beltra Lough, the source of the Newport River candidate Special Area of Conservation (cSAC) no. 002144. We are concerned that there may be a negative impact on this cSAC.

We would recommend that an Environmental Impact Assessment should be undertaken to identify any possible threats to the Newport River cSAC.

This recommendation is based on the papers submitted to this Department on a pre-planning basis and is made without prejudice to any decision the Minister may take upon sight of a formal planning application.

Finally, we are still awaiting archaeological comments/recommendations and these will be forwarded to you as soon as they are to hand.

Yours sincerely,



Aoife O'Shea
Development Applications Unit

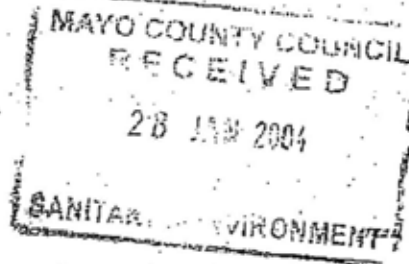
AN ROINN COMHSHAOIL,
OIÐHREACHTA AGUS
RIALTAIS ÁITIÚIL
DEPARTMENT OF THE
ENVIRONMENT, HERITAGE
AND LOCAL GOVERNMENT

7 PLÁS ELY
BAILE ÁTHA CLIATH 2, ÉIRE
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Mr Frank Chambers M.C.C.,
Chairperson,
Mayo County Council,
Main Street,
Newport,
Co. Mayo.



Marine Institute
Furnace
Newport
Co. Mayo

telephone 353 98 42300

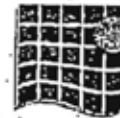
facsimile 353 98 42340

newport.reception@marine.ie

website www.marine.ie

COPY

26- January - 2004



Marine Institute
Faras na Mara

Re: EIS for Newport Wastewater Scheme and Discharge pipe.

Dear Frank,

It has come to my attention that the County Council has received the written opinion from An Bord Pleanála in relation to the above Environmental Impact Statement. As manager of the Marine Institute's Facility in Newport I would appreciate it if you put me on your mailing and consultation list.

There are a number of issues that I would like to have clarified at this early stage. There appear to be two main issues involved here: a) Newport Sewage scheme and its wastewater outfall, including storm water, and b) treatment of Derrinumerá leachate and inclusion of the leachate in the wastewater outfall into Clew Bay. From reading the opinion from An Bord Pleanála, it is not clear as to which aspects of each proposal are being referred to in their document.

As I have previously stated (16-12-2002), the provision of the new sewage works in Westport and the proposal for Newport are both to be welcomed. Sewage treatment will ensure an improvement of water quality in the inner bay which will have benefits to many sectors, including the environment, shellfish industry, seaweed industry and the tourism and leisure industry. Given the importance of sewage treatment to water quality in the bay and to the shellfish industry and given compliance with the EIS, the provision of a sewage works in Newport should not be "held to ransom" by the inclusion of Derrinumerá leachate in the outfall.

The inclusion of Derrinumerá leachate in the sewage scheme outfall raises a plethora of issues which must be addressed transparently, and separately within the EIS. A failure within the dump leachate issue, should it occur, must not bring down the entire scheme. Issues such as an unknown dumping history in Derrinumerá leading to unknown contaminants, and cocktails of contaminants, being included in an assessment of ALL pollution potential and toxic nature is going to be difficult to address.

Marine Institute
Galway Technology Park
Parkmore
Galway

telephone 353 91 730 400

facsimile 353 91 730 470

Marine Institute
80 Harcourt Street
Dublin 2

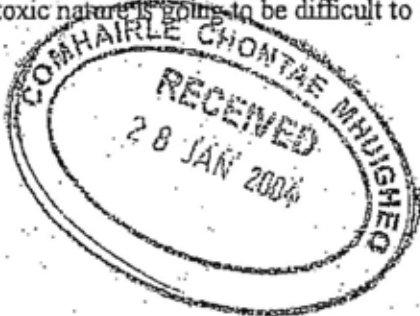
telephone 353 1 476 6500

facsimile 353 1 478 4988

Marine Institute
Snugboro Road
Abbotsstown
Dublin 15

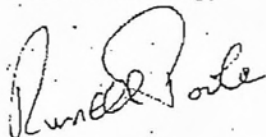
telephone 353 1 822 8200

facsimile 353 1 820 5078



I enclose copies of my previous correspondence with Mayo County Council and look forward to the consultations. I would reiterate that it is important that the sewage scheme and the leachate disposal from the dump are dealt with as separate issues, albeit within the same process.

Yours sincerely,



Dr. Russell Poole
Section Manager
Aquaculture & Catchment Management Services
Marine Institute
Newport

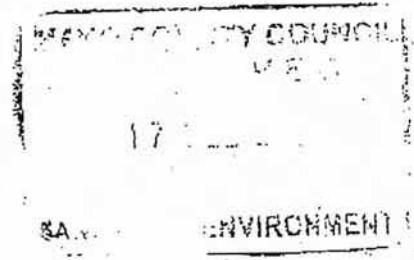
Copy: Mr Pat Commons, Mayo Co. Co.

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16 February 2004

Our Ref: G2003/656

Mr. Pat Commons,
Mayo County Council,
Áras an Chontae,
Castlebar,
Co. Mayo.



Re: Newport Wastewater Scheme and Derrinumbera Landfill Leachate Disposal.

Dear Mr. Commons,

As you maybe aware, we received notification from An Bord Pleanála on the 22 September 2003 regarding the above proposed development. While we submitted archaeological recommendations to the Board, we were not in a position to submit nature conservation recommendations.

We received a telephone call from Mr. Paul Kelly, E.G. Pettit & Company who advised that we should forward our nature conservation recommendations to Mayo County Council for consideration and accordingly, these are outlined below. In addition we have included, for your information, our archaeological considerations.

Nature Conservation:

We understand that the proposed wastewater scheme will serve the town of Newport and will also treat the leachate from the landfill at Derrinumbera. The latter will be connected to the facility by a pipeline that will be at least 6km in length. The scheme will discharge to the sea in Clew Bay.

We are concerned that, in addition to possible impact on Clew Bay Complex candidate Special Area of Conservation (cSAC) No.001482, the discharge of treated effluent from the scheme, may also impact on this cSAC and the Newport River (cSAC) No. 002144 in the course of construction. A site synopsis outlining the habitats and species within these areas is attached for your information.



In light of the above and the necessity to ensure protection of the habitats and species present, you will be aware of Regulation 27 (1) of the European Communities (Natural Habitats) Regulations 1997 which states that " a local authority when duly considering an application for planning permission, or the Board when duly considering an appeal or an application for planning permission, in respect of a proposed development that is not directly connected with, or necessary to the significant effect thereon either individually or in combination with other developments shall ensure that an appropriate assessment of the implications for the site in view of the site's conservation objective is undertaken".

Regulation 27 (2) outlines the type of assessment that would be deemed appropriate.

In particular you will be aware of Regulation 27 (5) and (6) which states that a proposed development, which may have a negative impact on a European site, containing a Priority Habitat, can only be allowed for imperative reasons of overriding public interest and in that respect such reasons would relate to reasons of - (a) human health or public safety; (b) beneficial consequences of primary importance for the environment or (c) further to an opinion from the EU Commission to other imperative reasons of overriding public interest.

In addition we understand that discharge of treated effluent to the sea, and any works in intertidal areas, will also require a Foreshore Licence.

A draft Environment Impact Statement (EIS) scoping document for the proposed development was included in the file received from An Bord Pleánala. This document stated that a submission on the development will be formally solicited from Dúchas (now part of the Department of the Environment, Heritage and Local Government) and other statutory bodies. Therefore due to the ecological sensitivity of this area we recommend that all ecological impacts associated with this scheme should be assessed with regard to the scope of the EIS and in consultation with the National Parks and Wildlife Service (NPWS) of this Department.

The Environmental Impact Statement should not be confined solely to the impacts on receiving waters.

Archaeology (Underwater):

We require further information on the proposed development, for example, exact location of the outfall pipes, their size and the extent of excavation that might facilitate the outfall pipes. This would allow us to ascertain whether an underwater archaeological assessment in the form of an inter tidal survey with metal detection may need to be carried out as part of the cultural heritage section of the EIS.

There are a large number of shipwrecks listed in the National Inventory for Newport and these are protected under the National Monuments Acts 1930-1994. Information regarding these should be forwarded to this office so that suitable mitigatory measures can be established. Outside of this, as part of the archaeological assessment for the EIS, impacts to watercourses associated with this development should also be assessed.

Archaeology (Terrestrial)

We concur with the comment in Mayo County Council's request to An Bord Pleanála, to the effect that there is potential for the discovery of archaeological remains during groundworks for this development. We therefore recommend that Mayo County Council should commission a report on the effect of the proposed development on archaeological remains. The assessment should be carried out by a suitably qualified archaeologist by means of a desk study and a site visit. The Heritage and Planning Division will issue an informed recommendation on the basis of the assessment report.

I trust the above is of assistance to you. If you have any further queries please contact this office quoting the above Ref. No.

Yours sincerely,

Teresa Halloran
Teresa Halloran,
Development Applications Unit.

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SITE SYNOPSIS

SITE NAME: NEWPORT RIVER

SITE CODE: 002144

The Newport river is a relatively short river, flowing from Beltra Lough to the sea at Newport, Co. Mayo. The site comprises a 7 km section of this river from Derrynaforeva Lough to the railway bridge in Newport town.

It is a low-level river, which flows through wet grassland and wet heath. In parts the wet grassland is improved to varying degrees through the application of fertilisers. A small section in the east of the site flows through blanket bog. There are sections of the river bank which are wooded with deciduous trees. Some coniferous afforestation occurs close to the river in two areas.

The interest of this site lies primarily in the presence of a significant population of the Freshwater Pearl-mussel (*Margaritifera margaritifera*), a species listed on Annex II of the EU Habitats Directive and also protected under the 1976 Wildlife Act. A survey in 1995, estimated the population of the Pearl-mussel within the site at approximately 5,000 individuals. The water quality of the river is good and the mussels were found throughout the river system in both gravel and rocky bed areas.

For a large proportion of the river's course it flows through wet heath. This habitat is widespread throughout the east of the site where the depth of the peat is approximately 30-50 cm deep. The species which are present include Cross-leaved Heath (*Erica tetralix*), Bell Heather (*E. cinerea*), Heather (*Calluna vulgaris*), Purple Moor-grass (*Molinia caerulea*), Bulbous Rush (*Juncus bulbosus*), Heath Rush (*J. squarrosus*), Soft Rush (*J. effusus*), *Carex* spp., Tormentil (*Potentilla erecta*), Bilberry (*Vaccinium myrtillus*), Bog-myrtle (*Myrica gale*), lichen species (*Cladonia portentosa*, *C. uncialis*), Bracken (*Pteridium aquilinum*), Hard Fern (*Blechnum spicant*), with occasional Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), and Oak (*Quercus* spp.). Sphagnum mosses and liverworts are common. In the area adjacent to Derrynaforeva Lough the rare Irish Heath (*Erica erigena*) is found in abundance. In parts of the site the heath community is dominated by Purple Moor-grass and Bog-myrtle.

Also found within the site is broad-leaved deciduous woodland which comprises Ash (*Fraxinus excelsior*), Hawthorn, Downy Birch (*Betula pubescens*), Alder (*Alnus glutinosa*), Willow (*Salix* spp.), Holly and Oak. In some places the woodland is

rather open and is presumably grazed as indicated by the absence of ground flora. In other instances a more luxuriant growth of ground flora can be found. Typical species include Wood Sorrel (*Oxalis acetosella*), Hard Fern and Foxglove (*Digitalis purpurea*). In addition these areas are rich in ferns, liverworts, lichens and mosses. More swampy carr is found close to the river's edge, and more typically along drainage channels and streams feeding into the river. These areas contain a higher percentage of Willow and Alder with occasional Oak. The ground flora in these areas is typically dominated by a tussocky Purple Moor-grass / Bog-myrtle community.

The other common habitat within the site is wet *Juncus* grassland. These areas support Soft Rush, Hard Rush (*J. inflexus*), Bent grasses (*Agrostis* spp.), Crested Dog's-tail (*Cynosurus cristatus*), Thistles (*Cirsium* spp.), Marsh Violet (*Viola palustris*), Cuckoo-flower (*Cardamine pratensis*), Creeping Buttercup (*Ranunculus repens*) and a good cover of mosses.

Otter, Badger, Irish Hare and Common Frog, four Red Data Book species which are also protected under the 1976 Wildlife Act, occur in the site. The Common Lizard is also believed to be present. It too is protected under the 1976 Wildlife Act.

The Kingfisher, a species listed on Annex I of the EU Birds Directive, has been recorded along the Newport River. The Red Grouse can be found on areas of wet heath within the site.

The Newport River is a renowned Salmonid river and the water quality is considered good. However, there are potential threats to the river water quality through nutrient enrichment, particularly from agricultural intensification. Further afforestation within the catchment could also pose a threat to the water quality. The Pearl-mussel is vulnerable to fishing.

The Newport River is an important site for the Freshwater Pearl-mussel, a species listed on Annex II of the EU Habitats Directive. The water quality of the river is good and the site supports populations of several protected species including Otter and Kingfisher. The rare Irish Heath is also known from the site.

17.1.2000

SITE SYNOPSIS

SITE NAME: CLEW BAY COMPLEX

SITE CODE: 001482

Clew Bay is a wide, west-facing bay on the west coast of Co. Mayo. It is open to the westerly swells and winds from the Atlantic with Clare Island giving only a small amount of protection. The drumlin landscape was formed during the last glacial period when sediments were laid down and smoothed over by advancing ice - the sea has subsequently inundated this area, creating a multitude of islands. The geomorphology of the bay has resulted in a complex series of interlocking bays creating a wide variety of marine and terrestrial habitats, including several listed on Annex I of the E.U. Habitats Directive: large shallow bay, lagoon, Atlantic salt-meadows, drift lines, perennial vegetation of stony banks, embryonic shifting dunes, Marram dunes and dune slacks.

Within the shallow bay, subtidal sediments are characterised by typical bivalve communities in fine sand (*Chamelea striatula* and *Ensis* sp.), and by the polychaete worm *Euclymene* and the bivalve *Thyasira flexuosa* in muddy sand. The intertidal sediment communities are characterised by polychaetes and bivalves in the mid-shore and by the sand mason worm *Lanice conchilega* in the low shore. In areas where there is maerl debris with small amounts of live maerl the infaunal community has a mixture of species characteristic of coarse sand (e.g. the bivalves *Timoclea ovata*, *Spisula* sp., and the polychaetes *Nephtys cirrosa* and *Glycera lapidum*) and medium sand (e.g., the bivalve *Ensis* sp. and the polychaetes *Lanice conchilega*, *Scoloplos armiger* and *Sthenelais boa*). The bivalves *Timoclea ovata*, *Tapes rhomboides* and the polychaetes *Branchiommoma bombyx* and *Glycera lapidum* are typical of gravels and medium sands, whereas the bivalves *Abra alba*, *Corbula gibba*, *Thyasira flexuosa* and *Mysella bidentata* and the polychaete *Euclymene* are characteristic of muddy sands. Beds of live maerl of *Lithothamnion corallioides* are also present in a number of areas.

Around the edges of the inner part of the bay are shores of mixed boulders, cobbles, gravel with some sand and mud. They have a typical zonation of intertidal communities found on sheltered shores of mixed substratum. The shore at Murisk is unusual as a distinct zone characterised by archannelids occurs above the sandhopper zone in the upper shore under the boulders and cobbles. This is an unusual habitat. In sheltered areas of shallow water with little sand scour a well developed community of hydroids, sponges and solitary sea squirts is present. Where the sediments includes gravel and mud the species richness in the area can be exceptionally high (180 species). A number of marine species that are rarely