



DROGHEDA PORT COMPANY

CAPITAL DREDGING SCHEME

WASTE LICENSE W0052-01

TENTH ANNUAL ENVIRONMENTAL REPORT

JULY 2009

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CONTENTS

1.0 INTRODUCTION

- 1.1 Reporting Period
- 1.2 Site Details

2.0 SITE DESCRIPTION

- 2.1 Site Location
- 2.2 Waste Activities

3.0 EMISSIONS

- 3.1 Dust Monitoring
- 3.2 Leachate and Suspended Solids Monitoring
- 3.3 Noise Monitoring
- 3.4 Ecological Monitoring

4.0 SITE DEVELOPMENT WORKS

- 4.1 Site Restoration Works
- 4.2 Removal of Material from the Polder

5.0 WASTE RECEIVED BY AND CONSIGNED FROM THE FACILITY

- 5.1 Waste Received at the Facility
- 5.2 Waste Consigned from the Facility

6.0 ENVIRONMENTAL INCIDENTS AND COMPLAINTS

7.0 ENVIRONMENTAL MANAGEMENT PROGRAMME PROPOSAL

- 7.1 Objectives and Targets
- 7.2 Corrective Action
- 7.3 Financial Provision
- 7.4 Site Management Structure

1.0 INTRODUCTION

1.1 Reporting Period

A Waste License W0052-01 was granted to Drogheda Port Company on 14th January 1999 by the Environmental Protection Agency, under Section 40 (1) of the Waste Management Act, 1996. It covered the infilling of Stagrennan Polder, Stagrennan, Drogheda, Co Louth, and placed eleven conditions on Drogheda Port Company regarding the after-use of the land.

Under the Waste License, the Tenth Annual Environmental Report (herein referred to as the AER) is required to cover the Tenth year from the grant of the license (i.e. 14th January 2008 to 13th January 2009).

The removal of the dredged material deposited on Stagrennan polder commenced during August 2001 and continued up until October 2004. A Restoration Plan for the polder was designed in consultation with the Environmental Protection Agency (EPA), National Parks and Wildlife Service (NPWS) and Department of Agriculture, Fisheries and Food (DAFF, formerly the Department of Communications, Marine and Natural Resources, DCMNR). Restoration works commenced on the 31st July 2006 and the polder was re-opened to tidal inundation on 9th November 2006.

The AER has been produced in line with the requirements of the Waste License and the EPA Draft Guidance on Environmental Management Systems and Reporting to the Agency.

1.2 Site Details

Site Address:

Name: Stagrennan polder
Address: Marsh Road
Drogheda
Co Louth

Site Operator:

Name: Drogheda Port Company
Address: Harbourville House
Mornington Road
Drogheda,
Co Meath
Contact: Paul Fleming, Chief Executive
Tel: 041 9838378
Fax: 041 9832844

Site Engineer:

Name: RPS Kirk McClure Morton
Address: Elmwood House
74 Boucher Rd
Belfast
Northern Ireland
Contact: Diarmuid O'Loan
Tel: 0044 28 9066 7914
Fax: 0044 28 9066 8286

Site Ecologist:

Name: Scott Cawley Ltd.
Address: 27 Lower Baggot Street
Dublin 2
Contact: Aebhín Cawley, Director
Tel: 01-6769815
Fax: 01-6769816

2.0 SITE DESCRIPTION**2.1 Site Location**

Stagrennan Polder is located in an intertidal area to the south of the River Boyne, approximately 1 km to the east of Drogheda. The site extends for approximately 900 m in an east–west direction and 250 m in width, covering an area of approximately 20.27 ha.

The site is bounded to the south by the Marsh Road (the R150 from Drogheda to Mornington), to the north by the southern training wall of the River Boyne, to the west by a development site (infill) and to the east by an inlet of water.

The polder formerly extended from Stameen's Pier in the east to the Railway Viaduct in the west. The western end was used as the town rubbish dump, with progressive infilling and development. Current development on the reclaimed areas includes the construction of a municipal pumping station adjacent to the Maxol and Flogas oil and gas terminals, and temporary storage of pipes and construction equipment for the Main Drainage Scheme.

The polder is located in an industrial / commercial area. It lies to the south of the Premier Periclase Plant, to the west of Stameen's Pier and a Paper Storage Warehouse, to the east of the waste water treatment works and the Maxol / Flogas depots.

The polder is not included within the designations of proposed Natural Heritage Area and candidate Special Area of Conservation, which cover the remainder of the estuary,

however in July 1999 the Special Protection Area for the Boyne Estuary was extended to include Stagrennan polder. The polder has been leased from the DAFF (formerly DCMNR) to the Drogheda Port Company and is zoned for land use objectives to provide development for port related industry and other uses.

There are a number of residential dwellings close to the site. Two houses, Stagrennan House and Balarmino House, are located to the south of the polder along the Marsh Road (the latter is screened from the site by a warehouse). The headquarters of the Drogheda Port Company is located about 500m east of the polder within the grounds of the recently re-developed Harbourville House. There are also a number of houses to the west of the Premier Periclase plant, overlooking the river. Drogheda Grammar School is located some 450m to the east of the polder.

2.2 Waste Activities

The dredging operation was completed in February 2000. On completion of the infilling works a total of approximately 948,156 tonnes of material had been deposited on the polder. No further material has been deposited on the site since this time.

Due to consolidation both through its self weight and trafficking with heavy plant the volume of dredged material deposited on the site was estimated to have reduced by approximately 5 percent. This figure is confirmed by comparisons between the annual topographical surveys of the material and was communicated to the EPA by Robertson & Associates (Scott Cawley Ltd was formerly known as Robertson & Associates) on 6th March 2003.

A total of 656,020 tonnes was removed from the polder. The majority of the remaining materials (279,176 tonnes) were used as specified engineering materials for the creation of habitats for the restoration works carried out between the 31st July 2006 and the 9th November 2006.

Subsequent to the completion of the restoration works there was an excess of approximately 12,960 tonnes of material; which was removed from the polder during the restoration works between July and Nov 2006 and were deposited on an adjacent piece of land to the west of Stagrennan Polder (11,039 tonnes) and to construction sites within the construction industry (1,921 tonnes).

2.3 Site Operations

Gallagher Quarries Ltd. were appointed as the material removal contractor in March 2001 and moved on site at the end of June 2001. Removal of material from the site by Gallagher commenced during August 2001 and was completed on 7th October 2004.

The restoration works were completed towards the end of 2006. Since then and during the reporting period of this AER there have been no works undertaken on the polder.

3.0 EMISSIONS

The following monitoring was carried out during the Tenth year from the grant of the license (14 January 2008 - 13 January 2009) in compliance with the Waste License.

3.1 Dust, Leachate, Suspended Solids and Noise Monitoring

Monitoring for dust, leachate, suspended solids or noise have not been required since the site operations ceased.

3.2 Ecological Monitoring

As is a requirement of the EPA, DCMNR and NPWS, 6 monthly ecological monitoring reports are produced to monitor and assess the progress of restoration. Elements which are monitored include numbers and species of wintering birds making use of the site, annual summer habitat surveys to monitor the establishment and evolution of habitats on the site, monitoring the physical changes in the site over time through a photographic record, and the numbers and species of macroinvertebrates which are becoming established on the polder and the transition to marine communities.

Two ecological monitoring reports were produced within the lifetime of this AER and these summarise all ecological monitoring work carried out during this AER period. These reports have been submitted to the EPA and copies have also been issued to the DAFF and NPWS.

The 3rd (Winter) 6 Monthly Monitoring Report (Nov 2007 – April 2008) found that the site is showing moderate increases in species richness at both high and low tide, including the return of Brent Geese and Mallard. Total bird numbers at low tide showed an increase, but total numbers at high tide showed a decrease over previous years which would appear to be consistent with the national trend of decreasing bird numbers. Overall the data suggests that low water numbers show a positive trend. It is not known whether the lower numbers at high tide may be as a result of national population declines of some of the species, or simply due to the nature of these species which are often missed during surveys.

The 4th (Summer) 6 Monthly Monitoring Report (May to October 2008) found:

- the tidal channel continues to permit the polder to fully fill and drain properly with the large area of mudflat submerged at high tide and exposed at low tide, hence meeting the Tier 1 Objective of the restoration plan.
- the topography of the site has remained relatively stable since previous monitoring periods and the remarkable rate of vegetation colonisation has stabilised many areas;
- the mudflat appears to be establishing well as a habitat with some visible patches of the dark anoxic muds that are typical of mudflat habitat;
- many of the intended habitat types have developed according to plan, and are showing signs of natural succession and establishment;

- previous measures used to control Japanese Knotweed on site appear to have been successful and *Spartina agnlica* has not become established on the polder to date;
- there was a 50% increase in birds recorded during the summer bird surveys which included Sand Martins, Kingfisher, a number of waders and three species of raptor;
- the macro-invertebrate fauna is showing a more characteristic mudflat composition with a reduction in the freshwater / terrestrial species recorded in previous surveys and an increase in marine indicator species across all sampling stations;
- the sediment composition analysis indicated lower fractions of silt and clay and Total Organic Carbon levels than previous years at most sampling stations.

These early indications are encouraging. However it should be noted that while all efforts have been made in the full implementation of the restoration proposals, ecological systems develop complex interactions and as such the polder will continually evolve regardless of the restoration works. This may mean that in a number of years the precise habitats which were planned for the polder may not remain as static areas, changing in type, structure and coverage as succession progresses. The approach of natural succession was identified in the Restoration Plan as the best determinant of the most suitable mosaic of habitats. To this end a passive management role is being adopted whereby the polder is permitted to naturally evolve, and the success of restoration should be measured in this context.

4.0 SITE DEVELOPMENT WORKS

The site development works for the facility can be divided into three elements, namely, the infilling phase of operations, the removal phase of operations and the restoration phase. The infilling phase commenced in 1999 and ceased on 4 February 2000, the removal phase commenced in August 2001 and ceased in October 2004. The Restoration Phase commenced 31st July 2006 and the polder was re-opened to tidal inundation on 9th November 2006.

4.1 Site Infilling Works

This phase is now completed.

4.2 Materials Removal Works

This phase has been completed since October 2004, by which date a total of 656,020 tonnes had been removed from the polder. Gallagher Quarries have removed all of their equipment, wheel wash, concrete apron, site offices, site facilities and other ancillary items, and have left the site.

279,176 tonnes of material was used as specified engineering materials as necessary for the creation of terrestrial habitats for the restoration works. There was an excess of approximately 12,960 tonnes of material which was removed from the polder during the

restoration works to an adjacent piece of land to the west of Stagrennan polder and elsewhere within the construction industry.

4.3 Site Restoration Works

The site restoration works are being carried out as per the Restoration Plan approved by the EPA, DCMNR (now DAFF) and NPWS. Within the Restoration Plan the works are divided into three phases;

Phase 1	Profiling of the polder and removal of excess inert materials
Phase 2	Planting and installation of necessary restoration measures
Phase 3	On-going passive management of natural evolutions of polder

Phase 1 of the site restoration works was completed within the Eighth AER period and was described in that AER.

Phase 2 of the site restoration works was appointed to Rinn Bearna Aquatics. Representatives from Scott Cawley and Aquaculture Wales were on-site to offer assistance and guidance of the Restoration Plan for the entirety of this phase. The Site Planting Works commenced on the 9th October 2006 and were completed on the 3rd November 2006. A number of additional areas of planting will occur in 2009 as has been agreed with the NPWS.

Phase 3 of the site restoration works commenced on 9th November 2006 with the re-opening of the polder to the tide and is on-going. A passive management role is being adopted whereby the polder is permitted to sensitively evolve and the monitoring programme will determine if and when any intervention may be required.

5.0 WASTE RECEIVED BY AND CONSIGNED FROM THE FACILITY

5.1 Waste Received at the Facility

The Waste License allows the deposition of dredged sands and gravels and specified materials for engineering works. During the infilling period the only waste received at the site was the dredged sands and gravels (see Table 5.1 below). A written daily record of the deposition of this material was maintained in accordance with Condition 3.14 of the Waste License. No other material was accepted in the polder.

Table 5.1 Non-Hazardous Waste Received by the Facility

Waste Description	EWC Code	Non-Hazardous Waste Received			
		On-Site Disposal		On-Site Recovery	
		Method	Tonnes	Method	Tonnes
Dredged sand and gravel	17 05 02	Deposition in suspension from pipeline and settled out and reworked to required levels	948,156		Nil
		Total	948,156	Total	Nil

Table 5.2 Hazardous Waste Received by the Facility

Waste Description	EWC Code	Non-Hazardous Waste Received			
		On-Site Disposal		On-Site Recovery	
		Method	Tonnes	Method	Tonnes
None			Nil		Nil
		Total	Nil	Total	Nil

5.2 Waste Consigned from the Facility

During June & July 2000, 2,983 tonnes of deposited dredged material was removed from the site to be used by Ascon Ltd. as pipe bedding material on the adjacent Sewage Treatment Works site. This removal operation was carried out in agreement with the EPA and the relevant Waste License Conditions.

At the end of Gallagher's removal contract in October 2004, the removal operation by Gallagher Quarries had removed a total of 653,037 tonnes from the site primarily for re-use in the construction industry.

During the Restoration Phase in 2006 279,176 tonnes of material were used on-site as specified engineering works necessary to develop the desired ecological habitats. A further 11,039 tonnes of materials were deposited on an adjacent piece of land to the west of Stagrennan polder, and a final 1,921 tonnes were removed off site by Gibsons Contractors for re-use within the construction industry.

Combining the above mentioned removal operations a total of 668,980 tonnes of material has been removed from the polder, and 279,176 tonnes of materials have been used within the polder as specified restoration engineering materials.

Table 5.3 Non-Hazardous Waste sent off-site for Recovery/Disposal

Waste Description	EWC Code	Tonnes	Details of Haulage Contractor	Recovery /Disposal	Name and Address of Recovery/Disposal Site
Dredged sand and gravel	17 05 06	2,983	Reilly Excavation	For use in pipe laying contract	Ascon Ltd New sewage treatment works site on the Marsh Road
Dredged sand and gravel	17 05 06	653,037	Gallagher Quarries	For use in the construction industry	Various
Dredged sand and gravel	17 05 06	11,039	Drogheda Port Company	Land reclamation works	Lands located between Stat Oil and and Stagrennan Polder, Marsh Road, Drogheda.
Dredged sand and gravel	17 05 06	1,921	Gibson Contractors	For use in the construction industry	Various
Total		668,980			

Table 5.4 Hazardous Waste sent off-site for Recovery/Disposal

Waste Description	EWC Code	Tonnes	Details of Haulage Contractor	Recovery /Disposal	Name and Address of Recovery/Disposal Site
None		Nil			
Total		Nil			

6.0 ENVIRONMENTAL INCIDENTS AND COMPLAINTS

There were no environmental incidents registered and there have been no complaints received during the reporting period.

Table 6.1 Environmental Incidents

Date	Nature of Incident	Cause	Corrective Action
N/A	N/A	N/A	N/A

One site inspection was carried out by the EPA during the reporting period on the 5th September 2008. The site inspection report issued by the EPA contained three corrective actions as listed below. Responses to each of these corrective actions are also provided.

The licensee shall submit the following to the agency:	
a) A letter from the NPWS indicating that they are satisfied with the current extent of shingle along the southern bank of the Boyne River.	A letter of approval was received from NPWS and enclosed in last year's ninth AER report.
b) A proposal to compensate for the non-functioning of the freshwater ponds following consultation with the NPWS. This proposal should also be copied to the European Commission and the Department of the Marine for their comments.	Correspondence from Scott Cawley to the NPWS in relation to this matter and subsequent letter of approval from NPWS were included in last year's ninth AER report. Copies of this correspondence were also forwarded to the European Commission and the Department of the Marine (see copies of correspondence in Appendix A).
c) Clarification after consultation with the NPWS as to how to progress with the provision of wet grassland or a suitable offset proposal. If offset is proposed, the proposal should also be copied to the European Commission and the Department of the Marine for their comments.	Correspondence from Scott Cawley to the NPWS in relation to this matter and subsequent letter of approval from NPWS were included in last year's ninth AER report. Copies of this correspondence were also forwarded to the European Commission and the Department of the Marine (see copies of correspondence in Appendix A).
d) Time programme for the completion of the outstanding planting works including proposals as alternative to the freshwater ponds and wet grassland.	It is proposed that the works will be completed in Autumn 2009, following completion of works by ESB and subject to agreement with ESB on health and safety issues.

7.0 ENVIRONMENTAL MANAGEMENT PROGRAMME

7.1 Objectives and Targets

In line with the licensee's objective to maximise control over environmental pollution and nuisance from the proposed removal operations from the site, the following Objectives and Targets have been drawn up.

Table 7.1 Summary of Objectives and Targets

Objective	Target
1. To determine the most environmentally acceptable and economically viable method of removal and re-use of deposited sands and gravels.	Complete.
2. Enhance the dissemination of information on the project.	Respond to queries raised within 5 working days.
3. Maintain compliance with Waste License conditions.	Ensure reporting and notification procedures are adequate to maintain compliance with License conditions.
4. Maintain compliance with relevant environmental legislation.	Ensure continued compliance with European and Republic of Ireland Legislation.
5. Improve, where possible, management practices on site.	Ensure site management procedures are adequate to protect the environment and improve on them where necessary/possible.
6. Removal of deposited dredged material from Stagrennan polder in the shortest possible timescale.	Ensure that deposited dredged material is removed from the facility within the shortest possible timescale.

These objectives and targets have been put forward to review and improve where possible management and reporting procedures.

Project 1 Materials Removal (Completed)

Reason for undertaking project	To determine the most environmentally acceptable and economically viable method of removal and re-use of deposited sands and gravels.
Target	Complete prior to decision on successful bidder.
Project summary	Development of preliminary method statement for inclusion in Contract Documents followed by a detailed method statement once a contractor has been appointed.
Designation of responsibility	Project Manager – Design and Operations.
Benefits of Project	Limit the environmental impact of removal operations within economically acceptable levels.
Time frame	January 2000 onwards.

Project 2 Public Awareness

Reason for undertaking project	Enhance the dissemination of information on the project.
Target	Respond to queries raised within 5 working days.
Project summary	Log complaints and monitor response times.
Designation of responsibility	All queries received will be directed through the Project Manager – Waste License Compliance.
Benefit of the Project	Improved public awareness.
Time frame	January 2000 onwards.

Project 3 Waste license Compliance

Reason for undertaking project	Maintain compliance with Waste License conditions.
Target	Ensure reporting and notification procedures are adequate to maintain compliance with License conditions.
Project summary	Quarterly review of procedures and implementation.
Designation of responsibility	Project Manager – Waste License Compliance.
Benefit of the Project	Ongoing review of adequacy and success of procedures in place to ensure compliance with License conditions.
Time Frame	Quarterly from January 2000.

Project 4 Compliance with Environmental Legislation

Reason for undertaking project	Maintain compliance with relevant environmental legislation.
Target	Ensure continued compliance with European and Republic of Ireland Legislation.
Project summary	Quarterly review of current legislation.
Designation of responsibility	Project Manager – Waste License Compliance.
Benefit of the Project	Ensure site is being operated in compliance with European and Republic of Ireland environmental Legislation.
Time Frame	Quarterly from January 2000.

Project 5 Continuing Good Management	
Reason for undertaking project	Improve, where possible, management practices on site.
Target	Ensure site management procedures are adequate to protect the environment and improve on them where necessary/possible.
Project summary	Quarterly review of site management practices and implementation.
Designation of responsibility	Licensee/Project Manager – Waste License Compliance.
Benefit of the Project	Ensure adequacy and success of site management procedures in protecting the environment.
Time Frame	Quarterly from January 2000.

Project 6 Removal of Dredged Material in Shortest Possible Timescale	
Reason for undertaking project	To restore Stagrennan polder to its original state as soon as possible.
Target	Ensure that deposited dredged material is removed from Stagrennan polder within the shortest possible timescale.
Project summary	Removal of dredged material in shortest possible timescale.
Designation of responsibility	Licensee / Project Manager – Waste License Compliance.
Benefit of the Project	Ensure the beneficial reuse of dredged material and the improvement of Drogheda Port facilities.
Time Frame	August 2001 onwards.

7.2 Corrective Action

Introduction

The following procedures have been drawn up to ensure that corrective action is taken when a 'non-compliance' occurs. Non-compliance refers to situations in which environmental performance falls outside the requirements of the waste license. Non-compliances will be identified through the monitoring programme instigated by the licensee in accordance with the requirements of the license.

Record Keeping

Condition 3.1 of the waste license requires that a written record is kept of incidents which occur at the facility. These incidents include the following:

1. Any emission which results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
2. Any emission which does not comply with the requirements of the license;
3. Any trigger level specified in the license or in any information required to be supplied to the EPA by the license which is attained or exceeded;
4. Any malfunction of any environmental control system;
5. The cessation of waste management activities at the facility for a period of in excess of 28 days and their recommencement;
6. Any indication that contamination has, or may have, taken place;
7. Any occurrence with the potential for environmental pollution;
8. Any emergency; and
9. Any discovery of archaeological artefacts.

Action

Should an incident occur at the facility, the following action must be taken (ref. Condition 10.6 of the license):

1. Identify the date, time and place of the incident;
2. Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission;
3. Isolate the source of any emission;
4. Evaluate the environmental pollution, if any, caused by the incident;
5. Identify and execute measures to minimise the emissions/malfunction and the effects thereof;
6. Identify and put in place measures to avoid recurrence of the incident; and
7. Identify and put in place any other remedial action.

Notification

Condition 3.3 of the license requires that the EPA is notified in writing of any incident which occurs at the facility. Procedures for notification are as follows:

Time of Incident	Contact Person/ Section in EPA	Type of Contact Required	Latest time by which Contact should be made
During Business Hours	EPA Inspector or Senior Inspector, Waste Licensing	Telephone	As soon as practicable but not later than 10.00 am on the following working day after the occurrence of the incident
	Waste Licensing Enforcement Section	Fax	As soon as practicable but not later than 10.00 am on the following working day after the occurrence of the incident
Outside Business Hours	Waste Licensing Enforcement Section	Fax	As soon as practicable but not later than 10.00 am on the following working day after the occurrence of the incident
	EPA Headquarters	Telephone	Message to be left on 24 hour answering service using a touch-tone phone
	EPA Inspector	Telephone	Start of next business day

The following information as a minimum must be made available at the time of notification:

1. The name of the contact person and phone and fax numbers;
2. The date, time and place of any incident;
3. The nature, source and cause of the incident;
4. Whether the source has been isolated;
5. Whether environmental pollution has been caused;
6. The measures taken to minimise the effects of the incident;
7. The measures put in place to prevent recurrence; and remedial actions taken.

Additional information should be provided, where applicable, if the emergency services or other regulatory bodies were contacted.

A report detailing the circumstances of the incident and any actions taken should be forwarded to the EPA as soon as practicable, but within five working days of the occurrence of the incident. If further action is taken after the date of the written notification of an incident, a report must be forwarded to the EPA detailing the actions within 10 days of the actions being initiated.

7.3 Financial Provision

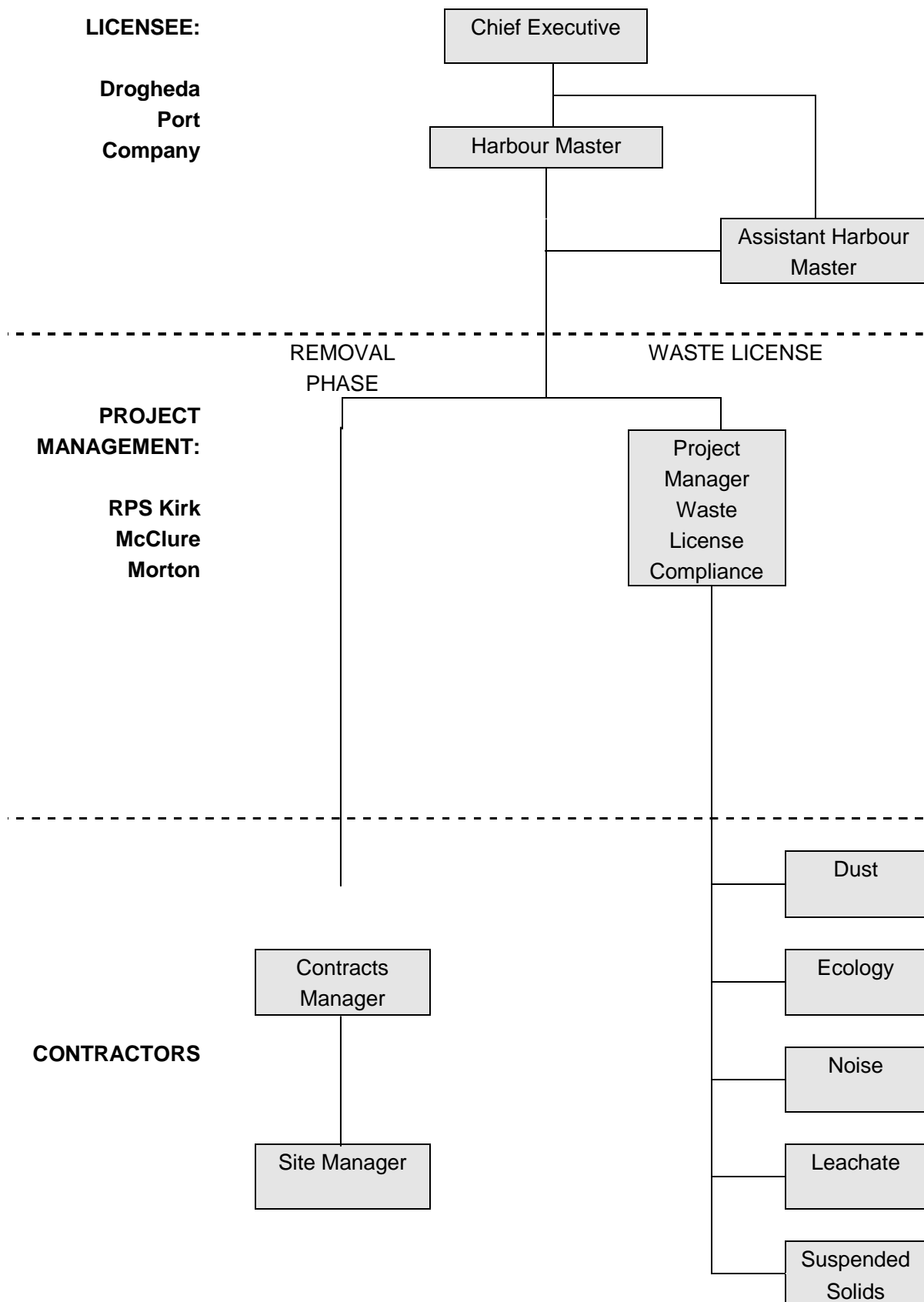
Provision has been made for the restoration of Stagrennan Polder. The majority of the dredged sand and gravel deposited within the polder had been removed. The materials were sold to the construction industry and the revenues derived will be used for the restoration of the habitat within the polder. Any additional funding required for this purpose will be provided from the Company's own resources.

The Drogheda Port Company is a state company within the meaning of the Harbours Act 1996. The Minister for the Marine and Natural Resources and the Minister for Finance are the sole shareholders of the Company.

7.4 Site Management Structure

The management structure in Figure 7.1 shows the different levels of responsibility for the removal works in terms of the Licensee, Project Management and Contractors

Figure 7.1 Management Structure During the Removal Operations



Appendix A

**Copies of correspondence forwarded to the European Commission and the Department of
Agriculture, Fisheries and Food**

Maurice Eakin
District Conservation Officer,
NPWS,
Atlumney,
Kilcarn,
Navan,
Co. Meath.

25th July 2008

Dear Maurice

Re.: Stagrennan Polder

As you are aware from recent correspondence and our last meeting on 4th April 2008, the Drogheda Port Company (DPC) has received a Site Inspection Audit from the EPA which requires the following corrective actions:

The licensee shall submit the following to the Agency:

- a) *A letter from the NPWS indicating that they are satisfied with the current extent of shingle.*
- b) *A proposal to compensate for the non-functioning of freshwater ponds following consultation with the NPWS. This proposal should also be copied to the European Commission and the Department of the Marine for their comments.*
- c) *Clarification after consultation with the NPWS as to how to progress with the provision of a wet grassland or a suitable offset proposal. If offset is proposed, the proposal should also be copied to the European Commission and the Department of the Marine for their comments.*

With respect to item a) I would be grateful if you could forward a letter stating that you are satisfied with the current extent of shingle (operation and general satisfaction discussed at previous meetings).

With respect to items b) and c) please find outlined in this letter our proposals for an alternative proposal to the freshwater ponds and wet grassland habitat as has been discussed with you at various meetings during 2007 and 2008. If the NPWS are in agreement with these proposals / amendments we will then send them to the EPA, European Commission and Department of Marine for comments.

The proposals for Items b) and c) as required by the EPA are set out below.

- 1. To provide for additional mudflat habitat, adjoining to and continuous with the existing south western area of the mudflat as indicated on attached Figures 1 and 2 in lieu of freshwater ponds.**

This additional mudflat habitat is proposed in lieu of freshwater ponds which are failing to retain water. In total seven freshwater ponds were proposed in the restoration plan. Of these five are not retaining water. It was agreed with the NPWS during a meeting on-site on 7th November 2007 that the two proposed freshwater ponds on the islands, although not now retaining water, are valuable features in

themselves. They are supporting regeneration of saltmarsh grasses (*Puccinellia* spp.) and provide vegetated depressions useful as refuge areas for birds.

It was therefore agreed that an area of mudflat at least equal to, or if possible greater than, the area of the remaining three ponds located within the wet grassland habitat should be devoted to additional mudflat habitat in lieu of these ponds. The area where it is proposed to provide this area of additional mudflat is indicated on the attached Figures 1 and 2.

A number of factors defined the precise area where it was possible to create this additional area of mudflat. These factors posed constraints to the north east, south and south west of the area in question. Firstly there are ESB overhead lines running to the south of where it is proposed to create new mudflat habitat. A set back distance of a 15m radius from the base of each of the ESB poles is to be observed. This distance is shown on the attached figures and is for safety as well as practical reasons so that the ESB have safe and easy access to the overhead lines for maintenance. Furthermore allowing the tide to scour areas within 15m of the poles could pose a risk of undermining the poles and hence pose a safety risk. The southern extent of the additional mudflat area is proposed to meander slightly between the 15m set back areas to maximise the area provided, although the mudflat area will not encroach under the ESB poles within the 15m distance.

Secondly a reasonable distance needs to be maintained between the edge of the mudflat and the Marsh Road to the south. Extending the mudflat area to the south west (i.e. parallel to and behind the existing inlet channel) was given consideration but had to be ruled out on the basis of the likely scouring effect of the incoming tide which would create a risk of tidal flooding of the Marsh Road.

Finally consideration was given to extending the new area of mudflat northeastwards. However, this issue was discussed with NPWS staff and Dr. Geoff Proffitt at our meeting on 4th April and it was felt that the existing mudflat and bank profile in this area should not be disturbed. This area has a gently meandering bank profile with a natural looking finish and is currently developing well with mudflat, salt marsh, reedbed and other marginal vegetation. It was agreed at our meeting that to disturb this regenerating habitat for the purposes of providing additional mudflat habitat would be counterproductive in terms of the aims of the restoration plan for habitat creation.

Given these constraints, the area of additional mudflat which will be provided will be approximately 0.28 hectares. This area is similar in size to the total area of the three proposed freshwater ponds, which together total an area of 0.27 hectares. The areas of the three proposed freshwater ponds were calculated by reading off the proposed restoration drawing Figure 3. This drawing indicates that the freshwater lakes were proposed to be characterized by two habitat types: *Artificial Lakes* as well as *Reed and Large Sedge Swamps*. The calculation of the area of the three freshwater ponds as 0.27 hectares, includes both of these areas. The area calculated for each pond is provided below:

	Hectares
Pond 1 (SW corner of wet grassland)	0.09
Pond 2 (mid section of wet grassland)	0.07
Pond 3 (north east section of wet grassland)	0.11
Total Area	0.27

The area of the proposed additional mudflat has been estimated to be 0.28 hectares. This has been calculated as the area between the toe of the existing bank at approximately 3.8 – 3.9 m OD and the proposed new profile for the toe of the bank as indicated on the attached Figures 1 and 2.

It should be noted that Figures 1 and 2 are indicative only and while a like-for-like area of additional mudflat habitat will be provided the precise profiling, contouring and shape of bank edge will be best worked out by working with the contractor on-site to achieve the most natural looking finish.

- 2. To make use of the excavated material to fill in one of the freshwater ponds which is not retaining water, to create an earth bund along the southern boundary of the site as indicated on Figures 1 and 2 and to create sandy hummocks in keeping with the estuarine environment.**

Some of the excavated material will be used to fill in one of the freshwater ponds which is not retaining water. This pond is the one closest to the area proposed for new mudflat. As it is immediately adjacent to this new proposed mudflat area it is possible that this pond will flood on high spring tides. The action of tidal scouring in this hollowed out area could pose a risk of undermining the ESB overhead lines as well as flooding on the Marsh Road. It is therefore proposed to fill in this pond to remove this risk.

The purpose of the bund will be to provide visual and noise screening between the mudflat and the Marsh Road which will bring additional benefit to birds feeding on the mudflat. Currently the only barrier between the Marsh Road and the polder is a wire and post fence which provides no visual or noise barrier. It is felt that an earth bund, planted with hedgerow species as per the restoration plan, would be beneficial to birds using the mudflats in this part of the site.

The proposal to plant a hedgerow and install bat boxes along this stretch will be implemented as per the restoration plan. The hedgerow will be planted on top of the earth bund. The preferred time for planting the hedgerow would be during or immediately after the mudflat creation / excavation process. However this process is seasonally dependent and is best undertaken in Spring or Autumn. The bat boxes will be installed at the time of planting. The planting species list for the hedgerow along the bund will be guided by the makeup of hedgerows and banks in the surrounding area.

The ribbon of sandy mounds / hummocks will be approximately located as indicated on the attached Figure 1 and 2. Although again the precise location and profiling of these will be defined by working closely with the contractor and the attached Figures 1 and 2 should be taken as indicative only. Within the ribbon the mounds / hummocks will be varied in size, shape and orientation. They will be low lying in areas within 15m of the ESB poles, being no higher than 0.5 m in these locations. Outside of the 15m zone from ESB poles, they will vary in height but will not exceed 2 m. Slopes will not exceed 1 in 3, which will mean that for a mound of 2m height it would have minimum radius of 6 m.

A sample will be taken from the soil used to create these sandy mounds / hummocks and this will be tested for nutrient status, salinity, pH and coarseness so as to provide information on what species are most likely to develop. It has been agreed with the

NPWS that these mounds / hummocks should be left to recolonise naturally but that the situation should be reviewed as the recolonisation process continues. If it is found within the monitoring period of the restoration plan that the colonising species are not desirable then it may be appropriate to intervene with planting. If planting should be deemed necessary this will be done in agreement with the NPWS and the planting list will be based on plants whose requirements match the sediment as tested.

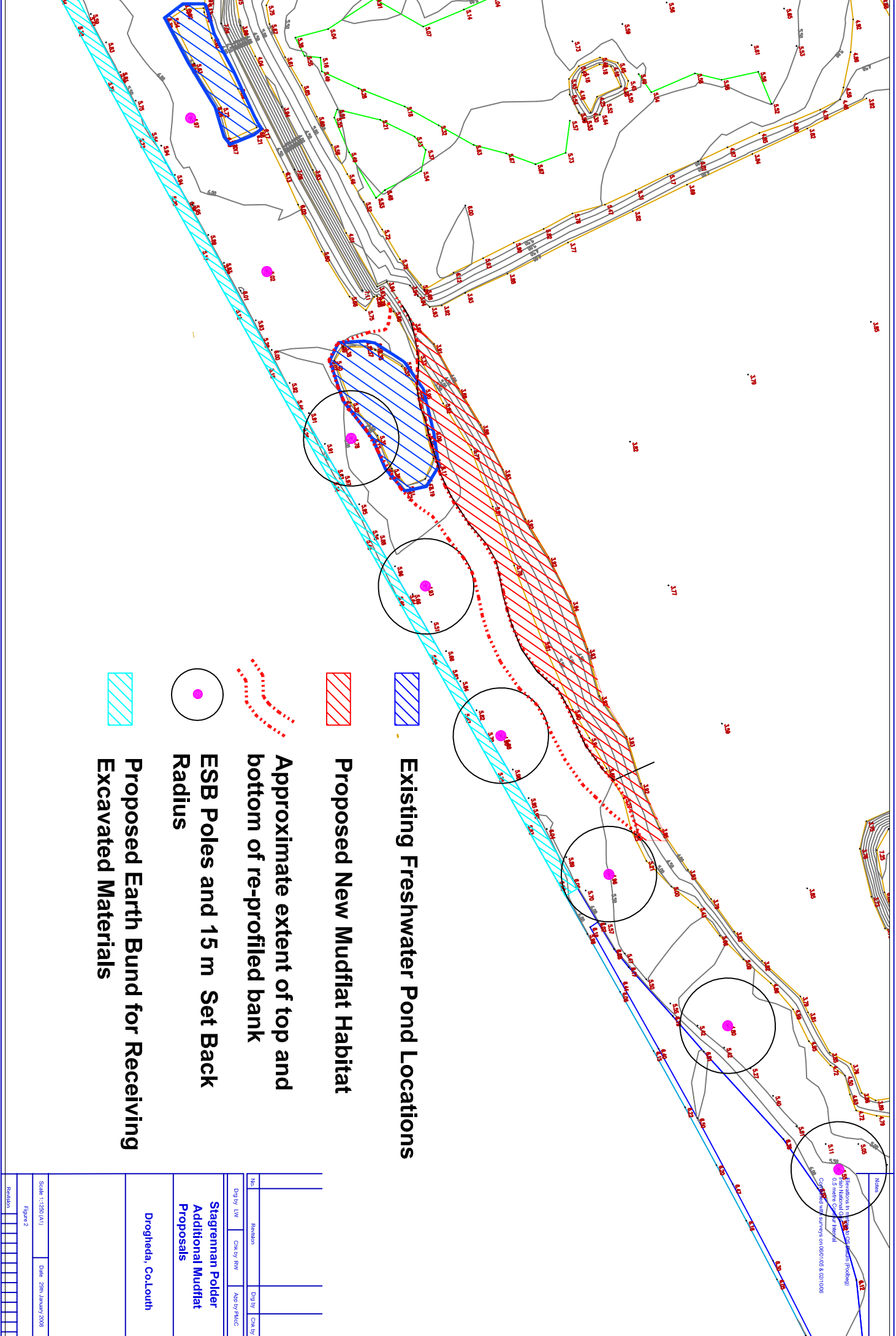
We would appreciate your approval of the above alterations / amendments to the restoration plan as soon as possible so that these can be submitted to the EPA, European Commission and Department of Marine. .






Yours sincerely,

Aebhín Cawley

Enc. Figure 1
 Figure 2

Cc. + Enc. Karen Gaynor, NPWS, 7 Ely Place, Dublin 2
 Annette Lynch, Atlumney, Kilcarn, Navan, Co. Meath.
 Dr. Geoff Proffitt, Aquaculture Wales, School of Environment and Society,
 Department of Biological Sciences, University of Wales Swansea, Singleton
 Park, Swansea, SA2 8PP, UK.
 Martin Donnelly, Drogheda Port Company, Maritime House, The Mall, Drogheda,
 Co. Louth.



-  Existing Freshwater Pond Locations
-  Proposed New Mudflat Habitat
-  Approximate extent of top and bottom of re-profiled bank
-  ESB Poles and 15 m Set Back Radius
-  Proposed Earth Bund for Receiving Excavated Materials

Stagrenan Polder Additional Mudflat Proposals			
Drogheda, Co.Louth			
No.	Revision	Drawn by	Checked by
1		LW	RW
Drawn by: LW		Checked by: RW	
Drawn by: LW		Approved by: P.M.C.	
Scale 1:1250 (A1)			
Date 28th January 2008			
Figure 2			
Revision			



Comhshaol, Oidhreacht agus Rialtas Áitiúil
Environment, Heritage and Local Government

Aebhin Cawley
Scott-Cawley
27 Baggot St.
Dublin 2

Monday, 11 August 2008

Re: Reply to your letter dated 25th July 2008

Dear Ms. Cawley,

Please find below the comments in relation to queries raised in your letter of 29th April and subsequent to site meeting at Stagrennan on 4th April 2008:

Query a) National Parks and Wildlife Service (NPWS) are satisfied that the amount of shingle provided as part of the Restoration Plan for Stagrennan Polder is appropriate to the restoration objectives of the Plan. The shingle atop the northern embankment is becoming an established habitat and together with the ruderal vegetation adjacent to it the area replicates to some extent that of a natural habitat. Only time will tell if terns or other species utilise the area as was originally intended. Predation by rats/foxes/crows etc. will pose a greater impediment to bird nesting.

Query b) NPWS are in agreement with the proposals to provide for additional mudflat habitat, adjacent to and continuous with the existing S-W area of mudflat in lieu of freshwater ponds (amounting to 0.27Ha). Your letter states that 0.28Ha will be provided.

Query c) NPWS are in agreement with the proposals to fill in one of the freshwater ponds (not retaining water), create an earth bund along the southern boundary of the site, to create hummocks and to plant with a mixture of forb species. It is accepted that the area of the pond referred to above cannot be replaced with mudflat for engineering/hydraulic reasons (tidal scouring). It is acknowledged that due to hydrological constraints 'wet grassland' (*sensu stricto*) cannot be created. It is accepted that the other measures suggested in point 2 of your letter are appropriate.

Yours sincerely,

Jim Kelly
Assistant Principal
National Parks and Wildlife Service



Appendix B

AER Returns Worksheet

AER Returns Worksheet

Version 1.1.01

REFERENCE YEAR	2008
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1. FACILITY IDENTIFICATION

Parent Company Name	Drogheda Port Company
Facility Name	Stagrennan Polder
PRTR Identification Number	W0052
Licence Number	W0052-01

Waste or IPPC Classes of Activity

No.	class_name
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.4	Recycling or reclamation of other inorganic materials.

Address 1	Marsh Road
Address 2	Stagrennan
Address 3	Drogheda
Address 4	Co Louth
Country	Ireland
Coordinates of Location	0.000
River Basin District	IE-Eastern
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Aebhin Cawley
AER Returns Contact Email Address	acawley@scottcawley.com
AER Returns Contact Position	Director, Scott Cawley Ltd.
AER Returns Contact Telephone Number	01-6769815
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	www.scottcawley.com

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5c	Installations for the disposal of non-hazardous waste

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	