INSPECTORS REPORT
WASTE LICENCE REGISTER NUMBER W85-1

(1) Summary:

Summary Description

Donegal County Council propose to dredge the approach channel to Burtonport harbour at five discrete areas (Burtonport Capital Dredging Scheme). Donegal County Council have applied for a waste licence to recover the dredge spoils generated from two of these dredging areas into an area adjacent to Burtonport harbour. The recovery facility, with an area of approximately 2.7 hectares, consists of a number of small islets and a mixture of rocky and muddy foreshore. The eastern boundary of the site is a strip of land previously reclaimed using harbour dredged materials, beyound which are found some commercial premises associated with the harbour. All other boundaries are formed by the sea.

The recovery facility will be enclosed by rock berms laid between islets to a crest height of 8.5m O.D. thereby creating a lagoon for the reception of the dredge spoils. These rock berms will be created with 50,000 tonnes of imported rock. The berm walls will be constructed on dense gravel beds and will be lined with geotextile. The dredged material will be pumped into the enclosed site via a floating pipeline from the dredging vessel (suction cutter type). It is proposed to transfer approximately 120,000 tonnes of sediment together with an equal amount of 'transport' water into the site at a rate of approximately 200 m^3 per hour. The sediment will settle out within the enclosed site and the supernatant will discharge through a weir box back into the sea.

It is proposed to undertake the Burtonport Capital Dredging Scheme in the year 2000. The dredging operation will take approximately four weeks to complete, operating on a 24 hour, 7 day a week basis. Thereafter the dredged material will be allowed to settle and dry. The rock berms will then be lowered to 6.0 m O.D. and the site graded and landscaped using topsoil.

Donegal County have no proposals for the eventual use of the restored site.

The main issues of environmental concern are the permanent loss of marine habitat at the location of the facility, dust scatter and possible environmental impacts due to suspended solids in the discharge from the weir box.

Name of Applicant	Donegal County Council
Facility Name(s)	Burtonport Dredging Deposition Site
Facility Address	Burtonport, Co. Donegal
Description of Principal Activity	Class 4, 4th Schedule
Quantity of waste	130,000 tonnes in total
Environmental Impact Statement (EIS) Required	Yes
Number of Submissions Received	Two
INSPECTOR'S RECOMMENDATION	That the proposed decision, as submitted to the Board, be approved.

Notices	**Issue Date(s)**	**Reminder(s)**	**Response Date(s)**
Article 14 (2) (b) (i)	Not Applicable		
Article 14 (2) (b) (ii)	14/12/98, 26/5/99	Not Applicable	15/3/99, 21/7/99, 26/7/99, 6/8/99, 13/8/99
Article 14 (2) (a)	26/8/99		
Article 16	26/5/99	Not Applicable	6/8/99, 13/8/99

Applicant Address	County House, Lifford, Co. Donegal.
Planning Permission Status and Date Granted (if appropriate)	This is a development by a Local Authority within its functional area.
Planning Authority	Donegal County Council.
Is the facility an existing facility	No.
Prescribed date for application	Licence required prior to the commencement of the activity.
Date Application received	2/12/1998
ConfidentialInformation Submitted	No.
Location of Planning Documents in Application	Not Applicable
Location of EIS in Application	Stand alone "EIS for the proposed recovery of dredged material at Burtonport Harbour".

SITE VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
22/3/99	Site notice inspection. Also checked site and surrounds.	E. Merriman	Site notice compliant with Art. 7

(2) Class/Classes of Activity

The class of activity for which the applicant has applied is marked below. The principal activity is indicated by (P).

Waste Management Act, 1996			
THIRD SCHEDULE **Waste Disposal Activities**		**FOURTH SCHEDULE** **Waste Recovery Activities**	
1. Deposit on, in or under land (including landfill).		1. Solvent reclamation or regeneration.	
2. Land treatment, including biodegradation of liquid or sludge discards in soils.		2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).	X
3. Deep injection of the soil, including injection of pumpable discards into wells, salt domes or naturally occurring repositories.		3. Recycling or reclamation of metals and metal compounds.	
4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.		4. Recycling or reclamation of other inorganic materials.	P
5. Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.		5. Regeneration of acids or bases.	
6. Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.		6. Recovery of components used for pollution abatement.	
7. Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.		7. Recovery of components from catalysts.	
8. Incineration on land or at sea.		8. Oil re-refining or other re-uses of oil.	
9. Permanent storage, including emplacement of containers in a mine.		9. Use of any waste principally as a fuel or other means to generate energy.	
10. Release of waste into a water body (including a seabed insertion).		10. The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system,	
11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.		11. Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.	
12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.		12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.	
13. Storage prior to submission to any activity referred to in this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.		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.	

Class Description:
The applicant described the classes as follows:

Fourth Schedule
Both activities listed refer to the deposition of material recovered from harbour dredging operations into a constructed lagoon. The principal activity listed by the applicant is Class 4 "because the greater proportion of the recovered material will be inorganic". The other activity listed is Class 2, which the applicant describes as "an ancillary activity because organic materials which will be recovered do not form a significant proportion of the recovered material".

(3) Facility Location

A location plan showing the layout of the facility to which the application relates is provided in Appendix 1.
It is proposed to place some of the sediments generated from the Burtonport Capital Dredging Scheme in an area of foreshore interspered with islets and rocky outcrops adjacent to Burtonport pier. The recovery site lies seaward of an area which was previously recovered using harbour dredgings in a manner similar to that proposed for the current project. In general, the area consists of commercial properties associated with the harbour.

(4) Waste Types and Quantities

Total quantities and types of wastes accepted by the facility are shown below.

YEAR	NON-HAZARDOUS WASTE (tpa)	HAZARDOUS WASTE (tpa)	TOTAL ANNUAL QUANTITY OF WASTE (tpa)	DESCRIPTION OF WASTE
2000	120,000	Nil	170,000	Dredge spoils.
2001 (estimated)	10,000	Nil	10,000	Restoration layer.

(5) Facility Design

- **Facility Development**

Prior to any site development work (other than the construction of the facility roads) or waste deposition, the facility will be fenced (Condition 4.3.1).

At present, a discharge from an adjacent fish processing plant discharges into the proposed recovery site. There is also a sea water abstraction point located near to the

proposed facility. Condition 4.12 requires the appropriate relocation of any such outfalls or abstraction points prior to the commencement of the licenced activity.

- **Infrastructure**

The construction of temporary roads (Condition 4.4) is required to allow for engineering works and monitoring.

A temporary office will be provided prior to the commencement of the licenced activity. Due to the temporary nature of the waste handling at this facility, it is envisaged that this office will be removed sometime after dredging operations have ceased and once the Agency has agreed an alternative location for the storage of documentation required by this licence (Condition 4.5.1). A "contractors yard" will also be provided at the facility (Condition 1.2) for the duration of the construction and recovery operations.

- **Liner System**

50,000 tonnes of rock will be imported from a quarry in Dungloe to create external/internal bund walls. Due to the inert nature of the material to be deposited, no side or basal impermeable layers are proposed. However, external bunds walls, with a crest height of 8.5m O.D., will be constructed from this rock and lined internally with a geotextile membrane (Condition 4.9) for the purpose of preventing suspended solids escape through the bund walls. The elevation of the mean high water spring tide is 3.9 metres OD (Poolbeg). Therefore a lagoon is in effect being created to accept the recovered dredge spoils.

The bund walls will be laid on a dense gravel layer between islets. This process will necessitate the removal of 30 cm layer of silt. Condition 4.9.1(a) seeks a proposal on the disposal/recovery of this material. Condition 9.7 requires an engineer's assessment of the structural integrity and stability of these bund walls prior to the commencement of the licenced activity. It is estimated that the construction of this lagoon will occur over a six week period.

- **Capping System**

Only inert seabed dredgings will be deposited. Therefore no capping system is specified. However, a restoration layer will be applied (refer to Section 7 of this report).

(6) Facility Operation/Management

- **Waste Acceptance Procedures**

The only wastes to be accepted under Condition 5.2 are dredgings from the Capital Dredgings Project (two inner harbour areas only) along with soil for the restoration layer. The source and nature of this soil will be agreed through the Restoration and Aftercare Plan (Condition 8.1). It is proposed to accept dredge spoils from two specific areas (Condition 5.2), and sediment samples from these areas have been analysed. The materials are inert. Therefore no specific waste acceptance procedures are required during the dredging operation.

- **Waste Handling**

The cutter suction type dredging vessel will excavate the material to be dredged by forming a sediment/water mixture or slurry through agitation with sea water, and will pump this slurry to the recovery "lagoon" using a floating pipeline. A proposal for this interface is sought through Condition 4.11.1(c). Up to 200 cubic metres per hour of dredging slurry will be delivered to the facility over an estimated four week period. There will be intermittent breaks in the dredging operation to allow for repositioning of the dredger and floating pipeline. It is estimated that approximately 120,000 cubic metres of dredged material will be deposited along with 120,000 cubic metres of transport water over a four week period. Condition 5.6 requires a proposal for recording of the weight of accepted waste.

The recovery area will consist of a retaining outer wall, consisting of constructed stone bunds and natural rock formations or islets (Condition 4.9), and a weir box which will allow for the controlled discharge of supernatant liquid (Condition 4.10). The recovery "lagoon" will be further subdivided into compartments in order to assist the settlement rate. Condition 4.11 seeks a proposal on the management of the resultant supernatant in order to maximise the settlement rate.

Nuisance Control

1. Due to the nature of the waste being deposited, no litter or vermin problems are anticipated.
2. Odour: There may be an odour associated with this facility due to the disturbance of sulphide in sediments during the dredging operation. However, as the oxidation rate for such sediments is less than one hour, any odours created would be short lived. The location of the facility in a harbour setting away from sensitive receptors should ensure that an odour nuisance is not created. Condition 6.6 will ensure control of any situations where odours may arise.
3. Dust: Once the dredging operation has ceased, the dredge spoil lagoon will be left to settle and dry out. Once settlement is sufficient, the outer bund walls will be lowered, and soil will be introduced as a restoration layer. During both this settlement period and immediately following the application of the restoration layer, dust scatter is a potential problem. Condition 8.1(d) seeks a proposal to control dust during these phases. Dust monitoring is required by Schedule D.1, and dust deposition limits are set by Schedule E. A baseline survey will be undertaken prior to the commencement of dredging operations (Condition 9.11.1). Condition 6.5 requires the spraying of site roads with water when required in order to control fugitive dust emissions by this route. Condition 6.7 requires that dust does not give rise to significant nuisance.
4. Noise: refer to Section 10 of this report.

- **Hours of Operation**

The activity to be licenced, namely the deposition of dredging spoil at this facility, is estimated to require approximately four weeks based on a seven day, 24 hour operational basis. Consequently no set hours of operation have been conditioned. There will however be intermittent stoppages to facilitate the dredging operation

(movement of dredger or floating pipeline for instance). Additionally, adverse weather may prolong the dredging operation.

(7) Restoration and Aftercare

When the dredging operation is completed, the site will be closed down and allowed to settle. When the deposited material becomes sufficiently compact to support machinery, it is proposed to lower the retaining bund walls by 2.5 metres to 6m O.D. The rock thus removed will be used to regrade the bund walls on their seaward sides. Thus the bund walls would be at the final level of deposited materials. Soil will be imported in order to provide a restoration layer. These operations should occur approximately 12 months after completion of the dredging phase. Donegal County Council has no plans for afteruse at this facility beyond stating that a new piece of land would be created that may be further developed in the future.

Condition 8.1 seeks a Restoration and Aftercare Plan for the facility. Aftercare will consist of ensuring bund integrity and stability (Condition 9.7). Condition 8.1(f) provides for the removal of the security fence as part of the Restoration and Aftercare Plan. It is envisaged that this will occur once the dredge spoils have consolidated. Condition 9.8 requires ecological monitoring post closure in order to compare the facility and the areas affected by the supernatant discharge with baseline studies submitted as part of the application.

(8) Emissions to Air

It is not expected that significant air emissions will arise from the activity.

(9) Emissions to Groundwater

The geology of the facility is a massive abrasive granite of medium to high strength. There is some evidence of limited weathering and fracturing at bedrock. There are no listed aquifers in the facility or its surrounds. The deposited waste material will be in direct hydraulic connection with groundwaters (which for legal purposes extend offshore to the 200 mile territorial limit). However, due to the inert nature of the dredge spoils, no lining is required for this facility.

(10) Noise Emissions

Noise emissions will arise from the construction/restoration of the dredge spoils lagoon, from the transport of development and restoration materials by road to the facility, and the dredging operation itself. Schedule E.1 sets day and night noise emission limits for noise sensitive receptors. Condition 7.4 also controls any tonal or impulsive component to the noise emissions. Schedule D.2 requires noise monitoring at two noise sensitive receptors and at the facility boundary both during daytime and

night-time. Condition 6.3 seeks a proposal to control and minimise any nuisances arising from traffic flow to and from the facility.

(11) Emissions to Sewer

Due to the temporary nature of this facility (estimated six weeks construction period and four weeks waste acceptance period), the applicant has proposed no sewage arrangements, and no conditions have been set in the Proposed Determination.

(12) Emissions to Surface Waters

There will be one emission point to the marine environment from the recovery site via a weir box, although there will also be diffuse seepage through the geotextile-lined rock bund walls (Condition 7.5.1). It is proposed that approximately 120,000 cubic metres of supernatant liquid arising from the dredge spoils lagoon will be discharged by these routes over a period of approximately four weeks. In the longer term, as the deposited dredge spoils dry out and consolidate, water entrapped within the particle structure of the dredge spoils would slowly seep out of the facility. However, any seepages through the geotextile membrane will be slight and devoid of suspended solids. Therefore no specific control measures are required for this particular discharge route. Additionally, surface water run-off from the facility will occur once the surface has been regraded as part of the site restoration. Control of this discharge route will be achieved through the restoration plan (Condition 8.1(d)).

Thus the main issue for this facility in relation to surface waters is the control of the discharge of supernatant liquid through the proposed weir box. The main concern for water quality is the level of suspended solids that would be derived from the content of fine particulate material in the dredge spoils. Background levels of 10 to 30 mg/l suspended solids occur in the vicinity of the facility. Condition 4.11.1(a) requires a proposal on the control of this discharge in respect of the suspended solids content. Harbour sediments can also be repositories and sources of anthropogenic contaminants, particularly organic and metallic compounds. However, the contaminant levels in the sediments to be dredged at Burtonport are quite low when compared with other harbour sites. The tidal currents are quite strong at the discharge point. However, some material may settle out during periods of weak flow. The following measures have been included in the Proposed Decision to control this discharge:

- Suspended Solids: a turbidity trigger value of 100 FTU has been set through Schedule F for this discharge. It is proposed to monitor the discharge at the weir box continuously (10 minute intervals) using a turbidity meter (Condition 9.9.1). Condition 7.5.2 requires the dredging operation to cease if the trigger value is exceeded for three consecutive samples.
- The supernatant discharge from the dredge spoil lagoon will be monitored weekly throughout the recovery process for a range of parameters (Schedule D.3.2). Additionally, the applicant would be required to sample for the same set of parameters at impact assessment sites and a control site (the subject of a proposal required under Condition 9.9.3) in the receiving marine waters, both before the licenced activity commences and weekly during the recovery

process. Daily suspended solids and turbidity monitoring will be undertaken at these locations.

- Sediment monitoring will be carried out prior to the commencement of and three months after completion of the dredging operations (Schedule D.4). This will allow assessment of the extent of any impact resulting from the dredge spoils recovery process.
- In the event that a bund wall collapses, Condition 10.4 will require the dredging process to cease until the Agency agrees to its resumption. This will allow the applicant to undertake emergency repairs as required and as agreed through Condition 4.9.1(g). It is envisaged that recovery of "spilt" sediment would be undertaken as part of any such emergency repair operation.

(13) Other Significant Environmental Impacts of the Development

The facility is not located within or adjacent to any proposed Natural Heritage Area's or Special Protection Area's.

The importation of 50,000 tonnes of rock from a Dungloe quarry to build bund walls may involve up to 4,000 lorry movements through Burtonport village over an estimated six week period. Based on eight hours per day, six days a week, this would represent 14 truck movements per hour. Therefore Condition 6.3 requires a proposal to minimise any nuisances that may arise from this operation.

No archeological impacts resulting from the operation of this facility are expected.

The visual impact of the restored site is expected to be mimimal as the restored elevation will be similar to the nearby pier elevation in Burtonport harbour and is located adjacent to the harbour and associated commercial buildings such as a fish processing plant.

(14) Waste Management, Air Quality and Water Quality Management Plans

There are no relevant plans relating to the proposed facility at Burtonport.

(15) Submissions/Complaints

Appendix 2 contains a list of all submissions received relating to the application. The dates received and the details of the individual, department, group or organisation making the submissions are provided.

An overview of all submissions received in relation to the waste licence application is provided. This includes a summary of all issues raised in the submissions and clearly shows how these issues are dealt with in the proposed decision.

15.1 Summary of Submissions/Complaints

- Two submissions were received:

1. A submission was received (16/12/98) from a Mr. J.A. Bonar who objected on the grounds of potential ecological and aesthetic damage to a specific section of the site. Mr. Bonar subsequently withdrew his submission (19/1/99) when the applicant withdrew the contentious area from the application for a waste licence.
2. A submission was received from the Northern Regional Fisheries Board (22/11/99). Their submission related to:
   a) The design of the settling lagoon should be compartmentalised so as to minimise the suspended solids content of the supernatant discharge from the recovery site.
   b) The influence of wind over such a large area may hinder optimum settling of suspended material.
   c) The discharge from the weir box should be monitored for suspended solids on a daily basis by both grab sampling and flow/time proportionate sampling. Daily grab samples should also be taken outside the site. These monitoring results should be forwarded routinely to the fisheries board.
   d) A benthic sampling programme to establish the impact of the settlement of suspended solids arising from the weir box discharge in comparison to a control site. These monitoring results should be forwarded routinely to the fisheries board.
   e) The dredger should be in good working order and should not pose a threat through fuel or hydraulic leakages.
   f) All fuel should be securely bunded to 110% of the capacity of the fuel stored therein.

15.2 Discussion of Submissions/Complaints

1. Submission withdrawn.
2. Northern Regional Fisheries Board.

(a) and (b): Condition 14.1(a) seeks a proposal to maximise settlement within the dredge spoils lagoon.

(c): Because of the lag time that would be involved in analysis of suspended solids, Condition 9.9.1 requires regular monitoring of the turbidity of the discharge at the weir box as it will facilitate rapid response if the trigger level set in Schedule F is exceeded. However, the discharge itself, a control site and several impact assessment sites will be monitored daily for suspended solids in addition to turbidity. This will allow for assessment of the discharge impact. The results of this monitoring programme will be available to the Fisheries Board either by contacting the Agency or through the Communications Programme required by Condition 2.2.1. Condition 3.7 also requires notification of the Fisheries Board in the event that the turbidity trigger level is exceed at the discharge.

(d): Condition 9.10 requires assessment of the impact of settlement of solids at various sites before and after the dredging operation. The results of this monitoring programme

will be available to the Fisheries Board either by contacting the Agency or through the Communications Programme required by Condition 2.2.1.
(e): The dredger itself does not fall within the scope of this licence. However, based on the application, the dredging company is a well established firm.
(f): The applicant does not propose storing any fuel at the facility. However Condition 4.7 requires the approval of the Agency for any fuel storage if this should arise, and it sets forth standard bunding requirements.

Signed _____ **Dated:**

Name Eamonn Merriman

APPENDIX 1

LOCATION PLAN

One drawings is included for reference:
1. Site Infrastructure, drawing number 82/30, July 1999.

APPENDIX 2

SUBMISSIONS

1. A submission was received (16/12/98) from a Mr. J.A. Bonar. Mr. Bonar subsequently withdrew his submission (19/1/99) when the applicant withdrew the contentious area from the application for a waste licence.
2. A submission was received from the Northern Regional Fisheries Board (22/11/99).