Onyx Ireland Ltd
14A Six Cross Roads Business Park
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Tel 051 333944
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The Office of Environmental Enforcement
South East Region
Environmental Protection Agency
P.O. Box 3000
Johnstown Castle Estate
Co. Wexford

Date
6th December 2004

Our ref: C/028/04

Re: Submission of Application for the Review of Waste Licence 177-1.

To Whom It May Concern:

Please find attached a copy of an Application for the Review of Waste licence 177-1 by ONYX Ireland Ltd at the Six Cross Roads Business Park, Waterford City in accordance with Article 12(3)(d) of the Waste Management (licensing) Regulations.

I hope that this is to your satisfaction.

If you require any additional information please do not hesitate to contact me.

Yours Sincerely,

Michael Storan
Environmental Officer

Onyx Ireland Ltd
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ONYX IRELAND LTD

APPLICATION FOR THE REVIEW OF WASTE LICENCE 177-1/2

DATE: 06/12/04

Michael Storan

Michael Storan

Environmental Officer

Michael Storan

Environmental Officer

ARTICLE 12 COMPLIANCE REQUIREMENTS FOR REVIEW OF WASTE LICENCE (Reg.No.177-1)

1) Provide information specified in Article 12(1)(a) of the Waste Management (Licensing) Regulations, 2000.

Applicant's Details

Name:	ONYX Ireland Ltd
Address:	Carrignard
	Six Cross Roads
	Business Park
	Waterford City
Tel:	051-333944
Fax:	051-333945

Name and Address for Correspondence

Name:	ONYX Ireland Ltd
Address:	Carrignard
	Six Cross Roads
	Business Park
	Waterford City
Tel:	051-333944
Fax:	051-333945

Address of registered or principal office of Body Corporate

Address:	ONYX Ireland Ltd
	Carrignard
	Six Cross Roads Business Park
	Waterford City
Tel:	051-333944
Fax:	051-333945

2) Provide a revised "Site Plan" which shows the extent of the entire facility outlined in red.

See Attached Drawing "Site Plan" - Figure B.1.a (Revision 1)
APPENDIX I

3) Specify the class or classes of activity concerned, in accordance with the Third and Fourth Schedule of the Waste Management Act, 1996 and provide a summary description of each of the classes of activity applied for.

THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACT 1996

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.	X
4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.		4. Recycling or reclamation of other inorganic materials.	X
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 (including evaporation, drying and calcination).		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.	X	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.	P	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 a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.	X	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.	X

Summary description of each of the classes of activity applied for:

Principal Activity:

Third Schedule, Class 12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Other Activities:

Third Schedule

Class 11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this schedule.

Class 13. Storage prior to submission to any activity referred to in a preceding paragraph of this schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Fourth Schedule

Class 2. Recycling or reclamation of organic substances (including composting and other biological transformation processes) which are not used as solvents.

Class 3. Recycling and reclamation of metals and metal compounds.

Class 4. Recycling or reclamation of other inorganic materials.

Class 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) **Describe the proposed capacity of the facility with a breakdown of tonnages for the different waste streams to be handled. Refer to Table E2 of the Agency Waste Licence Application Form – Recovery/Disposal Activities (other than Landfill) [available at www.epa.ie].**

Proposed Waste Types and Quantities

TABLE E.2.1 WASTE TYPES AND QUANTITIES

WASTE TYPE	TONNES PER ANNUM	TOTAL (over life of site) tonnes
Household waste collected by or on behalf of the local authority	3,400	Not Applicable
Household waste delivered to civic waste facilities and other bring facilities	500	Not Applicable
Other household waste	800	Not Applicable
Commercial Waste	16,000	Not Applicable
Sewage Sludges	Zero	Not Applicable
Construction and Demolition Waste	800	Not Applicable
Industrial Sludges	Zero	Not applicable
Industrial waste not elsewhere specified	7,500	Not Applicable
Hazardous Waste	Zero	Not Applicable

5) Provide planning permission details obtained from the relevant planning authority for the proposed activities.

See Attached Planning Permission from Local Authority (Waterford City Council)
APPENDIX II

6) Describe any proposed arrangements for the off-site treatment or disposal of waste from the proposed new activities and processes. Provide details for all Construction and Demolition Wastes leaving the facility, including information on the owner, address and permit number of the receiving facility.

Currently Onyx at Waterford provides a segregated collection system for the collection of Construction and Demolition waste to many of its clients in the construction industry. Once the material arrives on site and has been separated and free from contamination, the construction and demolition waste is taken to a permitted landfill/quarry where it is used as backfill. Where mixed loads are brought to the facility, the construction and demolition waste is manually removed as much as possible from the other waste streams. However, Onyx currently does not collect sufficient quantities of construction and demolition waste to justify an automated separation system such as a screen or trommel. Available space at the present facility poses some restrictions to the volume of Construction and Demolition waste that can be recovered from the waste stream, however, with the approval of the extension of the facility by the Agency a separation/storage area will be provided to encompass better efficiency and larger volumes of construction and demolition waste received at the facility.

Construction and demolition waste leaving the facility is transferred to one of several sites. The details of these sites are as follows:

Permit Holder	George Porter	**Address**	George Porter
Site Location	Dunkitt		Dunkitt House
	Co. Kilkenny		Kilmacow
			Co. Kilkenny

Permit Reference *WMP09/2003*

Permit Holder	Paul Holden	**Address**	Paul Holden
Site Location	Dunkitt		Ballyhale
	Co. Kilkenny		Co. Kilkenny

Permit Reference *WMP17/2002*

Permit Holder	Patrick Walsh	**Address**	Patrick Walsh
Site Location	Kiltorcan		Kilcready
	Ballyhale		Mullinavat
	Co. Kilkenny		Co. Kilkenny
Permit Reference	*WMP23/2002*		

7) **Provide a scaled drawing showing the facility layout including the location of the proposed activities. Detail the proposed and existing infrastructure at the facility. Furthermore:**

Provide details, Including scaled drawings, of the new entrance from the public road and the weighbridge to be located at the south western corner of the site.

See Attached Drawing FIGURE B.2.a (Revision 1) **APPENDIX I**

Provide details, including scaled drawings, of the on-site foul and clean water drainage layout. Drawings to include the existing and any proposed monitoring points SW1, Sw2 and SW3 (proposed).

See Attached Drawings FIGURE B.2.c (Revision 1) **APPENDIX I**
FIGURE B.2.c (Revision 1a) **APPENDIX I**
FIGURE C.1.a (Revision 1) **APPENDIX I**

Provide details, including scaled drawings, of any new waste-handling infrastructure to be located on site. This information shall include a description of any new hardstanding areas and their proposed uses.

See Attached Drawing FIGURE B.1.a (Revision 1) **APPENDIX I**

Provide details, including scaled drawings, of any proposed expansion of the facility on the northern side of the facility.

ONYX do not intend to expand the facility on the northern side at present.

Provide details, including drawings, for the existing interceptors and the proposed new interceptor in the south western corner of the site and ensure compliance with I.S. EN 585-2:2003.

The existing foul sewer and surface water interceptors were installed in 2000 during the construction phase of the site. The site did not become operational until January 2001. Both are classified as Class 1 full retention separators. Two grit traps were also installed in conjunction with each interceptor.
Details of specifications are attached.

The proposed surface water interceptor to be incorporated into the site extension is classified as a Class 1 full retention separator. Two grit traps have also been installed in conjunction with this interceptor.
Details of specifications are attached.

I.S. EN 858-2, 2003 – SEPARATOR SYSTEMS FOR LIGHT LIQUIDS (E.G. OIL AND PETROL) – PART 2: SELECTION OF NOMINAL SIZE, INSTALLATION, OPERATION AND MAINTENANCE is currently the standard in use for these types of interceptor installed on site.

See Attached Drawings FIGURE B.2.c (Revision 1) **APPENDIX I**
FIGURE B.2.c (Revision 1a) **APPENDIX I**

8) Provide locations for any current emission monitoring points, which will be amended due to the proposed expansion

There are no amendments proposed for both the existing foul sewer monitoring point FW1 (Grid ref. 258384E, 109456N) and surface water monitoring points SW1 and SW2 (Grid ref. 258327E, 109438N and Grid ref. 258338E, 109440N) respectively.
Please see attached drawings A.1.b, B.2.c (Rev 1) and B.2.c (Rev 1a) for details.
APPENDIX I

There are no amendments proposed for Dust monitoring locations D1 and D2 (Grid ref. 258375E, 109495N and 258341E, 109436N) respectively.

However, it is proposed that Dust Monitoring point D3 (Grid ref. 258301E, 109483N) is to be re-located within the boundary of the proposed new extension at Grid ref. 258269E, 109514N.
Please see attached drawings C.1.a (Rev 1) and A.1.b for further details.

There are no amendments proposed for Noise Monitoring points N1 and N2 (Grid ref. 258326E, 109519N and 258362E, 109435N) respectively.

However, it is proposed that Noise Monitoring point N3 (Grid ref. 258312E, 109476N) is to be re-located within the boundary of the proposed extension at Grid ref. 258243E, 109511N)
Please find attached drawings C.8.a (Revision 1) for further details.
APPENDIX I

9) Describe any proposed arrangements for the off-site treatment or disposal of waste from the proposed new activities and processes.

Arrangements for the off-site treatment or disposal of waste will from the new activity be the same as the off-site treatment of the existing facility. The extension will enable ONYX to process and store more materials, however the end treatment or destination will be the same as the current operations at the facility.

All materials whether they are recyclable or are destined for disposal will be sent to the following licenced/permitted facilities

MATERIAL	DESTINATION	CARRIER
A. Waste	IPODEC Ireland Ltd. Ballymount Cross Tallaght Dublin Licence No. 39-2	Adrian McCaul Plant Hire Ltd Permit No.WCP/KK/183/04
	South Dublin County Council Ballymount Baling Station Ballymount Road Walkinstown Dublin 12 Licence No. 3-3	Adrian McCaul Plant Hire Ltd Permit No. WCP/KK/183/04
	South Dublin County Council Arthurstown Landfill Arthurstown, Kill, Co. Kildare Licence No. 4-1	Adrian McCaul Plant Hire Ltd Permit No. WCP/KK/183/04
	Tramore Waste disposal site Tramore Intake & Burrows Tramore, Co. Waterford Licence No. 75-1 **CLOSED**	Adrian McCaul Plant Hire Ltd Permit No. WCP/KK/183/04
	Kilbarry Landfill Site Kilbarry, Waterford City Licence No. 18-1 **CLOSED**	IPODEC Ireland Ltd. Permit No. WCP/KK/029/02
	Dungarvan Landfill Site Ballynamuck Middle	Adrian McCaul Plant Hire Ltd

	Dungarvan Co.Waterford Licence No. 32-1 **CLOSED**	Permit No. WCP/KK/183/04
	Dunmore Landfill Kilkenny Co. Council Dunmore, Co. Kilkenny Licence No. 30-2	IPODEC Ireland Ltd Permit No. WCP/KK/029/02
	Danohill Landfill Tipperary SR Co. Council Garryshane, Danohill County Tipperary Licence No. 74-1	IPODEC Ireland Ltd. Permit No. WCP/KK/029/02
	Powerstown Landfill Carlow County Council Powerstown, Co. Carlow Licence No. 25-1	IPODEC Ireland Ltd. Permit No. WCP/KK/029/02
	KTK Landfill Limited Brownstown & Carnalway Kilcullen Co Kildare Licence No. 81-2	Adrian Mc Caul Plant Hire Permit No. WCP/KK/183/04
	Wexford Co. Council Killurin Landfill Site Wexford Licence No. 16-1	Sewmar/Wexford plant Hire Permit No.WCP/KK/106/02
B. Cardboard	IPODEC Ireland Ltd. Ballymount Cross Tallaght Dublin Licence No. 39-2	Adrian McCaul Plant Hire Ltd Permit No. WCP/KK/183/04
	Cardboard Connection 25 Kentwell Place Burwell Cambs, UK CB5 DBT EPA Reg. No. TNE/375327/CB	Surefreight Unit 4, Shepherds Drive, Carnbane Ind Est. Newry, Co. Down WCP/KK/175/04 Johnston Haulage

		Permit No. WCP/KK/073/02
	Smurfit Recycling Ireland Ballymount Road Walkinstown Dublin12 Permit No. WPR/021/2	Adrian McCaul Plant Hire Ltd. PermitNo.WCP/KK/029/02 Johnston Haulage Permit No. WCP/KK/175/02
	South East Recycling Ltd. South East recycling Centre Carrigbawn Pembrokestown Wexford. Licence No. 111-1	Sewmar/Wex. Plant Hire Permit No. WCP/KK/053/02
C. Paper	Smurfit Recycling Ireland Ballymount Road Walkinstown Dublin 12 Permit No. WPR/021/2	Adrian McCaul Plant Hire Ltd Permit No. WCP/KK/183/04
D. Plastic	Dillon Recycling 33 Manydown Close Red Barns Road Dundalk Permit No. WP 36/02	Adrian McCaul Plant Hire Ltd Permit No. WCP/KK/183/04
	Recyclenet Ireland Ltd. Cappanargid Rathdangan Co. Kildare Permit No. 49/2001	Adrian McCaul Plant Hire Ltd Permit No. WCP/KK/183/04
	Clearpoint Recycling Ltd. Mill River Business Park Carrick on Suir Co. Tipperary Permit No. WM/WP/ 18/03	IPODEC Ireland Ltd Permit No. WCP/KK/029/02
	Thorndale Recycling Ltd. 77 Clooney Road Campsie	Surefreight Ltd Permit No. WCP/KK/175/04

	Derry BT47 3PA Licence No. WDL 14	
E. Timber	Pat O Donnell Ballyboe Ballypatrick Co. Tipperary Permit No. WM/WP/06/03 ONYX Ireland Ltd. Dock Road Limerick Licence No. 82-1	Adrian McCaul Plant Hire Ltd. Permit No. WCP/KK/183/04
F. Metal	Cork Metal Company Ltd. Dublin Hill Cork Permit No. 08/01	Cork Metal Company Ltd Permit No. WCP/KK/018/02
	Midland Scrap Metal Co. Ltd. Harbour Street Mountmellick Co. Laois Permit No. WMP005	Adrian McCaul Plant Hire Ltd. Permit no. WCP/KK/183/04
G. Glass	Sam Shire Services (recycling) Ltd. Mayfield Road Lismore Co. Waterford Permit No. WP06/01	IPODEC Ireland Ltd. Permit No. WCP/KK/029/02
	Clearpoint Recycling Ltd. Mill River Business Park Carrick on Suir Co. Tipperary Permit No. WM/WP/ 18/03 SFL Krysteline Ltd Industrial Estate, callan Co. Kilkenny WMP11/2003	IPODEC Ireland Ltd. Permit No. WCP/KK/029/02

H. Rubble	Patrick Walsh Kiltorcan Ballyhale Co. Kilkenny Permit No. WMP 23/2002	Paul Holden Plant Sales/ Haulage Licence 8693.00 IPODEC Ireland Ltd. Permit No. WCP/KK/029/02
	George Porter Dunkitt House Kilmacow Co. Kilkenny Permit No. WMP09/2003	Paul Holden Plant Sales/ Haulage Licence 8693.00 IPODEC Ireland Ltd. Permit No. WCP/KK/029/02
	Paul Holden Dunkitt Co. Kilkenny Permit No. WMP 17/2002	Paul Holden Plant Sales

10) Provide details of the nature, composition quantity, level and rate of emissions arising from the operation of the proposed and existing activities. Provide an assessment of the proposed and existing emissions and proposed measures to prevent/eliminate or where not practicable limit/abate such emissions and proposed arrangements for monitoring them. Include in your reply an assessment on adjacent sensitive receptors.

Surface Water

The surface water run-off from the site discharges into a dyke, running in an approximate North-South direction parallel to the Green Road, on the western side of the facility. All surface water drainage from the facility is collected via a network of surface drains throughout the site (See Drawing B.2.c (Rev 1) Appendix I). There are two surface water discharges from the current site:

a) Surface water discharge from all asphalt areas on-site, including weighbridge, car park, Truck Park, bin storage and truck movement areas.
b) Surface water from the roof areas.

The run-off from the roofs of the buildings discharges directly to the dyke without any treatment. The run-off from the asphalt areas pass through a grit trap and Class I By-Pass Interceptor prior to discharging to the dyke. In addition, a shut off valve is located in this discharge line to minimise the possibility of unexpected emissions occurring.

Both discharges join at the western boundary of the site before ultimately discharging to the nearby dyke. This discharges into the heavily polluted St.Johns River and ultimately into the River Suir.

The Surface water emissions from the site are restricted to that of surface water run off from hardstanding areas after a rainfall event. The total area of the site that currently discharges to surface water is 5,660m^2. This includes 4,616m^2 of asphalted area and 1,043 m^2 of roof area for offices, workshop and garage. The remainder of the site is either diverted to foul sewer or is covered with shrubberies. There exists no risk to the groundwater. The annual average rainfall is 1002mm (Tycor, Waterford 1961 -1990) thus implying that the annual surface water run-off from the site is 5,672m^3 (hardstanding and roof area). The 50 year 30 minute maximum rainfall figure is 23.3mm. Under these conditions the volume of storm-water run-off from the site would be 73 litres per second.

All transfer activities on-site are carried out within the confines of the transfer building. No compaction or baling of putrescible waste occurs, hence there is no generation of leachate. Furthermore, due to the dry nature of the waste handled within the building, the presence of drains is considered unnecessary.

Since receiving the Waste Licence 177-1 in November 2003 several surface water sampling events have taken place (December 2003 – July 2004). Samples were collected from emission points SW1 (yard run-off) and SW2 (Roof run-off), the results of which are detailed in Table below.

Results of Surface Water Monitoring SW1				
Parameters	**SW1 03/12/03**	**SW1 03/03/04**	**SW1 22/06/04**	**ELV's as per Waste Licence 177-1**
PH (PH Units)	7.4	7.7	8.5	-
Temperature (C)	10.1	10.9	16.8	-
BOD (mg/L)	7	9	12	25mg/L
Mineral Oils (ug/L)	<10	<10	<10	5mg/L
OFG (mg/L)	<1	<1	<10	-
Suspended Solids(mg/L)	<10	22	<5	35mg/L
Conductivity (uS/cm @ 20 C)	45	194	278	-
Visual Inspection	Clear	Clear	Clear	-

Results of Surface Water Monitoring SW2				
Parameters	**SW2 03/12/03**	**SW2 03/03/04**	**SW2 22/06/04**	**ELV's as per Waste Licence 177-1**
PH (PH Units)	7.0	6.1	6.7	-
Temperature (C)	10.3	10.4	16.2	-
BOD (mg/L)	2	<2	2	25mg/L
Mineral Oils (ug/L)	<10	<10	<10	5mg/L
OFG (mg/L)	<1	<1	<10	-
Suspended Solids(mg/L)	<10	<10	<5	35mg/L
Conductivity (uS/cm @ 20 C)	59	40	82	-
Visual Inspection	Clear	Clear	Clear	-

The results for SW1 indicate that the levels of contaminants present in the final discharge are not significant and indeed comply with the ELV's as laid down in the Waste Licence. The emissions from SW2 also comply with The ELV's of the Waste Licence.

The surface water emissions within the proposed extension are restricted to that of surface water run-off from hardstanding areas and roof run-off area after a rainfall event.

There are two new additional surface water monitoring points within the proposed extension area namely SW3 and SW4.

Surface water monitoring point SW3 comprises of rain run-off from the asphalt area in extension and will pass through two grit traps and a Class 1 interceptor before discharging into the dyke at the western boundary of the site. In addition a shut-off valve is located in this discharge line to minimize the possibility of unexpected emissions occurring.

Surface water run-off from the roof of the storage shed will discharge directly into the dyke. This dyke discharges into the heavily polluted St. Johns River and ultimately into the river Suir.

Onyx proposes that the monitoring points SW3 and SW4 are monitored as follows:

Parameter	Monitoring Frequency	Analysis method/Technique
PH	Quarterly	Electrometry
Biological Oxygen Demand	Quarterly	Standard Methods
Suspended Solids	Quarterly	Standard Methods
Mineral Oils	Quarterly	Standard Methods
Fats, Oils and Grease	Quarterly	Standard Methods
Visual Inspection	Quarterly	Standard Methods

Foul Sewer

Emissions to the foul sewer arise from the truck wash area, the concrete apron (in the event of rain) located at the front of the MHRB and garage, and the toilets and canteen facilities on-site (Drawing B2.c (Rev 1)). The truck wash has its own grit trap to remove the bulk of any solid material washed into the drains. The run-off from this subsequently drains into another grit trap a Class I oil/water interceptor prior to final discharge to foul sewer. The run-off from the concrete apron also passes through the same grit trap and interceptor prior to discharge. Following the sampling point in the foul sewer line there is a shut-off valve which can be closed to prevent unexpected emissions occurring. It is estimated that a ***maximum*** discharge rate of 31.1m^3 may occur with current foul sewer arrangements. This is based on the following calculations:

- An average of 10 persons per day at the premises and an accepted figure for wastewater production of 150 litres\day\population equivalent. = 0.3 m^3 per hour.
- The 50 year 30 minute maximum rainfall figure of 23.3mm and a concrete area (including truck wash) of 670m^2 = 29.9 m^3 per hour.
- 2 –3 trucks per day washed for 15 min periods = 0.9 m^3 per hour.

Note: No discharge occurs from the odour abatement system, as this is adsorbed by the waste.

The diameter of the foul sewer piping is 150mm. Using figures provided in "Hydraulics Research, 1983" it has been calculated that the design flow rate for this pipe is 14.8 litres/second or 53.3 m^3/hour.

An approximate annual discharge to foul sewer of 1,031.3m^3 can be calculated as follows:

- Water consumption estimated at 390m^3
- The 30 year annual average rainfall for Tycor Meteorological Station is 1,002mm. The concrete area is 640m^2. Hence the annual volume flowing from this area is 641.3m^3.

Samples of the foul sewer effluent were collected from monitoring point FW1 since receiving the Waste Licence 177-1 in November 2003. The results of the analysis are detailed in the Table below.

Results of Foul Water Water Monitoring FW1				
Parameters	**FW2 03/12/03**	**FW2 03/03/04**	**FW2 22/06/04**	**ELV's as per Waste Licence 177-1**
PH (PH Units)	8.2	7.3	6.6	6-9
Temperature (C)	9.5	11.5	16.2	18
BOD (mg/L)	16	108	**580**	400
COD (mg/L)	342	67	**1232**	1100
OFG (mg/L)	5	<1	22	10
Suspended Solids(mg/L)	23	18	73	300
Conductivity (uS/cm @ 20 C)	782	217	1214	1500
Visual Inspection	Slightly cloudy	Cloudy	Cloudy	Cloudy

The results of the analysis for the parameters for FW1 for the Last quarter of 2003 and the first quarter 2004 are within the ELV's of the waste licence 177-1.

The results indicate that the BOD, COD and OFG parameters measured for FW1 are outside the ELV's for the waste licence 177-1 for the second quarter of 2004.The foul water drain had previously been desludged on the 26th May 2004 and was due again at the end of June 2004. Two days following collection of the samples the foul water drainage system was desludged. A record of this cleaning of the drain is kept on file for your attention.

Waterford has a population of over 40,000. All domestic and industrial and commercial wastewater ends up in the River Suir and the St. John River. Some domestic sewage receives septic tank treatment and discharged to groundwater through soakaways in rural areas of the city. Sewage from urban estates which cannot be gravity-fed to the city sewers goes to settling tanks or holding tanks which are then commercially emptied at intervals or as necessary. Some industrial wastewater receives treatment at its own particular plant because of its nature it would otherwise endanger or damage river or marine life.

The major part of all domestic, industrial /commercial wastewaters is gravity-fed or flows to Waterpark. Waterford Corporation has operated a pumping station which is activated during high tide. Otherwise all waste water discharges through a major outfall at Waterpark and through various lesser discharge points along the quay, etc, at low tides. The pumping station at Waterpark is operated against the tides which would have caused flooding in the low lying areas of the city had such pumping not been available.

Sewers in the areas can be divided into three main categories. Foul sewers , taking waste from domestic commercial and industrial premises. Surface water taking waste from roads, foot paths, roofs and all paved areas in general which normally doesn't need treatment. Combined sewers taking both of the above.

The latest waterquality report is for the year 1997. In 1997, the River Suir was generally satisfactory(in rivers Lingaun , Clodiagh , Dawn and Blackwater). However the quality was unsatisfactory in the tributary called St. Johns River which flows through Waterford City.

Potential Impacts of Operations at the Waste Transfer Station on Surface Water.

The operations at the facility can impact on the receiving surface water network as a result of surface water run-off from the hardstanding areas of the site containing contaminants. In particular this includes the run-off from the concrete apron at the front of the transfer building. On this apron dust that may have dispersed from the transfer building can settle and subsequently be washed into the drainage system. However, the implementation of a site drainage cleaning programme (inclusive of interceptors) has ensured that the levels of contaminant present are within guideline limits for the most part. It should be noted that no

waste transfer activity occurs outdoors thereby reducing the likelihood of surface water contamination from this source.

Emissions to foul sewer, other than domestic effluent, are caused by the truck wash and skip washing facility. All truck wash effluent is passed via a grit trap and an interceptor prior to discharge to foul sewer.

Mitigation Measures to Minimise the Impact on the Surface Water

To minimise the impacts of the emissions to both surface water and foul sewer IPODEC Ireland have implemented the following measures:

Both surface water and foul sewer grit traps are cleaned out every four weeks. The two interceptors are also desludged. The same cleaning program will be incorporated for the new interceptor.

The hardstanding area of the site is swept regularly using a roadsweeper with wetting capabilities.

No waste is deposited outside the transfer building. Recyclable materials will be deposited within the proposed storage shed area.

Mobile bunds are in use for oil spillage material.

Spill kits have been put in place to minimise the effect of spillages that may arise as a result of on-site activities.

All fuel storage tanks and barrels are suitably bunded.

Weekly inspections of the interceptors take place and these are desludged if deemed necessary.

Monitoring of both the surface water and foul sewer emissions will take place as required.

Dust

All dust emitted from the facility can be described as fugitive. The primary source of dust on-site may be attributed to the transfer operations and truck movements. ONYX had installed an odour abatement/dust suppression system which has been quite effective for the past few years.

The dust monitoring location D3 will be re-located within the proposed new extension (See drawing C.1.a Rev 1) however, it is not envisaged that there will be any significant increase in the dust levels at this point or any significant impact on the surrounding environment. The materials to be stored in the storage shed have previously been stored in the open yard of the existing facility. As there are no additional activities on site the inclusion of the storage shed will not add any increase in operations on-site or dust levels.

Noise

It is not envisaged that there will be any significant increase in the noise levels from the facility as the activities related to the provision of the storage shed for recyclables does not differ significantly in the previous storage arrangements for recyclable material on-site.

Following the construction of a cul-de-sac on the green road and new access to the ONYX facility at the western boundary, vehicle movements will be greatly reduced in the area as access will be denied to the general public and other commercial premises. It is not envisaged that there will be any significant impact with regards to the levels of noise eminating from vehicle movements from the Green Road.

11) Specify the raw and ancillary materials, substances preparations, fuels and energy which will be utilized by the proposed activities.

The table below illustrates the raw material usage at present site for a 12 month period.

Raw Material	Units	Storage Location	Volume Stored	Consumption/annum (approx)
Electricity	kWh	National Grid	-	90
Water	m3	Local Authority	-	350
Odour Neutraliser	Litres	Transfer Building	100	1200
Traffic Film Remover	Litres	Truck Wash shed	125	750
Disinfectant	Litres	Garage	40	160
Hydraulic Oil	Litres	Bunded Area	2000	1700
Engine Oil	Litres	Bunded Area	2000	500
Diesel Oil	Litres	Bunded Area	2000	10,000

Although the above table demonstrates the quantities of fuels and energy utilized by the present facility, it is envisaged that the proposed activities will not impose any additional usage as the activity will be for storage of materials on site.

No additional machinery and subsequent fuel will be required for such an activity.

12) Submit a proposal for environmental monitoring to be carried out at the facility for the new proposed activities as well as the existing activities. The proposal shall include a drawing showing the locations of all proposed monitoring points and the national grid reference of each proposed monitoring location.

Environmental Monitoring in relation to the proposed extension are as follows:

Surface water

There are two surface water monitoring points at present on the existing site namely SW1 and SW2 (Grid ref. 258327E, 109438N and Grid ref. 258338E, 109440N) respectively. There are no amendments proposed for these monitoring points.

An additional two surface water monitoring points will be incorporated into the proposed extension. These are SW3 and SW4 (Grid ref. 258286 E, 109438N and Grid ref. 258253E, 109506N) respectively.

Onyx proposes that the monitoring points SW3 and SW4 are monitored as follows:

Parameter	Monitoring Frequency	Analysis method/Technique
PH	Quarterly	Electrometry
Biological Oxygen Demand	Quarterly	Standard Methods
Suspended Solids	Quarterly	Standard Methods
Mineral Oils	Quarterly	Standard Methods
Fats, Oils and Grease	Quarterly	Standard Methods
Visual Inspection	Quarterly	Standard Methods

Please see attached drawings Fig. B.2.c (Revision 1) for further details. **APPENDIX I.**

Foul Sewer

There will be no amendments for foul sewer monitoring point FW1.

Dust

There are currently three dust monitoring points located at the present site namely D1, D2 and D3 (Grid ref. 258375E, 109495N Grid ref. 258341E, 109436N and Grid ref. 258301E, 109483N) respectively.

There will be no amendments required for monitoring points D1 and D2, however it is proposed that dust monitoring point D3 (Grid ref. 258301E, 109483N) will be re-located within the new extension to Grid ref. 258269E, 109514N.

Onyx proposes that the monitoring points D1, D2 and D3 are monitored as follows.

Parameter (mg/m2/day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year *	Standard Method

* Twice during May to September.

Please see attached drawings Fig. C.1.a (Revision 1) for further details. **APPENDIX I**

Noise

There are currently three Noise Monitoring points located at the present site namely N1, N2 and N3 (Grid ref. 258326E, 109519N Grid ref. 258362E, 109435N and Grid ref. 258312E, 109476N) respectively.

There will be no amendments t monitoring points N1 and N2 however it is proposed that Noise Monitoring point N3 (Grid ref. 258312E, 109476N) is to be re-located within the boundary of the proposed extension at Grid ref. 258243E, 109511N)

Onyx proposes that the monitoring points N1,N2 and N3 are monitored as follows.

Parameter (mg/m2/day)	Monitoring Frequency	Analysis Method/Technique
$L(A)_{EQ}$ 30minutes	Annual	Standard Note 1
$L(A)_{EQ}$ 30 minutes	Annual	Standard Note 1
$L(A)_{EQ}$ 30 minutes	Annual	Standard Note 1

Note 1 International Standards Organization ISO 1996. Acoustics – description and Measurement of Environmental noise

Please find attached drawings C.8.a (Revision 1) for further details.
APPENDIX I

13) Submit the results of the environmental monitoring carried out at the facility in accordance with the Licence (WL 177-1) since 2003 up to the date of this notice. Include and assessment of the results with a comparison with the relevant standards.

Results of Surface Water Monitoring SW1				
Parameters	**SW1 03/12/03**	**SW1 03/03/04**	**SW1 22/06/04**	**ELV's as per Waste Licence 177-1**
PH (PH Units)	7.4	7.7	8.5	-
Temperature (C)	10.1	10.9	16.8	-
BOD (mg/L)	7	9	12	25mg/L
Mineral Oils (ug/L)	<10	<10	<10	5mg/L
OFG (mg/L)	<1	<1	<10	-
Suspended Solids(mg/L)	<10	22	<5	35mg/L
Conductivity (uS/cm @ 20 C)	45	194	278	-
Visual Inspection	Clear	Clear	Clear	-

Results of Surface Water Monitoring SW2				
Parameters	**SW2 03/12/03**	**SW2 03/03/04**	**SW2 22/06/04**	**ELV's as per Waste Licence 177-1**
PH (PH Units)	7.0	6.1	6.7	-
Temperature (C)	10.3	10.4	16.2	-
BOD (mg/L)	2	<2	2	25mg/L
Mineral Oils (ug/L)	<10	<10	<10	5mg/L
OFG (mg/L)	<1	<1	<10	-
Suspended Solids(mg/L)	<10	<10	<5	35mg/L
Conductivity (uS/cm @ 20 C)	59	40	82	-
Visual Inspection	Clear	Clear	Clear	-

Results of Foul Water Water Monitoring FW1				
Parameters	**FW2 03/12/03**	**FW2 03/03/04**	**FW2 22/06/04**	**ELV's as per Waste Licence 177-1**
PH (PH Units)	8.2	7.3	6.6	6-9
Temperature (C)	9.5	11.5	16.2	18
BOD (mg/L)	16	108	**580**	400
COD (mg/L)	342	67	**1232**	1100
OFG (mg/L)	5	<1	22	10
Suspended Solids(mg/L)	23	18	73	300
Conductivity (uS/cm @ 20 C)	782	217	1214	1500
Visual Inspection	Slightly cloudy	Cloudy	Cloudy	Cloudy

As can be seen from the results of the analysis the parameters measured for SW1 and SW2 for the Last Quarter of 2003 and the first and second quarters of 2004 are within the ELV's of the waste licence 177-1.

The results of the analysis for the parameters for FW1 for the Last quarter of 2003 and the first quarter 2004 are within the ELV's of the waste licence 177-1.

The results indicate that the BOD, COD and OFG parameters measured for FW1 are outside the ELV's for the waste licence 177-1 for the second quarter of 2004.The foul water drain had previously been desludged on the 26th May 2004 and was due again at the end of June 2004. Two days following collection of the samples the foul water drainage system was desludged. A record of this cleaning of the drain is kept on file for your attention.

Results of Dust Deposition Monitoring				
Location	**Description**	**March 2004 mg/m2/day**	**June 2004 mg/m2/day**	**ELV,s as per Waste Licence 177-1**
D1	North eastern Boundary of site	144.7	450	350
D2	South Boundary of site	113.1	324	350
D3	Western Boundary of site	86.8	Not available	350

As can be seen from the results of the analysis there has been one exceedance in dust levels fro Waste Licence 177-1. This took place in June 2004 at Monitoring Point D1. Construction work at the facility, in relation to the proposed extension has been on-going since early May 2004 and has contributed to this elevated level. There has also been both on-going construction work at the adjacent composting facility to the north of the site and the construction of the outer ring road for Waterford City (200m distant to the west) have also been contributing factors. It is envisaged that this construction work will continue for the foreseeable future.

14) Provide the information to accompany the application as specified in Article 12(4) of the Waste Management (Licensing) regulations, 2000.

a) Copy of newspaper notice

Please see attached copy of newspaper notice. **APPENDIX IV.**

b) copy of the text of the notice erected or fixed.

Site Notice

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW OF A WASTE LICENCE

ONYX Ireland Ltd, Carrignard, Six Cross Business Park, Waterford is applying to the Environmental Protection Agency, in accordance with the Waste Management Regulations, 1997(SI No. 133 of 1997) in respect to its Waste Transfer Station at the aforementioned address. The National Grid Reference for the activity is 2583E, 1095N.

The classes of activity in accordance with the Third and Fourth Schedules of the Waste Management Act, 1996 and as amended are:

Principal Activity:
Third Schedule, Class 12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

i. Other Activities

1. Third Schedule

Class 11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

2. Fourth Schedule

Class 2. Recycling or reclamation of organic substances (including composting and other biological transformation processes) which are not used as solvents.

Class 3. Recycling or reclamation of metals and metal compounds.

Class 4. Recycling or reclamation of other inorganic materials.

Class 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.

The review is made for the disposal of waste (other than hazardous waste) at a facility (other than a landfill facility) where the annual intake is likely to exceed 25,000 tonnes but be less than 100,000 tonnes.

A copy of the review of the waste licence application and any such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application will, as soon as is practicable after receipt by the Agency be available for inspection at the headquarters of the Agency, Johnstown Castle Estate, PO Box 3000, Co. Wexford.

c) a copy of the notice given to the planning authority

FAO: Mr. Michael Walsh
Waterford Corporation
The Mall
Waterford City

26th-November 2004

Dear Mr. Walsh,

Please be advised that ONYX Ireland Ltd., Carrignard, Six Cross Roads Business Park, Waterford City is applying to the Environmental Protection Agency, in accordance with the Waste Management Regulations, 1997 (SI No. 133 of 1997) and as amended, for a review of Waste Licence (Reg No. 177-1) in respect to its Waste Transfer Station at the aforementioned address. The National Grid Reference for the activity is 2583E, 1095N.

The classes of activity in accordance with the Third and Fourth Schedules of the Waste Management Act, 1996 and as amended are:

Principal Activity:
Third Schedule, Class 12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Other Activities:

Third Schedule

Class 11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this schedule.

Class 13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Fourth Schedule

Class 2. Recycling or reclamation of organic substances (including composting and other biological transformation processes) which are not used as solvents.

Class 3. Recycling and reclamation of metals and metal compounds.

Class 4. Recycling or reclamation of other inorganic materials.

Class 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.

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A copy of the review of the waste licence application and any such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application will, as soon as is practicable after receipt by the Agency, be available for inspection at the headquarters of the Agency, Johnstown Castle Estate, PO Box 3000, Co. Wexford.

Should you have any queries in relation to this matter, please do not hesitate to contact me.

Yours Sincerely,

Michael Storan

Michael Storan
Environmental Officer

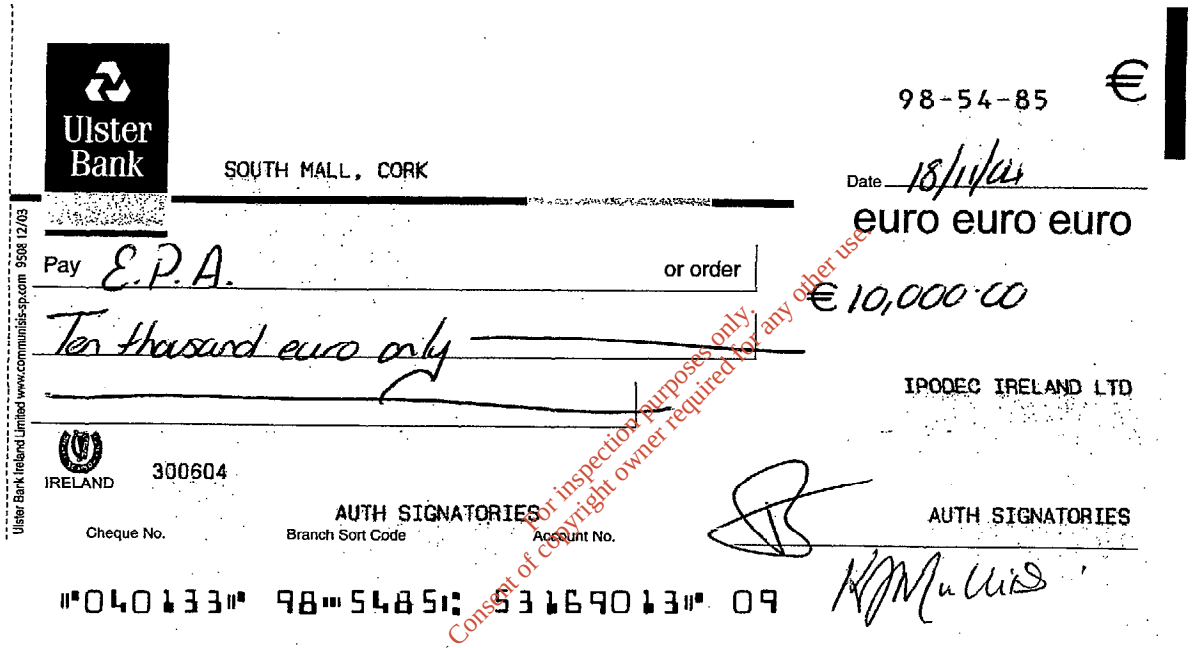
ONYX Ireland Ltd.

d) drawings of the position of the notice, points of emissions to be made and points monitoring and sampling to take place

Please see attached drawings Figure B.5.a (Revision 1) and Figure B.2.c (Revision 1). **APPENDIX I.**

e) fee –recovery of waste

Euro 10,000 Cheque attached



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15) Provide information for the purposes of enabling the Agency to make a determination in relation to the matters specified in Section 40(4) of the WMA, 1996.

a) any emissions from the recovery will not result in the contravention of any relevant standard etc….

This licence review served to ensure that any emissions from the proposed additional operations will not result in the contravention of any relevant standard or regulation or emission limit value. Based upon the history of the site and from the information provided there should be no contravention of the relevant standards.

The Waterford facility has chosen a covered storage design with the best practice for storage of recyclables.

b) activity carried out in accordance with licence not causing environmental pollution.

ONYX Ireland Ltd. Is confident that the proposed additional operations will not generate any environmental emissions that will cause environmental pollution. Given that the existing operations are currently licensed, a sufficient monitoring programme is already in place. As this licence rewiew demonstrates, the only significant addition to the receiving environment is the increase in surface water flow to the dyke/stream on the western boundary. Any additional flow from surface water will be conducted through a full class I oil/water interceptor.

It is not envisaged that there will be any significant emissions from noise and dust from the proposed extension to the facility.

The existing site monitoring programme will be augmented to account for the introduction of two new surface water monitoring points (SW3 and SW4 see drawing B.2.c (Revision 1)), and relocation of dust monitoring point D3 (see drawing C.1.a (Revision 1)) **APPENDIX I.**

c) BAT

ONYX has exercised BAT in the choice and type of building that will maximize control over the storage and segregation of recyclable materials handled at their facility and minimize environmental emissions.

ONYX is part of a large multinational organization and can therefore take advantage of the library of environmental information that is available from its European colleagues. The group is currently operating waste management facilities in 10 European countries and the staff of ONYX Waterford therefore have access to a wealth of best practice information, as well as a large network of technical specialists.

d) Fit and proper person

ONYX Ireland Ltd., is one of the largest waste management companies in the country and prides inself on the provision of waste management solutions at all levels of the Waste Management Hierarchy. In recent years, the company has expressed an interest in moving away from the traditional disposal routes which has seen the forming of a partnership with the Waterford City council in the management of the Kilbarry composting facility in Waterford.

The ONYX Waterford facility already holds a Waste Licence (177-1) and therefore company has already proved that they are a *fit and proper person.*

The management at ONYX Waterford have extensive experience in the waste management industry and the extended facility will be operated by a team of dedicated professionals. The Operations Supervisor, The Facility Manager and Environmental Officer have successfully completed the FAS Waste Management course.

Neither management or staff at ONYX hold any criminal convictions under the 1996 Waste Management Act, or indeed any other environmental legislation.

16) Provide information for the adjoining composting facility: details to include operator information, certification of registration details, exact location, and annual tonnage intake.

In Vessel Composting System at the Waterford Facility

The composting facility is located at Carrignard, Green Road, Kilbarry, Waterford City.

The Grid reference for the facility is 2582E, 1096N.

The Composting Process consists of the following steps:

1. Feed-stock blending in an auger mixer
2. Initial high-rate composting within enclosed containers
3. Process control
4. Curing on an aerated pad
5. Screening and Storage

1. Feed-stock blending in an Auger Mixer

On arrival at the Waterford compost facility, waste loads are weighed and directed to the Waste Reception /Tipping Building. An Auger mixer powered by a farm tractor or front-end loader's power take-off unit (PTO) is used to mix various feed-stock materials into a homogeneous blend. Several "Compost Recipies" with various ingredients will be processed at different times of the year.

The auger mixer comes equipped with a scale so that the different feedstocks and bulking materials can be blended according to these recipes by weight and volume. Once an appropriate batch is created the blend is left in the mixer until fully homogenized. This takes approximately 5-10 minutes. The blend, suitable for composting, is then transferred from the mixer to the digesters by stacking conveyor.

2. Containerised Digestion/Composting

Initial composting occurs within the CCS in-vessel containers or digesters. The digesters are 30 cubic meters in capacity and are configured for top loading through a hydraulically operated lid and unloaded through a side hinged door at the end. The digesters have a hook lift point that is used by a roll-off lorry to lift and unload the containers. Once filled the digesters are removed from the Waste Reception Building and transferred to the Digestion Area.

The digesters have a raised galvanised steel perforated floor inside the vessel that allows air blown into the bottom of the digester to permeate through the composting mass. An exhaust duct is located on the inside of the door to draw process air out of the digester with the use of another blower and force it through a biofilter.

A leachate liquid removal port is provided under the digester near the door. This port is connected to a hose that carries the leachate to the leachate collection system. An access port for inserting the RTD temperature probe is located on one side of the digester for measuring temperatures within the digester.

In Waterford the Material typically reaches 60 C within 36 to 48 hours. The process converts raw feed stock into pasteurised compost product with most of the biodegradable material composted within 14days.

3. Process Control

The in-vessel system comes with a personal computer (PC) using Windows 98 operating software that is networked to a programmable logic controller (PLC). Inputs to the PLC are listed according to each digester, which can be monitored individually for all digesters. Input data include temperature, variable speed drive efficiency and airflow rates. Data logging trends include digester identification, blower speeds variable frequency drive efficiency and temperature. Temperature logs are stored on the hard drive as a data base file for each digester and each batch of compost.

The in-vessel system has a positive and negative blower for each digester, both of which are controlled by variable frequency drives that are modulated to maintain a differential pressure on the system. Positive air is pushed into the lower airline feeding into the bottom of the digester while negative air is pulled from the upper airline out the top of the digester. Negative airflow is set at 5-15% greater than the positive to prevent odour escaping from the digester and maintaining negative air pressure constantly through the digester.

Odour is controlled by the use of biofilters. The aeration system for the in-vessel digester pulls process air from the composting mass and delivers it under the biofilter housed in concrete bunkers where odours are removed as the air flows upward through the biofilter media. In Waterford the biofilter media is a blend of compost, wood chips, and bark mulch.

4. Curing on Aerated Pad

The material at this stage can be described as stable however it is not yet mature enough for use as a soil amendment. The material is transferred to the Aerated Curing Pad for humification and mineralisation. The Waterford facility uses aerated static piles because it speeds up the curing process, maintains aerobic conditions and reduces the potential for generating odour. Air is drawn

downward through perforated pipes in the concrete curing pad floor and exhausted through a separate biofilter. This negative aeration maintains aerobic conditions.

The materials remain on the curing pad for a period of eight weeks. During this process the material is turned once at the four week stage. At Waterford there are four zones for each Pad and each zone has been designed to handle 5 digester loads (1 week) of material. A series of butterfly valves in conjunction with the curing system blower controls airflow to each of these zones.

5. Screening and Storage

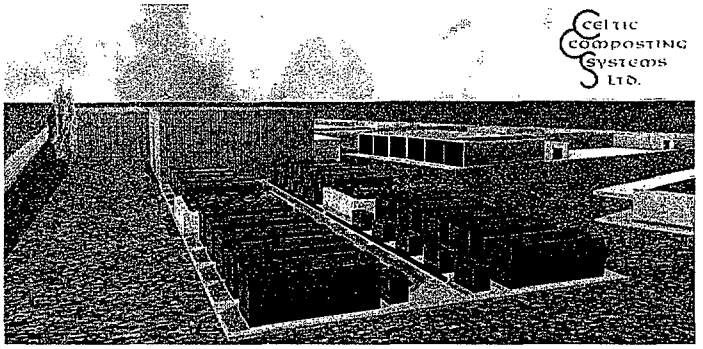
The screening and storage area at the Waterford Facility are located opposite the Curing System. Once curing is completed the materials are moved to the Screening and storage area. A trommell screen is used to remove any undecomposed material and contaminants.

The composted material is placed into the screen's hopper with the use of the front end loader. The hopper then slowly feeds the rotating screen at the high end. As the materials are rotated within the screen and move to the lower end, small particles fall through the screen holes and fall below onto a conveyor which piles the screened compost away from the screen. Oversized and undecomposed materials fall out of the lower end of the cylinder into a pile. The oversized material , mostly wood chip can be reused in new batches of compost as an innoculant and structural material to add porosity.

Once the compost is screened it can be stored until it is used by the City council or sold to customers.

The site currently does not hold a certificate of registration.

Current and Future Annual Tonnage Intake



- PHASE I (5,000 Ton) Since January 2004 the facility has received 2,500 tonnes. Approximately 2,200 tonnes of this material has been composted due to periods of construction preventing operations. Since April the facility is currently receiving 2 loads per day from the City Council with volumes approaching 20 tons per day.

- PHASE II (10,000 Ton) In March 2003 after expressing much interest, an agreement was reached between Waterford City Council and Waterford County Council to use the facility. 10 additional digester units have been ordered by Waterford County Council which will be installed and operational by October 2004. A second curing pad area is currently under development for this phase. This will bring the tonnage of the facility to 10,000 tons allowing for the acceptance of public sector and commercial waste.

- PHASE III (30,000 Ton) It is planned by early 2005 that development will commence on the tunnel phase. Each tunnel has five times the capacity of a single digester. The facility was planned for the addition of 10 tunnels in total. The first five are due to be installed in early 2005 with the remaining five planned to come on line in 2006. When completed this will allow the facility to accept between 25-30,000 tons of both commercial and public sector waste in the region.

17) Provide a non-technical summary of the revised application.

Non-Technical Summary

ONYX Ireland Ltd. Operate a Waste Transfer and Recycling Station at Carrignard, Six Cross Roads Business Park, Waterford City (Grid Reference E2583,N1095) (Drawing A1.a **APPENDIX I**). The facility, located in an industrial estate in Carrignard is used primarily for the transfer of waste, collected from industrial and commercial premises, to landfill sites and /or private recycling facilities. In addition, reclamation of cardboard, plastic, paper, timber, metal, glass and rubble is carried out at the facility. A total tonnage of 19,000 tonnes was processed in 2003. It is estimated that a total of 22,000 tonnes will be processed through the facility in 2004.

In geological terms the site is situated in an industrial estate in an area zoned for industrial development. The estate is close to the Cork - Waterford Road N25 and is readily accessible via the local road network. The predominant landuse in the area is industrial.

All surface water drainage from the facility is collected via a network of surface drains. This subsequently drains to a stream, which ultimately discharges into the river Suir.

The site is associated with Ordovician rocks of the lower Palaeozoic Period. The entire bedrock geology of the site consists of the Ross Member of the Campile Formation. The Ross member of the Campile formation contains a grey, green and black shale with minor tuffs. The shale unit of the Ross Member contains a grey , green and black shale with minor tuffs. The area is locally faulted with ingneous Dolerite rock to the southeast. In the ONYX facility the material overlying the Ross Member of the Campile Formation is generally sandy or silty gravelly clay, with silt and peat deposits in places. Limited information is available on the nature and the thickness of the quaternary subsoil deposits beneath the site, however Geological Survey of Ireland (GSI) archive record indicate that the depth of the quaternary subsoils is approximately 5 meters in the Carrignard area.

Using the basic ground water resource protection model (aquifer classification) proposed by the GSI, the bedrock underlying Carrignard is classified as a Regionally Important fissured aquifer (Rf). Based on the limited subsoil information available for the site, groundwater vulnerability would be considered high to extreme.

Waterford Corporation issued a Waste Permit to ONYX Ireland Ltd. at Carrignard, Six Cross Roads Business Park for the operation of its facility to process 5,000 tonnes of waste in December 2000. However, due to the changes in the waste acceptance conditions at the local authority landfills, this figure was exceeded in July 2002. At the end of 2002 Waterford Corporation landfill closed to commercial waste. Consequently, the company applied to the Environmental Protection Agency (EPA) for a Waste Licence in September 2002 and received a Licence (Reg No. 177-1) in November 2003. The relevant activities of the operation in the Third and Fourth Schedule of the Waste

Management Act 1996, and as amended in the European Communities (Amendment of Waste Management Act 1996) Regulations 1998, S.I. 166 of 1998 are listed below.

Principal Activity:

Third Schedule, Class 12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Other Activities:

Third Schedule, Class 13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Third Schedule, Class 11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this schedule.

Fourth Schedule, Class 2. Recycling or reclamation of organic substances (including composting and other biological transformation processes) which are not used as solvents.

Fourth Schedule, Class 3. Recycling or reclamation of metals and metal compounds.

Fourth Schedule, Class 4. Recycling or reclamation or other inorganic materials.

Fourth Schedule, Class 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.

ONYX Ireland Ltd. is committed to operating its Waste Transfer and recycling facility at Waterford in such a manner that will ensure minimal impact on the environment. This will be done through:

- Implementation of a program of continuous improvement of the facility and operations.
- Application of BAT
- Implementation of a monitoring program.

Furthermore, it is ONYX's opinion that the operations at the site will satisfy Section 40(4) of the Waste Management Act 1996.

Description of Activity

The facility currently operates six days a week between 7.00am and 9.00pm Monday to Friday and 7.00am and 6.00pm on Saturdays. It is estimated that in the region of 22,000 tonnes of waste will be transferred through the facility in 2004. The waste types accepted

at the facility are Municipal Waste, Commercial and Industrial Waste, of similar composition to Municipal Waste and, the wastes listed in table E1.3 of the waste licence application. The majority of the waste that is transferred at the faciltiy arises from the commercial sector. The table below is indicative of breakdown of the primary waste stream composition.

Approximate Composition of Waste Entering the Site	
Materials	**Stream Percentage of Waste**
Cardboard	15
Paper	8
Plastic	1
Wood	2
Metal	0.8
Glass	0.2
Non-recoverable Waste	73
TOTAL	**100**

Waste is only accepted at the facility from known customers or new customers subject to initial waste profiling. No public vehicles are allowed access to the site. This profiling ensures that ONYX are aware of the waste types that it will be receiving on-site before it arrives. All waste that arrives on-site is weighed, documented and directed to the Transfer Building by the weighbridge operator. Once deposited on the floor the Environmental Officer or suitably trained replacement inspects the load. Only following this visual inspection is the load processed for disposal or recovery. Any materials that are of a suspect nature (i.e. hazardous or not acceptable at the facility) are diverted to the Waste Quarantine Area within the Transfer Building for further examination and processing. Clean cardboard, timber, plastic, paper, glass and metal are removed from the waste deposited on the floor of the transfer building for recycling purposes.

Non-recyclable Waste

Once the waste deposited on the transfer building floor is deemed to be non-recyclable it is pushed into a stockpile to await bulk loading to 70yd3 transfer containers. Once loaded the transfer containers are covered with either netting or tarpaulin and removed off site to KTK landfill, Co. Kildare or ONYX Ireland Ltd. Ballymount Cross, Dublin. The weighbridge operator records the weight and destination of the non-recyclable material. Due to the operating hours of the facility and the opening hours of the landfill it is not possible to clear the floor at the end of every day. However, no non-recyclable waste remains on-site for more than 48 hours with the exception of Bank-Holidays where up to 62hrs may be the timeframe.

Recyclable Waste

There are several solid waste types that are considered to be recyclable at the ONYX facility: Cardboard, Metal, Timber, Paper, Glass and Plastic. Clean uncontaminated cardboard is removed from any waste loads that are deposited on the Transfer Building Floor. The cardboard is loaded onto a conveyor that feeds a baler. The baled cardboard is subsequently stored on a hardstanding area on-site prior to removal to a recycling company. The weighbridge operator records the weight and destination of the recyclable material. Paper and plastic bales are stored on-site when collected from clients until sufficient quantities are in place for delivery to a recycling facility. Glass, timber, rubble and metal are recovered from the waste stream as they are deposited on the floor. The recovered materials are stored on-site outdoors in a skip to await transfer to a recycling facility.

Hazardous or Non-Acceptable Waste(Waste Quarantine Area)

In the event of hazardous waste or non-recyclable waste been deposited on the floor of the transfer building it is removed immediately to the waste quarantine area within the building (Here the hazardous waste is kept segregated from non-acceptable waste). The producer of the waste is identified and informed by the Environmental Officer. The incident is photographed, logged and recorded. The waste is then removed off-site by a hazardous waste contractor who must provide a C1 form if applicable.

Site Access

The site is accessed from the main road of the industrial estate. Access to the industrial estate is by means of the Lacken road which itself is via a link road off the nearby Waterford-Cork road (N25). A random traffic survey carried out at the entrance to the Industrial Park on the 23rd of April 2001 established that the traffic levels associated with the transfer operations was not significant when compared with the activity on the Lacken Road.The survey was carried out between the hours of 7.00am and 9.00pm which reflect the permitted hours of operation of the facility.

Traffic movement on-site is strictly controlled for the transfer vehicles and the waste delivery vehicles directed straight from the weighbridge to the transfer building and back out along the same route. The facility is quite capable of handling the current traffic levels on-site and has sufficient capacity to cope with additional traffic likely to arise as a result of an increase in tonnages. The proposed extension will incorporate a second entrance from the Green Road on the western boundary of the facility. Since early September 2004 this road has been changed to a Cul-de-sac by the local authority allowing access only by IPODEC vehicles to the site and Waterford City and County Council vehicles to the compost facility adjacent to the ONYX facility at the northern boundary. The Green Road is more than capable of handling this volume of traffic. Vehicles entering the facility will pass through a barrier system allowing access over the weighbridge system controlled by the traffic controller within the weighbridge office.

ONYX operate a Waste Transfer and Recycling facility in Dublin, which currently handles in the region of 110,000 tonnes per annum. The results of the traffic survey carried out at the facility illustrates the significant increase in activity likely to occur at

the Waterford depot. However, coinciding with this increase will be the construction of the ring road around Waterford City which will pass the rear of the site. Furthermore, this road will have a link road off it close to the industrial estate, thus making access into and out of the area easier. Moreover, the general volume of traffic in the area is expected to continue to grow as a result of further industrial development in the area.

The possible significant air emissions resulting from on-site activities are:

- Odour
- Dust
- Noise

At the ONYX facility the main waste stream is commercial waste. 80 – 85% of this waste is non-putrescible and will not generate odours. The putrescible waste however, depending on the length of time it is putrefying before collection can generate significant odours. Until a waste load is deposited on the transfer building floor there is no way of telling how odorous it is or how much putrescible waste is present. As a result short term odours may be emitted from the building when such wastes are deposited. The Environmental Officer or trained replacement inspects each load upon arrival and ensures any odorous waste that arrives in the transfer building is bulk loaded immediately, to be removed off-site, thus minimising the odour potential. Futhermore if customers continue to send such loads to the facility they will be advised that the waste will no longer be transferred through the transfer station and will be brought directly to landfill. ONYX have installed an odour control system to further reduce the impact any odours generated in the Transfer Building may have on the surrounding environment. This system can be operated either automatically or manually when deemed necessary.

All dust emitted from the facility can be described as fugitive. The principle sources of dust are the Transfer Building and the hardcore areas where the trucks are parked and the empty waste skips are stored. Dust generated in the Transfer Building is as a result of the nature of the waste deposited in the building. The dust generated in the hardcore areas is as a result of the truck movements on and off these areas. A dust monitoring study was carried out in March and June 2004 using Bergerhoff dust gauges. The result of the monitoring programme carried out indicated that while an elevated level of dust deposition (exceeded Licence limit for June 2004) was recorded in the immediate vicinity of the site, this was attributed to off-site construction activities carried out adjacent to the site. Furthermore, it was considered that the environmental impact of fugitive emissions from the facility on air quality was insignificant. Future activities at the facility are likely to generate significantly larger quantities of dust however it is considered that the dust suppression system installed coupled with the regular cleaning of the site will ensure that the operations at the facility do not impact significantly on the surrounding environment.

Noise is described as unwanted sound and, because of its subjective nature, the level of annoyance is difficult to measure. There are standards, which define levels of acceptability for various commercial and residential developments. With regard to acceptable ambient noise levels, the noise level outside noise sensitive areas should be kept below 55dB(A) at night-time. A comprehensive daytime noise survey of the site was

conducted in February 2001, May 2002 and September 2003 to establish the ambient noise levels in the vicinity of the facility and to determine whether any tonal components existed that were audible at noise sensitive locations.

The results of the surveys carried out indicate that the nighttime noise levels do not exceed the EPA limits of 45dBA. The daytime limit of 55dBA was exceeded at two locations. These were caused by truck movements on-site. The Octave Band data measured on-site for the six locations show that the noise measured in the area is generally dominated by low frequency noise, which is to be expected for traffic noise and heavy goods vehicles. Finally it was concluded that given the large distance to the nearest noise sensitive location, noise levels arising from the current level of operation at the site are not expected to give rise to complaints at noise sensitive locations.

All surface water drainage from the facility is collected via a network of surface drains. This subsequently drains, via a surface water interceptor, to a dyke and ultimately discharges into the River Suir. Wash water from the truck wash area discharges into an oil/ water interceptor prior to foul sewer. All wastewater from the canteen and administration areas also discharge to the foul sewer. The surface water and foul sewer drainage network, inclusive of interceptors, at the facility is cleaned out regularly. Analysis of the emissions from surface water are carried out quarterly as part of the Waste Licence from the Environmental Protection Agency. The emissions from the surface water and foul sewer network do not have an adverse effect on the receiving water bodies.

While the facility has no envisaged effects on climate, climatological factors have a direct impact on possible water and air emissions from the site. In order to determine the environmental effects of surface water emissions and air pollution dispersion various climatic factors must be considered.

The nearest climatological and synoptic meteorological stations are located at Tycor Waterford and Kilkenny (40 Km to the north) and give a good approximation of the conditions which prevail in the area. Given the close proximity of Kilkenny to Waterford it is considered that the wind speeds and wind directions would be similar. The incidence of low wind conditions indicates that about 51% of hourly observations are less than 3.1m/s with calm conditions occurring about 7.5% of the year. Based on the windspeed and direction information from Kilkenny meteorological station, the dominant wind direction is South-Westerly. Annual rates of precipitation in the area have an average of approximately 1002 mm with the months of October to January receiving the greatest monthly rates. The mean winter daily air temperature is 6.2 C while the mean summer temperature is 12.3 C.

A desk top archaeological assessment of the site and surrounding area was undertaken. There were no archaeological sites found within the area of the ONYX site or in the areas of the land adjacent to the site. The nearest archaeological site identified was Fulachta Fiadh approximately 1km from the site. Therefore the ONYX site will have no impact on

known archaeological sites in the area examined in the desk top study (up to a distance of 3.5km from the site).

The site of the transfer station is zoned for industrial use. Current land management practices around the area consist mainly of industrial developments. As no Environmental Impact Assessment accompanied the planning application for the transfer station, no botanical or ecological information is available on site.

The table below illustrates the raw material usage on-site for a 12 month period.

Raw Material	Units	Storage Location	Volume Stored	Consumption /annum
Electricity	kWh	National Grid	-	90
Water	m3	Local Authority	-	350
Odour Neutraliser	Litres	Transfer Building	200	1200
Traffic Film Remover	Litres	Truck Wash Shed	125	750
Disinfectant	Litres	Garage	40	160
Hydraulic Oil	Litres	Bunded Area	2000	1700
Engine Oil	Litres	Bunded Area	2000	500
Diesel Oil	Litres	Bunded Area	2000	10,000

Details of Plant

1 No. New Holland Teleporter
1 No. Fork Lift: Weight Capacity – 3 tonnes
1 No. Single Ram Mill Baler
1 No. Grab Machine

The following table details the monitoring program proposed by ONYX to assess the emissions from the facility. Drawing A.1.b illustrates the monitoring locations.

Emission	*Frequency*	*Parameter*
Surface water	Quarterly	Ph,Temp,TSS,Cond,OFG, BOD,Mineral Oil,Visual.
Noise	Annually	Laeq, La10, La90, 1/3 Octave Band Analysis
Dust	Three annual	Particulate Content
Foul Sewer	Quarterly	PH,Temp,BOD,COD,TSS, OFG, Conductivity, Flow

ONYX Ireland Ltd.

ONYX Ireland Ltd. is the largest waste management/ recycling company in Ireland with Waste Recycling and Transfer Facilities located in Dublin, Cork, Limerick, Waterford and Newry (SCL-Onyx). All facilities are fully licensed by the Environmental Protection Agency or permitted by the relevant Local Authorities, The Company, through its operations handles over 275,000 tonnes of commercial and industrial waste per annum and 250,000 tonnes of domestic waste.

ONYX is a subsidiary of the waste management arm (ONYX) of the multinational Utilities Group, Vivendi Environmental. ONYX is the largest provider of waste management services in Europe and the third largest worldwide. The group operates 151 sorting, transfer /recycling facilities recovering more than 3 million tonnes per annum and related composting facilities treating 1 million tonnes per annum, 83 waste to energy plants treating 8 million tonnes per annum, and 133 landfill sites worldwide. ONYX, has a presence in over 40 countries, employs over 60,000 people, and has a turnover of £5 billion.

Dublin Operations

In the Dublin area ONYX Ireland operates a Waste Transfer and Recycling Facility in Ballymount through which it processes waste for the commercial and industrial sector. This facility was granted a Waste Management Licence by the Environmental Protection Agency in November, 1999 (Waste Licence 39-1). It was the first privately operated non-hazardous waste transfer facility to be licensed in Ireland. As a result of clients needs, and the significant increase in waste volumes passing through the facility, ONYX applied in December 1999, to the EPA for a review of the licence primarily with a view to increasing the opening hours to 24 hours per day seven days a week and to ensure that the facility was licensed to accept the quantities of waste handled. This revised licence was granted in September 2000 (EPA Waste Licence 39-2). Since the initial waste licence was granted ONYX has spent Eur600,000 in upgrading it's premises and operations to ensure compliance with the licence conditions. Some of the infrastructure changes that have taken place include installation of bunded areas for diesel, installation of an odour control and dust control system, diversion of surface water drains to foul sewer, upgrading of the truck wash facility, concreting of the truck parking area, installation of interceptors and upgrading of the weighbridge system. The other major development is the installation of a Materials Recycling Facility to improve further the quantity of material recycled from the waste streams.

In addition to its own Waste Transfer and Recycling Facility, ONYX operates on a joint Venture Partnership with South Dublin County Council a Waste Baling and Recycling Facility, also in the Ballymount area, and the Arthurstown Landfill in Kill, Co. Kildare. This landfill is operated to the highest environmental standards and is one of the few of its type in the world where baled waste is landfilled (licensing condition). The Baling

station processes over 270,000 tonnes of waste per annum and serves both SDCC and Dublin Corporation domestic waste collections.

Cork Operations

In Cork ONYX operates a recycling facility at Forge Hill, Kinsale Road. In addition, it's fleet of waste collection vehicles operate out of this facility. Cork county Council permitted this facility in 2001 (W02/01). Cardboard, paper and timber are the principle materials recovered here, however plastic recycling has been in operation since early 2003. By the end of 2004 it is anticipated that approximately 10,000 tonnes of material will be recycled through the Forge Hill facility.

This facility is in the early stages of redevelopment with its upgrading to an EPA licensed facility capable of handling 80,000 tonnes per annum of waste. A Waste licence application was made to the agency for this facility in May 2002 and received in September 2003. Part of this upgrading includes the installation of a full-scale MRF.

Limerick Operations

In December 2000 ONYX purchased the Cussens & Co. Waste Management business and took a lease on their site in the Dock Road, Limerick. This site is licensed by the EPA (Reg. No.82-1) and has seen in the past the installation of an MRF, to ensure that the facility can be operated in compliance with the conditions set out in the licence. The primary focus of the site is to maximise the quantity of material recycled and minimise the amount sent for disposal to landfill. From Limerick, where ONYX is by far the largest supplier of waste management services to the commercial sector, the company services clients in Limerick City and County, North Cork, Tipperary NR, Clare and North Kerry.

Newry Operations

The Newry operation was purchased in December 2001 from a company called SCL. The company (SCL-Onyx) is one of the largest waste management contractors in Northern Ireland and as with all the other ONYX facilities its site has undergone infrastructure changes which includes modernizing the transfer operation and the construction of an MRF.

Alternatives considered

Alternatives for the Waterford Depot were considered as part of the environmental assessment conducted. An alternative to the current site location was not further considered given that the waste recycling and transfer activities are established at the site and have not led to any significant environmental of social concerns. In addition, the site is located in an area zoned for industrial development, has a close proximity to Waterford City where the majority of waste is produced in the South-East region, is set-back

sufficient distance from the nearest residential properties and finally is close to the proposed ring road around Waterford City.

Given the increase in waste throughput at the site the company has investigated alternative strategies in order to improve efficiency and minimise environmental impacts associated with this increase. This has been further crystallised in light of the decrease in the availability of landfill in the region and the unavailability of landfill to commercial waste in Waterford City from the 19th January 2003.

The site as it currently stands has a capacity for handling 25,000 tonnes of waste per annum. It is considered that this is sufficient capacity for the immediate future. However, in the event of increasing waste tonnages as a result of landfill quotas, bulk transfer of waste and business expansion the do nothing approach will not be a viable alternative. Increasing the area of the site and acceptable licensed tonnages is considered the most suitable option from an environmental and economical viewpoint. This is being considered at present.

There are no plans for the closure of the Waterford Waste Transfer Station for the foreseeable future. Due to the fact that waste is not permanently held at the facility it will not reach capacity at a certain point in time having received a finite volume of waste. In theory the transfer station can operate indefinitely as waste merely passes through the station. Only non-hazardous waste is handled at the facility and thus there is unlikely to be any contamination of the site as a result of activities at the station. Therefore, once operations have ceased at the facility, it would be a relatively simple process to convert the site into a location for another commercial or industrial activity. Upon cessation of the activity ONYX Ireland proposes to:

- Remove all plant equipment
- Have the site totally cleaned
- Have all interceptors and drains cleaned out by a licenced waste contractor, once all plant equipment has been removed and the site cleaned.
- Empty the fuel storage tanks
- Remove all office equipment
- Notify the EPA and Local Authorities of the imminent closure of the activity.

Contingency arrangements for the facility as required by the EPA include:

- The submission of Emergency Response Procedures to the agency within six months of grant of licence
- The provision of containment booms and adsorbent material for spillages.
- Treating all significant spillages as an emergency
- Assessment for the need for fire water retention
- The diversion of waste from the facility in the event of breakdown of equipment
- Evaluation of emissions that exceed emission levels

ONYX Ireland Ltd. is committed to operating it's Waste Transfer and Recycling facility at Carrignard in such a manner that will ensure minimal impact on the environment. This will be done through:

- Implementation of a program of continuous improvement of the facility and operations
- Application of BAT
- Implementation of a monitoring program.

Neither ONYX management or personnel have been prosecuted under the Waste Management Act.

18) State the grounds on which the review is made in accordance with Article 12(3)(a) of the Waste Management (Licensing) Regulations, 2000.

a) State the grounds on which it is made

In accordance with Article 12(3)(a) of the waste management (Licensing) Regulations, 2004, Waste Licence 177-1 is being reviewed in order to provide for the storage of recyclable materials on site (namely glass, timber, metal, plastic and rubble) which incorporates an extension to the site boundary and to increase the maximum acceptable tonnages from 25,000 to a level where the annual intake is likely to exceed 25,000 tonnes but be less than 100,000 tonnes per annum.

b) Specify the ref number given to the relevant licence in the register

The reference number for the relevant licence is Reg No. 177-1

c) Include the info in sub article (1)

Information in sub article (1) has been included.

19) Submit the appropriate fee for the review of your licence in accordance with Article 43 of the Waste Management (Licensing) Regulations, 2000).

In accordance with Article 43 of the Waste Management (Licensing) Regulations, 2004, a fee of Euro 10,000 is enclosed with this application for the review of Waste Licence 177-1.

The disposal of waste (other than hazardous waste) at a facility (other than a landfill facility) where the annual intake is likely to exceed 25,000 tonnes but be less than 100,000 tonnes.

20) Describe how the facility complies with the Regional Waste Management Plan.

ONYX Ireland Ltd. At the Six Cross Roads Business Park, currently has not formally drawn up Waste Management Plan for the facility, however a Joint waste Management Plan is in place for the Southeast Region. This region comprises the following six local authorities:

Carlow County Council

Kilkenny County Council

South Tipperary County Council

Waterford County Council

Waterford City Council

Wexford County Council

The Plan was prepared in accordance with the Waste Management Act 1996 and the Waste Management Regulations 1997. It replaced the individual plans of the constituent local authorities. The Plan covers the period 2002 to 2021 and it is necessary that the majority of the recycling and recovery infrastructure be provided before 2005 and that an integrated facility, which will include thermal treatment, be operational in 2009.

The Plan has particular emphasis on the period 2002 to 2006. Within this period the collection, recovery/recycling and the main public awareness and education initiative is provided with the procurement of an integrated facility.

As a minimum, it is a necessary part of the Waste Management Plan to establish the following waste infrastructure;

Domestic

2-bin waste collection system	Windrow composting systems (6 No.)
Home composting	Intensification of Bring Banks
Bulky waste collection service	Civic amenity sites (18 No.)
Electronic goods/drop-off service	Waste Transfer Stations
Household hazardous waste service	Thermal treatment
Dry materials recovery facilities (6 no.)	

Commercial & Industrial

3 fraction collection

Dry materials recovery facilities (6 no. Minimum)

Local biological treatment

Construction & Demolition

Mobile crushing and screening facility that will rotate between selected sites in the region.

Although Public Private Partnership procurement routes are considered to be the most likely routes for the implementation of aspects of the Plan, it should be noted that other options such as the provision of facilities/services by independent established private entities, outside of recognized PPP forms of procurement, could also be considered and used under the Plan.

In regards to this matter ONYX have been working with the local councils by providing services for the collection and disposal of recyclables at various amenity sites throughout the region and the emergence of the PPP scheme for the management of the Waterford City Council's composting facility in Waterford City.

Waste Management Plans are developed on a macro (regional) basis and not micro (site specific) basis as these must comply with the regional plans. Consequently, ONYX do not consider it necessary to formulate a Waste Management Plan for their Waterford facility, however ONYX do consider that with the development of this facility it is providing an integral part of the waste management infrastructure required in the South East Waste Management Plan (primarily for the commercial sector).