ATTACHMENT I.2
EXISTING ENVIRONMENT & IMPACT OF THE ACTIVITY – SURFACE WATER

I.2.1 Assessment of Impacts of Surface Water Discharges on the Receiving Water

The present surface of the Goff Recycling Ltd site is primarily a concrete surfaced area, with parts hardstanding (disused area north of Unit 3 building). All surface water run-off from the site will be handled as follows:

- Surface water runoff from the proposed concreted site yard (located at the municipal waste management area) will flow via gullies which direct the flow into a silt trap followed by an interceptor unit (to detail). The outflow from the interceptor is to a 100m^3 surface water attenuation tank before discharge to an existing open land drain passing along the north east of the site. This interceptor is a Class 2 interceptor unit (oil separator and sludge trap, 2.2m^3 capacity).

- Roof rainwater from the waste management buildings (admin and offices building, Unit 1, 2 and 3) will be discharged directly to the surface water attenuation tanks followed by discharge to the existing land drain.

- Klargester type waste water treatment systems are proposed on site to deal with domestic sewage. The effluent from this plant is then subject to release to percolation areas (soak-away) at various locations at the site.

- All internal wash down liquids and any potential spills inside Unit 3 (where municipal waste will be accepted and handled) will be collected in an underground tank (3,000 litre capacity). These liquids can be pumped out at required intervals and sent off-site for treatment a licensed treatment facility.

The proposed surface water drainage system is shown in Drawing DWG 01

I.2.2 Surface Water Drainage from Site (outside concrete areas only)

All surface water drainage from the site will be diverted and treated as outlined above.

The proposed surface water drainage system is shown in Drawing DWG01 in the drawing folder.

I.2.3 Water Quality Management Plan

At present from discussions with Wexford County Council, there is no water quality management plan in the immediate locality where Goffs Recycling Ltd site is located. All treated surface water and clean roof rain water run-off is discharged to the communal land drain which is also used by the business in Kilrane Business Park. The land drain eventually flows to the sea at St Helens harbour.

It is not seen as likely that the Goff Recycling Ltd site will have any significant impact on the quality of the surface or ground waters in the region.

I.2.4 Surface Water Monitoring Survey

ENVIROCO Management Ltd staff visited the site on the 21st March 2005 and sampled the land drain (grab samples) upstream and downstream of the Goff Recycling Ltd site. A grab sample was also taken downstream of the interceptor unit and attenuation holding tank before discharge to the same land drain. The analytical data for the water samples are tabulated below in Table 1. and are compared with the 1989 Surface Water Regulations. All samples taken are illustrated on Map I.2.1 attached to this application.

Table 1. Surface water results for the Goff Recycling Ltd site – Physical Chemical Analysis

Parameter	Sample Ref			Regulation
	SW1 Upstream of discharge point	SW2 Down stream of site interceptor & attenuation tank	SW3 Down stream of discharge point	Surface water Regs (1989) Mandatory value
pH (pH units)	7.00	9.39	7.21	5.5-8.5
Conductivity (µS/cm)	580	295	533	1,000
Biological Oxygen Demand (BOD) (mg/l)	5	3	< 2	5-7
Chemical Oxygen Demand (COD) (mg/l)	40	< 15	36	40
Chloride (mg/l)	70	17	59	250
Nitrate as NO_3 (mg/l)	14.9	5.7	13.8	50.0
Nitrite as NO_2 (mg/l)	< 0.05	0.20	0.10	NRG
Ortho phosphate as PO_4 (mg/l)	0.99	0.04	0.84	0.5
Sulphate (mg/l)	23	38	27	200
Ammoniacal Nitrogen As N (mg/l)	1.2	< 0.2	0.9	0.2 – 4.0*
Sodium (mg/l)	44.0	21.0	42.0	NRG
Potassium (mg/l)	16.4	12.8	16.4	NRG
Calcium (mg/l)	44.40	28.85	42.01	NRG
Magnesium (mg/l)	11.60	2.70	9.95	NRG
Total Suspended Solids (mg/l)	49	211	32	50
Total Alkalinity as $CaCO_3$ (mg/l)	160	120	140	NRG
Total Organic Carbon (TOC) (mg/l)	18	4	15	NRG

Table 2. Surface water results for the Goff Recycling Ltd site – Hydrocarbon & Metal Analysis

Parameter	Sample Ref			Regulation
	SW1 Upstream of site	SW2 Down stream of site interceptor & attenuation tank	SW3 Down stream of site	Surface water Regs (1989) Mandatory value
Diesel Range Organics (µg/l)	< 10	< 10	< 10	<10
Mineral Oils (µg/l)	< 10	< 10	< 10	<10
Total Phenols (mg/l)	< 0.01	< 0.01	< 0.01	NRG
Copper (µg/l)	13	9	12	50-1000
Iron (µg/l)	211	4	196	200-2000
Zinc (µg/l)	< 5	< 5	5	3000-5000
Mercury (µg/l)	0.21	0.20	0.21	1.0
Lead (µg/l)	< 5	< 5	< 5	50
Manganese (µg/l)	2	6	6	50-1000
Nickel (µg/l)	< 10	< 10	< 10	NRG
Chromium (µg/l)	< 1	1	< 1	50

As can be seen from Table 1 & 2 above all parameters measured were within the Surface Water Regulations with the exception of ortho phosphates for the land drain and suspended solids and pH for the treated discharge from the site. The elevated levels of phosphates in the land drain are most likely due to agricultural sources. On the day during sampling there was heavy rainfall and this may have resulted in increased suspended solids being discharged to the land drain from the site. The slightly elevated levels of suspended solids and pH from interceptor tank run-off is not of any significance baring in mind that no other chemical or physical parameters were exceeded.