In Receivership

greenstar
setting the standard

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Environmental Licensing Programme (ELP)
Environmental Protection Agency
Headquarters, PO Box 3000,
Johnstown Castle Estate,
County Wexford

3rd July 2013

Re: Request to increase maximum emission to sewer at Greenstar Fassaroe, Bray Co Wicklow EPA Waste Licence W0053-03

Dear Sir/Madam,

Greenstar has recently made a submission to the Enforcement Section of the Agency relating to a proposal to increase the allowable discharge to the municipal foul water drainage system from our licensed facility in Fassaroe, Bray (W0053-03). In a notice issued through Alder on 2nd July 2013, the OEE (through Inspector Damien Masterson) issued a generic rejection of our proposal. Greenstar had sought to increase the emission limit value for the discharge permissible through an existing Condition of the Licence and as somewhat expected, following their review, the OEE advises that provision of the requested change is more appropriate through an amendment of the Licence. It is in this context that I now write to the ELP seeking such an amendment as a matter of some urgency.

In this submission, I outline the reasons for seeking such an increase (from 23m³/day to 125m³/day) and I summarise discussions held with Senior Executives from the Environmental/Water Services Section of Wicklow County Council. The Council subsequently indicated that the proposals as described to them are *generally acceptable* subject to Conditions that they have provided (the confirmation of acceptance and conditions are also attached). Detailed design and the submission of an SEW will of course be required before construction can commence but Greenstar is anxious to get initial approval from the ELP so that the Licence can reflect increased discharge to sewer as agreed with the Council.

Registered in Ireland No 325120

Directors: G. Bailey, C. Bell, J. Dempsey,
N. Parkinson, C. Bergin (Secretary)
Registered Office: Burton Court, Burton Hall Road,
Sandyford, Dublin 18.

Affiliate Organisation, CIWM
Member of the IWMA
Corporate Affiliate of the IEI

Details of the Requested Change

Under the existing Licence and specifically as conditioned by Technical Amendment C to the Licence (issued April 2010), Schedule B.3 limits the daily (and hourly) amount of flow that can be discharged from our on-site foul water drainage system to the connecting municipal sewer.

The current maximum volumes that can be discharged at the emission point (SE-1) are as follows:

Maximum in any one day	$23m^3$
Maximum in any one hour	$1m^3$

Greenstar now seeks to increase to flow to the municipal foul system, essentially diverting more drainage to the municipal sewer system away from the current surface water system and are applying to increase the current maximum Licence discharge rate from $23m^3$/day to $125m^3$/day. Following discussions with Wicklow County Council and their subsequent agreement, Greenstar now seeks a change to Schedule B of our Licence so that an increased flow rate of $125m^3$/day will be permissible.

Reason for the Requested Change

It has been identified for some time that there is an issue at the facility due to the ponding of surface water run-off from hardstanding areas that are used to store a range of recyclable material at the facility. The issue has been identified during OEE inspections and audits (e.g. Audit Ref W0053-03\ar08jmcc) and an attempt to alleviate the problem was made through the implementation of Phase 1 Drainage Works (diversion of roof water) that were completed in 2012.

It is apparent however, that the existing soakaway system constructed at the facility is incapable of adequately dealing with the volume of water that is draining from the hard standing yard areas at the facility. Inadequate infiltration (ground too compacted) is leading to significant back-up of the system so that there is ponding occurring close to the marshalling yard for the phase 2 building.

As stated to remove a significant quantity of water from the drainage system, Greenstar initiated Phase 1 Drainage Works in 2012. This was extremely successful and has essentially involves interception of the clean roof water run-off to a storm water tank for re-use on-site (dust suppression etc).

Even taking away the significant volume of roof water from the on-site system however, we have noted that the drainage arrangement in the area of prime concern remains inadequate and would be better served by draining to the foul water system.

Our proposal initially involves the installation of upgraded drainage system to serve the marshalling yard adjacent to the Phase 1 and 2 buildings (recycling shed and C&I/C&D shed). The replacement of existing lines and diversion to foul drainage in this area will alleviate the ponding that has been observed particularly during winter months and concentrates on the hard standing and close to the interface between impermeable and permeable ground. Ultimately this trade effluent will discharge to the municipal foul via silt traps and appropriate oil interceptor.

Other options have been investigated, including discharge to ground via soak-away, treatment via settlement and in conjunction with a constructed wetland system and

mechanical treatment. It was concluded that it was not practical (size restriction) or economically feasible to provide an on-site surface water system capable of treating the water for disposal to the stream. It would be extremely difficult to attain the necessary standard for discharge.

A drainage consultant on behalf of Greenstar was retained and produced a report which was provided to the Council. Greenstar also presented to the Council in December 2012 and in January 2013 the Council provided written agreement to the proposals as submitted. A copy of this e-mail agreement is attached.

Details of any increase or changes in emissions resulting from the change

What we are seeking is an amendment to the Licence that will allow an increase in discharge to the municipal foul water system so that a maximum daily flow of 125m³ can be permitted. The current maximum allowed under licence is 23m³/day. This increase has already been conditionally agreed by Wicklow County Council.

Assessment of the likely impacts of any increase/changes in emissions

The impacts of the proposed change will be positive from an environmental, operation and health and safety perspective.

Diverting the run-off in this area to foul will alleviate the current issue of ponding of run-off on the site caused by the inefficiency of the soakaway system in place. Clean water is already diverted via a separate rainwater harvesting system and the increase will divert 'dirty' surface water run-off from the hard standing areas close to the entrance to the phase 2 processing areas. This type of run-off is better suited to discharge to sewer rather than discharge to groundwater.

Greenstar would like to see this proposal prioritised for approval by the Agency as we are anxious to initiate these works as soon as possible.

A detailed survey is planned for the coming week so that the drainage network in the area concerned can be fully described and mapped in detail. Results of this survey will be used to form the basis of a Scope of Works document to be provided to potential

interested parties so that tendered prices can be received. The Scope of Works will also form the basis of an SEW document that will separately be submitted to the Agency.

Summary

Attached to this letter are a copy of e-mailed agreement by Wicklow County Council and a copy of a report provided for the Council indicating that up to 125m³/day discharge was being sought.

I trust that the above information will enable the ELP to discuss the proposal with relevant OEE personnel and to agree to amend the Licence so that the proposed increase in discharge to municipal sewer can be accommodated. I request that this application is prioritised as we intend to appoint a contractor for the relevant civil works in July/August 2013 and are anxious to commence detailed design etc.

Yours sincerely,

Malcolm Dowling

Malcolm Dowling
Group Environmental Compliance Manager

From: Tom Griffin [mailto:tgriffin@wicklowcoco.ie]
Sent: 16 January 2013 17:27
To: Malcolm Dowling
Cc: Michael Geaney; Frank McGovern; Liam Bourke
Subject: RE: discharge to foul - Fassaroe MRF

Hello Malcolm,

Further to our meeting on 6th December 2012 to consider your proposals for increased volume of trade effluent discharge from Greenstar Facility Fassaroe to the Bray Foul Sewer, I wish to indicate that the proposals as described in IEI Consultants Report are generally acceptable subject the following conditions: -

- The charge for proposed trade effluent discharge at Greenstar, Fassaroe Facility, Bray, Co. Wicklow should be € 1.12 per cubic metre in year one and €0.98 per cubic metre in subsequent years, subject to review every three years.
- Attenuation facilities for trade effluent arising from contaminated surface areas should be provided for 100-year return period with maximum discharge rate of 5 litres per second.
- The volumetric rate of trade effluent not normally exceed 125 cubic metres per day when averaged over a calendar month or the 110 % of the daily volume of the rainfall over the contaminated area.
- A rainfall gauge should be maintained to record rainfall levels at the site.
- A flow meter and automated composite sampling equipment should be maintained to record the daily flow and quality of trade effluent discharged to the public foul sewer.
- The quality of the trade effluent shall not normally exceed BOD of 200mg/l O_2, COD 600mg/l O_2 and Suspended Solids of 200 mg/l when averaged over a calendar month.
- Appropriately sized oil interceptors should be provided in areas where the risk of oil/fuel contamination is high.
- Rainfall over roofs and clean areas should be attenuated separately from rainfall over contaminated areas.

If you have any queries regarding this matter then please dont hesitate to contact me

Regards
Tom

greenstar

GREENSTAR LTD

FASSAROE FACILITY, CO WICKLOW

PROPOSED PHASE 2 UPGRADING WORKS

DISCHARGE OF TRADE EFFLUENT

IE CONSULTING
CIVIL-WATER-ENVIRONMENTAL

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Green Road
Carlow

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VEARNCO & ASSOCIATES
CONSULTING ENGINEERS

Integrated Engineering Consulting
An Associate Company of VA Consulting Engineers & Geotechnical & Environmental Services Ltd

GES Limited

1 Introduction

Greenstar Ltd proposes to undertake upgrading works at their waste process and transfer facility at Fassaroe, Bray, Co Wicklow. These works are referred to as **'Phase 2 Upgrade Area'.**

The works will generally comprise of the construction of new concrete hardstanding areas, the refurbishment of existing concrete hardstanding areas and the construction of an upgraded drainage system to serve the new and refurbished hardstanding areas.

Surface water run-off from hardstanding areas within these type of waste handing and transfer facilities has the potential to contain elevated levels of BOD, COD and Suspended Solids, and hence the characterisation of the surface water run-off generated from these hardstanding areas is deemed a 'Trade Effluent' as opposed to a relatively clean surface water run-off.

As such, the surface water generated trade effluent from these types of facilities is typically not suitable for discharge to a surface watercourse without having been treated and the receiving watercourse having adequate assimilative capacity. Although the use of a Class 1 Bypass Separator for this type of trade effluent will remove most hydrocarbons, it will not reduce elevated levels of BOD, COD and Suspended Solids.

Other options of hardstanding surface water run-off disposal from the Phase 2 Upgrade Area have been investigated, including discharge to ground via a soakaway system, treatment via settlement and in conjunction with a constructed wetland system and mechanical treatment. Due to the large variation of volumes involved (dependant on rainfall amounts) it is not economically feasible or practicable to provide an on-site surface water treatment system that would reduce levels of BOD, COD and Suspended Solids to an acceptable level to permit discharge to surface water.

In consideration of the proposed Phase 2 Upgrade Area works to be undertaken at the Greenstar Fassaroe facility, it is envisaged that the most feasible means of disposal of surface water generated trade effluent is to the local authority sewerage system.

The characterisation and expected volumes of trade effluent that would be generated from the proposed Phase 2 Upgrade Area at the facility are summarised below.

Please note that it is not proposed to discharge any clean surface water run-off (roof areas, car-park areas etc.) to the foul sewerage system. All clean surface water run-off generated at the site is discharged directly to surface water or to an on-site rainwater harvesting system.

2 Trade Effluent Characterisation

The volume of trade effluent that may be generated from the proposed upgrading works will be dependent of rainfall amounts.

Figure 1 below illustrates the area of the proposed upgrading works, comprising the areas labelled as 'Phase 2 Upgrade Area' and contained within the blue dotted line. The total area of the proposed upgrading works is approximately 11,200m^2. Considering a permeability co-efficient of 0.9 for concrete hardstanding areas, the effective area of upgrading works is 10,080m^2.

Recent laboratory analysis of typical surface water run-off from existing hardstanding areas at this facility has determined the following average concentrations of COD, BOD and Suspended Solids:-

COD – 469 mg/l

BOD – 166 mg/l

Suspended Solids – 118 mg/l

Based on the above concentrations, the total daily volume of COD, BOD and Suspended Solids that would be generated in consideration of various daily rainfall amounts is summarised in *Tables 1-3* below:-

Parameter – COD				
Daily Rainfall Amount (mm)	*Daily Volume of Run-off (m^3)*	*Average Concentration of Run-Off (mg/l)*	*Average Concentration of Run-Off (Kg/m^3)*	*Total Daily Volume (kg)*
1.0	10.1	469	0.469	***4.7***
5.0	50.4	469	0.469	***23.6***
10.0	100.8	469	0.469	***47.3***
25.0	252.0	469	0.469	***118.2***
50.0	504.0	469	0.469	***236.4***

Table 1 – COD Concentration

Parameter – BOD				
Daily Rainfall Amount (mm)	Daily Volume of Run-off (m^3)	Average Concentration of Run-Off (mg/l)	Average Concentration of Run-Off (Kg/m^3)	Total Daily Volume (kg)
1.0	10.1	166	0.166	***1.7***
5.0	50.4	166	0.166	***8.4***
10.0	100.8	166	0.166	***16.7***
25.0	252.0	166	0.166	***41.8***
50.0	504.0	166	0.166	***83.7***

Table 2 – BOD Concentration

Parameter – Suspended Solids				
Daily Rainfall Amount (mm)	Daily Volume of Run-off (m^3)	Average Concentration of Run-Off (mg/l)	Average Concentration of Run-Off (Kg/m^3)	Total Daily Volume (kg)
1.0	10.1	118	0.118	***1.2***
5.0	50.4	118	0.118	***5.9***
10.0	100.8	118	0.118	***11.9***
25.0	252.0	118	0.118	***29.7***
50.0	504.0	118	0.118	***59.5***

Table 3 – Suspended Solids Concentration

3 Proposed Discharge To Local Authority Sewerage System.

The current EPA Waste Licence for the Greenstar Fassaroe facility permits a maximum daily discharge of 23m^3 to the local authority foul sewerage system. At present the majority of discharge to the local authority foul sewerage system comprises domestic type wastewater generated from on-site toilet and canteen facilities and trade effluent generated from within the on-site main waste transfer building.

In consideration of the proposed Phase 2 upgrading works as discussed above it is proposed to discharge trade effluent generated from external hardstanding yard areas to the local authority sewerage system at a maximum daily discharge volume of 100m^3, equating to a maximum daily discharge volume of COD, BOD and Suspended Solids of 47kg, 16Kg and 12kg respectively.

Please note, as discussed above this surface water run-off is characterised as a trade effluent and is not suitable for direct discharge to a receiving watercourse. Nor would it be economically feasible or practicable to provide an on-site treatment system. It is also not proposed to discharge any clean surface water run-off to the foul water sewerage system.

The total daily discharge volume to the local authority foul water sewerage system would therefore be 23m^3 (existing) + 100m^3 (proposed) = **123m^3**.

Although the current maximum licenced volume of discharge wastewater discharge from the facility is 23m^3, discharge flow records for the period December 2010 to April 2012 have recorded an average daily discharge flow of ~1.5m^3 over this 15 month period, and generally not exceeding 3.15m^3 in any one day. The actual daily total proposed discharge to the local authority sewerage system (existing & proposed) would in fact be somewhat less than 123m^3.

4 Surface Water Runoff Volumes in Excess of Proposed Maximum Daily Volume

It is acknowledged that the volume of surface water run-off, and hence trade effluent, generated from the proposed Phase 2 Upgraded area will be dependant on daily rainfall levels. The proposed maximum daily discharge volume of 100m^3 of trade effluent generally equates to a daily rainfall amount of 10mm. In order to adequately manage surface water / trade effluent volumes in excess of the proposed daily discharge volume it is proposed to provide an on-site surface water / trade effluent attenuation system. The attenuation system will be fitted with a hydraulic flow restrictor device which will limit outflow from the attenuation system to a maximum of 100m^3 per day.

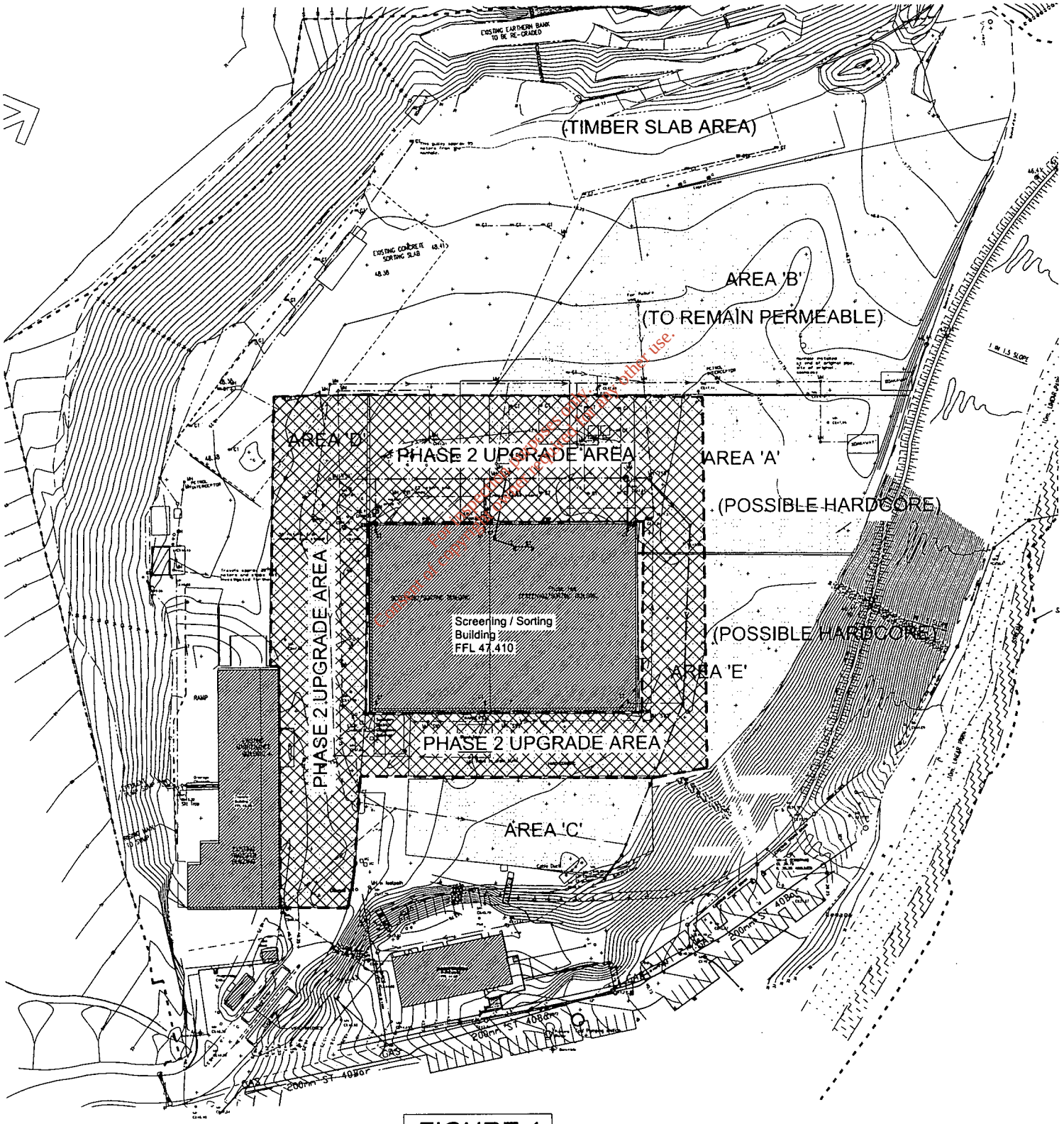

FIGURE 1