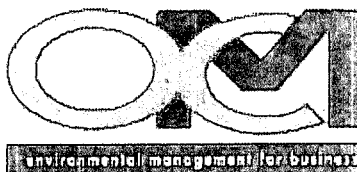


Primary House  
Burling Street  
Dublin



TEL: 01 432 1721  
FAX: 01 432 1722

Ms. Yvonne Furlong,  
Inspector,  
Office of Climate, Licensing & Resource Use,  
Environmental Protection Agency,  
Headquarters P.O. Box 3000,  
Johnstown Castle Estate,  
County Wexford

29<sup>th</sup> February 2008

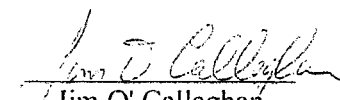
RE: Application for Waste Licence Ref. No. W0241-01 Greenstar Ltd., Clavass, Eniscorthy,  
County Wexford

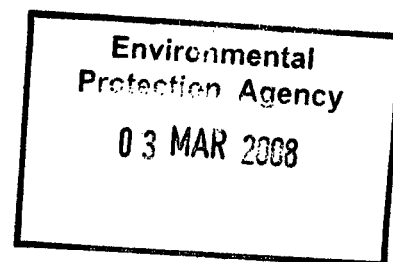
Dear Ms. Furlong,

On behalf of Greenstar Ltd., I enclose one original and two hard copies of responses to the Notices issued under Article 14 (2) (b) (ii) on the 8<sup>th</sup> February 2008 in relation to the application for a Waste Licence W0241-01. I also enclose two CD-ROM discs containing the response in searchable pdf format. The content of the electronic files is a true copy of the original.

If you have any queries, please call me.

Yours sincerely,

  
Jim O'Callaghan



0704819/JOC/MC

Encs.

c.c. Mr. Malcolm Dowling, Greenstar Ltd.

**Article 14(2)(b)(ii) Further Information**

**Particulars and Evidence For**

**Greenstar Ltd.**

**Waste Licence Application No.W0241-01**

**Article 12 & 13 Compliance**

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**Prepared For: -**

Greenstar Ltd.,  
Unit 6 Ballyogan Road,  
Ballyogan Business Park,  
Sandyford,  
Dublin 18.

**Prepared By: -**

O' Callaghan Moran & Associates,  
Granary House,  
Rutland Street,  
Cork.

**29<sup>th</sup> February 2008**

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## APPENDIX 1 – CD – ROM DRAWINGS

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# 1. INTRODUCTION

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This document presents the response by Greenstar Ltd., Unit 6 Ballyogan Road, Ballyogan Business Park, Sandyford, Dublin 18, to the Agency's Notice issued under Article 14(2)(b)(ii) of the Waste Management Licensing Regulations on the 8<sup>th</sup> February 2008, in relation to the application for a Waste Licence, Application Register No.W0241-01, for a non-hazardous materials recovery and transfer facility at Clavass, Enniscorthy, County Wexford.

Section 2 contains the responses to the Agency's requests. Section 3 contains the revised non-technical summary, which includes a summary of the information provided as part of this response. For ease of interpretation each of the requests are presented in italics followed by Greenstar's response.

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## 2. ARTICLE 12 COMPLIANCE REQUIREMENTS

---

1. *Ensure that all required information is included in the non-technical summary as detailed in Article 12(1)(u) of the Waste Management (Licensing) Regulations, S.I. 395 of 2004.*

A revised Non-Technical Summary is provided in Section 3.

2. *Clarify the route and final destination of storm water discharges from the site. In Greenstar's Article 14(2)(b)(ii) response dated 30/01/08, it is stated that 'surface water run-off from the roofs and paved areas will discharge to the existing 400mm storm sewer .... It is understood that this sewer ... connects to the municipal storm sewer. The municipal storm sewer discharges to the River Slaney at Island Road in Enniscorthy'. However, in a letter received from Wexford County Council dated 22/01/08 (please find attached), it is stated that 'there is no public storm water sewer in this area and no immediate plans for one'.*

At the time the licence application was lodged it was Greenstar's understanding that the storm water sewer, which serves the Commercial Park to the north, was connected to the Wexford County Council storm sewer. Following receipt of the Agency's Notice Greenstar met with Wexford County Council Engineers on the 22<sup>nd</sup> February 2008 to discuss the storm water drainage system. The Council Engineers confirmed that the storm water sewer serving the Commercial Park is not connected to the Council's storm sewer. The Council also confirmed that there is no public storm sewer in the vicinity of the site and that there are no immediate plans to provide one.

In the absence of access to the public storm sewer Greenstar proposes to discharge stormwater from the facility to ground via an on-site soakaway. The soakaway will likely be located in the south west of the licensed area. The precise location and size and design will be determined by a site characterisation study carried out in accordance with BRE 365. It is expected that the design will be completed by April 2008 and details will be submitted to the Agency for its consideration.

3. *Clarify the expected volume of wastewater to be generated on site. In your response take into account the total volume of wastewater generated due to building washdowns.*

The volume of wash water is estimated at 500 litres per 500 m<sup>2</sup> floor area per wash event. The only area of the floor that will actually be washed is where mixed waste is handled (approximately 1,600m<sup>2</sup>) and not the entire floor of the building. It is estimated that approximately 1,600 litres of wash water will be generated in each washdown.

It is likely that wash down will be carried out weekly and that the total volume of washwater generated annually will be approximately 83.2 m<sup>3</sup> (1.6m<sup>3</sup>x 52 events). The wheel wash will be a closed loop system and water will not discharge to the foul sewer. The wheel wash will be emptied as required and the contents sent off site for disposal at an off site waste water treatment plant.

4. *Submit information showing that there is adequate infrastructure in place to collect and convey the process wastewater generated on site to the: Local Authority wastewater treatment plant. It was noted on a site inspection carried out by the Agency (08/02/08) that the existing foul water pumping station due to be used by Greenstar was overflowing.*

A further inspection of the foul water pumping station by Greenstar, following the Agency's visit, identified that the pump was not of an adequate size to cope with the volume of foul water from the Commercial Park. Greenstar informed the owners of the Commercial Park of its concerns and they agreed to replace the pump with one that is fit for purpose. This will be completed by 14<sup>th</sup> March 2008.

At the meeting of the 22<sup>nd</sup> February with the Council Engineers, Greenstar also discussed the proposed foul water drainage system. The Council confirmed that Greenstar's proposals to connect to the municipal foul sewer were acceptable subject to confirmation over way leaves.

5. *Submit geo-referenced digital drawing files (e.g. AutoCAD files) in Irish Grid projection of the site boundary and overall site plan, including labelled emission, monitoring and sampling points. This data should be provided on a separate CD-Rom. A guidance document entitled "GIS Guidance Note on Facility Location" is available on the EPA website to assist with the formation of this CD (<http://www.epa.ie/downloads/forms/lic/ippc/>).*

Geo-referenced digital drawing files in Irish Grid projection of the site boundary and overall site plan, including labelled emission, monitoring and sampling points are included on a separate CD – ROM in Appendix 1.

---

### **3. NON TECHNICAL SUMMARY WASTE LICENCE APPLICATION**

---

This non-technical summary contains the information specified in Article 12 (1) (u) of the Waste Management (Licensing) Regulations, 2004 (S.I. No. 395 of 2004).

Articles 12 (1) (a) to (d)

Greenstar Ltd. (Greenstar) Unit 6 Ballyogan Road, Ballyogan Business Park, Sandyford, Dublin 18 is applying to the Environmental Protection Agency (EPA) for a Waste Licence to construct and operate a Materials Recovery and Transfer Facility (MRTF) at Clavass, Enniscorthy, County Wexford National Grid Reference E298250 N143520. Greenstar has applied to Wexford County Council for planning permission for the facility. Wexford County Council is also the relevant sanitary authority.

#### **Compliance with Requirements of the Waste Management Act 1996 to 2003**

Best Available Techniques (BAT) will be used to prevent/eliminate or, where this may be deemed not practicable, limit/abate/reduce emissions of environmental concern resulting from on-site recovery activities.

#### **Article 12 (1) (e) Nature of the Facility**

The proposed development involves the construction and operation of a materials recovery and transfer facility on a 1.5 ha site, 4 kilometres north of Enniscorthy, County Wexford. This will include a Main Building, where all waste processing will be carried out, an Administration Building, ESB substation, double weighbridge, banded fuels storage area and a vehicle wash. The facility will handle a maximum of 90,000 tonnes of source separated and mixed non-hazardous solid wastes. The waste types will include Household, Commercial & Industrial (C&I) and Construction & Demolition (C&D) waste. Operations will involve on-site waste sorting, compacting, baling and transfer off-site to recycling/treatment facilities and residual landfill.

The facility will form a very important part of the waste management infrastructure required in the South East Region to achieve European Union, national and regional objectives for waste treatment, recovery and recycling and the diversion of waste, including biodegradable waste, from landfill.

## **Article 12 (1) (f) Classes of Activity**

The relevant activities as per the Fourth Schedule of the Waste Management Acts 1996 – 2005 will be as follows: -

### **Third Schedule – Waste Disposal Activities**

- 12: ‘Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule’.
- 11: ‘Blending or mixture prior to 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’.

### **Fourth Schedule – Waste Recovery Activities**

*Principal Activity:*

- 2: ‘Recycling or reclamation of organic substances, which are not used as solvents (including composting and other biological processes)’. (P)
- 3: ‘Recycling or reclamation of metals and metal compounds’.
- 4: ‘Recycling or reclamation of other inorganic materials’.
- 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’.

## **Article 12 (1) (g) Quantity and Nature of the Waste to be Recovered or Disposed**

A maximum of 90,000 tonnes per annum will be processed. Total waste inputs are shown on Table 3.1. The specific European Waste Catalogue codes which will be accepted are unknown at this stage but will be reported to the Agency in future Annual Environmental Reports for the facility.

**Table 3.1** Waste Types and Amounts

<b>Waste Type</b>	<b>Maximum Capacity*</b>
C & I	30,000
Household	30,000
C & D	30,000
<b>Total</b>	<b>90,000</b>

\*Subject to Market Conditions



**Article 12 (1) (h) Raw and Ancillary Materials, Substances, Preparations, Fuels & Energy used on the Site**

Raw materials and energy that will be used include: -

- Diesel for on-site equipment,
- Hydraulic oil and engine oil for use in on-site equipment,
- Electricity,
- Water.

**Article 12 (1) (i) Plant, Methods, Processes, Abatement, Recovery, Treatment and Operating Procedures**

The estimated type and number of machinery items that will be used at the facility on a regular basis includes: -

Type of Plant	MRTF Building
Front Loading Shovel	2
Trommel or similar mechanical process	1/2
Baler	1
Air Compressor	1
Grabs	1
Shredder	1
Conveyor	2
Bag Opener	1
Forklift	1
Yardsweeper	1
Odour abatement system	1

**Waste Processing**

Initially, the majority of the waste will be delivered to the facility by Greenstar collection vehicles. Waste will also be delivered by third parties, including permitted waste collectors. Wastes will not be accepted from individual householders.

### *Household Waste*

Household waste will comprise source separated dry recyclables and mixed residual wastes. It will be delivered to the facility in enclosed refuse trucks and will be off loaded in a designated area inside the Main Building, where it will be inspected to ensure it is suitable for processing i.e. it does not contain any hazardous or other unsuitable material.

The source separated material will be moved to the baling units or loading bays where it will be baled, or compacted before being loaded onto trailers for removal off-site. The mixed waste containing putrescible (e.g. food stuff) waste will only be handled in area provided with an odour control system. The waste may be mechanically processed to remove potential recyclable materials including metals, paper, plastics, compostable materials and materials that are suitable for energy recovery. The recovered metals, paper and plastic will be stored on-site pending removal to off-site recovery/recycling facilities. The compostable materials will be removed off-site for composting at a permitted/licensed facility.

### *C & I Waste*

The C & I waste will comprise source separated and mixed residual waste. The source separated materials will contain larger fraction of cardboard, plastic and cans than the household dry recyclables. Any waste containing putrescible material will be handled with the mixed household waste in the area provide with odour control.

The source separated material will be baled, or compacted before being loaded onto trailers for removal off-site. The mixed waste will be mechanically treated to remove potential recyclable materials. The recovered non compostable materials will be stored on-site pending removal to off-site recovery/recycling facilities. The compostable materials will be removed off-site for composting at a permitted/licensed facility.

### *C & D Waste*

C&D Waste will be off-loaded in the designated area inside the Main Building for inspection. Any unsuitable (contaminated) materials will be removed to a waste quarantine area. Large items of wood, metal or plastic will be removed using a mechanical grab or trommel and brought to the appropriate on-site handling/storage area. The remaining material will be screened. The screened material will be sent off-site for recycling.

## **Article 12 (1) (j) Information Related to Section 40(4) (a) to (g) of the Waste Management Act**

Emissions from the facility, including noise, will not result in the contravention of any relevant standard or emission limit prescribed under enactment. The proposed development is consistent with the Joint Waste Management Plan for the South East Region 2006 – 2011.

The proposed activities are based on best management practice and take into consideration the BAT Guidance Note for the Waste Sector: Waste Transfer Activities published by the EPA. The facility operations, when carried out in accordance with licence conditions, will not cause environmental pollution.

The Facility Manager and Deputy will complete the FAS Waste Management Training Programme, or equivalent agreed with the Agency, prior to the start of waste acceptance.

Energy will be used efficiently in the carrying out of proposed activities. Necessary measures will be taken to prevent accidents and to ensure limited consequences for the environment. Necessary measures will be taken upon the permanent cessation of the activity to avoid any risk of environmental pollution and to return the site to a satisfactory state.

## **Article 12 (1) (k) Source, Location, Nature, Composition, Quantity, Level and Rate of Emissions**

### *Surface Water / Groundwater*

The site is in the catchment of the River Slaney, which is to the north and east of the site and approximately 1.5 km from the site boundary. There are no surface water drains on the site. Surface water from rainfall on the roof and open yards will be directed to an on-site soakaway. Silt traps and an oil interceptor will be provided to prevent sediment and any oils that may occur as a result of accidental spills, from entering the drainage system. The rate of water flow from the site will be controlled by means of a valve and holding tank to ensure that the flows do not affect the integrity of the soakaway.

The water from the sinks and toilets will go to the new foul sewer system and will be pumped to the Wexford County Council's sewer. Wash water from cleaning the floor in the main building, and rainwater from the refuelling area will also go to the foul water sewer. The vehicle wash will be a closed loop system and wastewater will be contained within the system. This water will be removed from the site as needed and sent for treatment.

The soil comprises a shale till (clay) ranging from 3 to 10 metres deep. The underlying bedrock is rhyolitic volcanics and grey and brown slates. The subsoils are not significantly water bearing. The bedrock is classified as a Regionally Important Aquifer and its vulnerability to pollution ranges from high to low. There will be no direct or indirect routine emission to ground or groundwater.

### *Dust/Odours/Exhaust Emissions*

Air quality surveys were carried out to establish the current conditions. The surveys indicate that air quality at the site is generally good. The proposed development will be a source of emissions to air linked traffic and the waste activities during the operational hours. These emissions include dusts, vehicle exhaust gases and odours.

### *Noise*

An environmental noise survey was carried out to establish the existing noise levels at the site. The survey included measurements at three locations (N1, N2 and N3) within the site boundary and at two off site locations (NSL1 and NSL2). The off-site locations were near the closest houses to the site, as these were considered to be the locations most sensitive to noise from the facility. The dominant source of noise is traffic on the N11. The lowest levels were recorded at NSL1, where shielding from the N11 is provided by the buildings in the Commercial Park. The facility will be a source of noise emissions from the waste processing plant used internally, building services plant, waste transport vehicles and external movement of facility vehicles e.g. road sweeper during the operational hours.

## **Article 12 (1) (l) Details and Assessment of the Effects of Emissions on the Environment & Mitigation Measures**

### *Groundwater / Surface water*

When the site is operational, there will be no direct long-term emissions to groundwater. Rainwater run-off from the facility will be discharged to an on-site soakaway. The provision of extensive paved areas provided with surface water collection drains, and secondary containment of the oil storage area minimises the potential for short term direct or indirect discharges to ground or groundwater, including dangerous substances, in the event of spill or leak.

### *Dust/Odours/Exhaust Gases*

Dust emissions will not be a significant problem. All waste processing that can produce dusts (e.g. screening and shredding of C&D waste) will be carried out inside the main building. Dust suppression systems may be provided on the individual plant items. The facility access roads, manoeuvring and parking areas will be paved and a road sweeper will be used to keep the roads clean.

Some of the waste will contain odorous materials, such as foodstuffs. This type of waste will only be handled in the Mixed Waste Area of the Building. This area will be sealed off from the remainder of the building and will be provided with an air collection and odour treatment system. The system, which will be similar to ones already successfully operating at other waste recovery facilities, will ensure that odours from the facility do not cause a nuisance.

The EPA's approval of the system design will be obtained before it is installed. Computer modelling indicates that the facility will not have any significant odour impact. Computer modelling has indicated that the vehicle exhaust gases from traffic using the facility will not be significant and mitigation measures are not required.

### *Noise*

The noise survey data was used, along with information on the noise levels from the equipment that will be used at the facility, to predict future noise levels both within the site boundary and the closest houses. The development will not impact on the closest house to the north west. Due to the doors at the southern side of the main building, there is the potential that noise levels could exceed recommended night time limits at the house to the south. To prevent this a 4m high noise barrier will be erected along the southern site boundary.

## **Article 12 (1) (m) Monitoring and Sampling Points & Consequences of such emissions**

### *Dust*

Dust will be monitored at three locations on the property boundary annually.

### *Noise*

Noise will be monitored annually at the nearest noise sensitive locations.

### *Odour*

Daily odour patrols around the site perimeter will be carried out.

### *Surface Water*

The surface water discharge from the oil water separator will be monitored on an annual basis. As the discharge will be intermittent and linked to rainfall events, grab samples will be collected.

### *Waste Water*

The waste water discharge from the floor wash downs and refuelling area will be sampled annually.

### *Groundwater*

Groundwater beneath the facility both upgradient and downgradient of site activities will be monitored on an annual basis.

The effects of the emissions are discussed in Article 12 (1) (l) above.

### **Article 12 (1) (n) Prevention and Recovery of Waste**

Waste oils, and batteries generated during plant and vehicle maintenance will be collected and sent off-site for recovery. A closed loop vehicle wash will be used to minimise the volumes of wastewater generated.

### **Article 12 (1) (o) Off-site Treatment or Disposal of Solid or Liquid Wastes**

Sanitary and sink wastewater from the site offices, floor wash water from the Main Building, and run-off from the refuelling area will be discharged to the facility's foul drainage system. This drainage system will connect to the Council's foul sewer. Washwater from the wheel wash will be sent for treatment at an off-site wastewater treatment plant.

### **Article 12 (1) (p) Emergency Procedures to Prevent Unexpected Emissions**

Before waste is accepted at the site Greenstar will prepare an Emergency Response Procedure that addresses all contingencies that might arise including fire and oil spills. The Procedure will ensure a rapid response to any incident by trained staff and minimise the impact on the environment.

### **Article 12 (1) (q) Closure, Restoration and Aftercare of the Site**

The majority of the site will be either paved or occupied by buildings, with minor landscape works at the site boundary. It is not anticipated that the waste processing activities will cease in the medium to long term. In the unlikely event that the facility shuts down it will be

decommissioned in accordance with the Decommissioning Plan agreed with the Agency. Post closure measures for the monitoring and maintenance of the building and the restored areas will also be as agreed with the EPA.

**Article 12 (1) (s) Control of Major Accident Hazards involving Dangerous Substances Regulations**

The facility is not subject to these Regulations.

**Article 12 (1) (t) Emissions to Aquifer**

The activity will not result in emissions of List I and II substances to an aquifer.

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## 4. ARTICLE 13 COMPLIANCE

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*1 Where necessary update the EIS documents, having regard to the information requested under “Article 12 Compliance Requirements” above.*

The information provided does not significantly impinge on the EIS.

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## **APPENDIX 1**

### **CD-ROM Drawings**

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**O'Callaghan Moran & Associates – Waste Licence Application on behalf of Greenstar Ltd. Application Register No.W0241-01, for a non-hazardous materials recovery and transfer facility at Clavass, Enniscorthy, County Wexford.**

**Emission Point data – Greenstar Ltd. Enniscorthy – W0241-01**

<b>Pt Code</b>	<b>Pt Type</b>	<b>Easting</b>	<b>Northing</b>	<b>Verified</b>
SW1	SW	298207	143497	N
SE1	SE	298194	143536	N
SE2	SE	298222	143499	N

**Sampling Point Data - Greenstar Ltd. Enniscorthy – W0241-01**

<b>Pt Code</b>	<b>Pt Type</b>	<b>Easting</b>	<b>Northing</b>	<b>Verified</b>
SW1	M	298207	143497	N
SE1	M	298194	143536	N
SE2	M	298222	143499	N
ANSL1	M	298341	143637	N
ANSL2	M	298328	143403	N
AN1	M	298235	143583	N
AN2	M	298266	143491	N
AD1	M	298237	143583	N
AD2	M	298263	143491	N
AD3	M	298322	143543	N
AGW1	M	298317	143579	N
AGW2	M	298191	143521	N



NOTES

LEGEND: PROPOSED MONITORING LOCATIONS

- Denotes Sewer Monitoring Location
- Denotes surface water monitoring locations
- Denotes noise monitoring point
- ⊠ Denotes dust monitoring point
- Denotes Groundwater monitoring point

#	I.D.	EASTING	NORTHING
1	ANSL1	298341	143637
2	ANSL2	298328	143403
3	AN1	298235	143583
4	AN2	298266	143491
5	SE1	298194	143536
6	SE2	298222	143499
7	SW1	298207	143497
8	AD1	298237	143583
9	AD2	298263	143491
10	AD3	298322	143543
11	AGW1	298317	143579
12	AGW2	298191	143521

C	18/02/08	ISSUE	MW	JOC	++
REV	DATE	DESCRIPTION	DRN	CHKD	APP

**OC**  
O'Callaghan Moran & Associates.  
Granary House, Rutland Street,  
Cork, Ireland.  
Tel. (021) 4321521 Fax. (021) 4321522  
email : ocm@indigo.ie

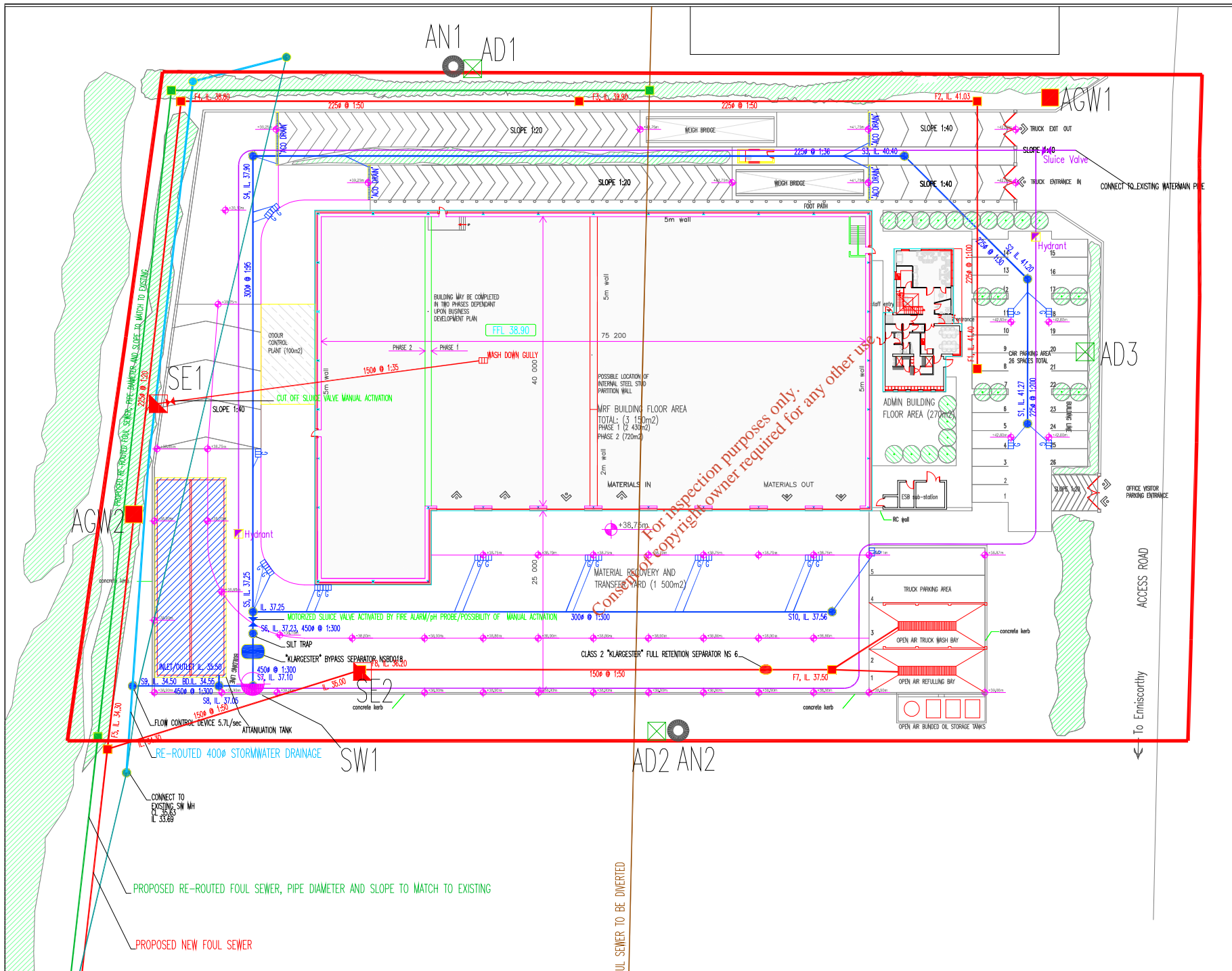
This drawing is the property of O'Callaghan Moran & Associates and shall not be used, reproduced or disclosed to anyone without the prior written permission of O'Callaghan Moran & Associates and shall be returned upon request.

CLIENT  
**GREENSTAR LTD**

TITLE  
**MONITORING & EMISSION LOCATIONS  
ENNISCORTHY W0241-01**


SCALE	DRAWING No.	REV.
1:1000 A3	F1	C

DOS Filename : \*\*\*\*\*



NOTES

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A	18/02/08	ISSUE	MW	JOC	++
REV	DATE	DESCRIPTION	DRN	CHKD	APP
 O'Callaghan Moran & Associates. Granary House, Rutland Street, Cork, Ireland. Tel. (021) 4321521 Fax. (021) 4321522 email: ocm@indigo.ie					
This drawing is the property of O'Callaghan Moran & Associates and shall not be used, reproduced or disclosed to anyone without the prior written permission of O'Callaghan Moran & Associates and shall be returned upon request.					
CLIENT					
GREENSTAR LTD					
TITLE					
SITE BOUNDARY & PLAN ENNISCORTHY W0241-01					
SCALE	DRAWING No.				REV.
1:500 A3	D1				A