Una

BORD NA MÓNA

ENVIRONMENTAL PROTECTION AGENCY
19 MAY 2011

F.A.O. Ms. Una O' Callaghan
EPA
Regional Inspectorate,
Inniscara,
Co. Cork.
06/05/11

Re: W0253-01 Clean (Irl) Refuse & Recycling Ltd.

Dear Una,

Following your verbal requests to Clean (Irl) Refuse & Recycling Ltd. on 8th April 2011 and subsequently to myself last week, we will to submit responses to your requests. The items to be addressed were:

1. Comment on how Clean (Irl) Refuse & Recycling Ltd. will be storing RDF at the port?
2. Provide a new map of the site indicating where glass will be stored at the designated glass bunkers following Condition 3 of the Second Schedule of Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010 which indicated the location must be transferred from the north of the site to the south of site to mitigate noise emissions from the tipping activity.
3. Confirm/alter the final waste tonnage figures are those that will be stipulated in the Waste Licence including Hazardous waste & biostabilisation
4. Provide EWC codes for Wastes
5. Verify Opening hours stipulated in the Second Schedule of Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010
6. Provide a copy of the appropriate assessment
7. Provide a copy of the odour plume map
8. Provide site drawing of site activities and monitoring location only excluding services etc. to simplify the site drawing
9. Comment on the future use of the current wet waste processing building at the east perimeter of the site and when the activity will be transferred to the new wet waste processing building at the southwest of the site as per Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010
10. Indicate on the site layout plan where hazardous waste will be stored.

On behalf of our Client please find enclosed 2 no. hardcopies of the response document; appropriate assessment, odour maps & drawings and 1 no. CD-ROM with same. Please don't hesitate in contacting me.

Yours Sincerely,

Ms. Helen Behan

Environmental Consultant
Technical Services
Bord na Mona Plc
Main Street,
Newbridge,
Co. Kildare.
045 439376

Responses are provided below on the Agency's queries.

1. Comment on how Clean (Irl) Refuse & Recycling Ltd. will be storing RDF at the port?

   Clean (Irl) Refuse & Recycling Ltd does not intend to store RDF at the Foynes Port. The RDF will be stored at the site as previously stated and when a container truck has been filled, the truck will travel to Foynes where the baled RDF material will be directly reloaded onto the ship for export.

2. Provide a new map of the site indicating where glass will be stored at the designated glass bunkers following Condition 3 of the Second Schedule of Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010 which indicated the location must be transferred from the north of the site to the south of site to mitigate noise emissions from the tipping activity.

   Drawing C(IRL)WL-35 shows the new location of the proposed glass bunkers at the south end of the site which will be located in the drop down skip and processing shed, indicated by waste activity 14 on the site layout.

3. Confirm/alter the final waste tonnage figures are those that will be stipulated in the Waste Licence including Hazardous waste & biostabilisation

   The waste tonnages for the above as defined in the Waste Licence Application are final and will not be modified and remain at 62,000 tpa non-hazardous and 2,600 tpa hazardous waste.

4. Provide EWC codes for wastes

   Please see **Attachment 1** for the list of the relevant EWC codes for the Waste Licence.

5. Verify Opening hours stipulated in the Second Schedule of Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010

   As per Condition 2 of the Second Schedule of Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010:

   (a) Operation hours of the proposed facility shall be from 7am to 10pm, Monday to Saturday; and 8am to 6pm Sundays only
   (b) All works to end of life vehicles shall be carried out within the proposed workshop only
   (c) No direct sale of products shall take place on this site to visiting members of the public

   For the Agency's information: As per Condition 7 of the Second Schedule of Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010:

   (a) No work shall take place outside the hours of 07.30 to 18.20 Monday to Saturday. Deviation from these times will only be allowed in exceptional circumstance where prior written approval has been received from the planning authority.

6. Provide a copy of the appropriate assessment

See **Attachment 2**.

7. Provide a copy of the odour plume map

   See **Attachment 3.**

8. Provide site drawing of site activities and monitoring location only excluding services etc. to simplify the site drawing

   Drawing C(IRL)WL-36 shows the activities and monitoring locations only and also the new location of the proposed glass bunkers at the south end of the site.

9. Comment on the future use of the current wet waste processing building at the east perimeter of the site and when the activity will be transferred to the new wet waste processing building at the southwest of the site as per Planning Permission P09/1270 Granted by Clare Co. Co. 30th July 2010

   The future use of the existing wet waste building will involve storage for plastic wrapped baled dry recyclables.

   Clean (Irl) Refuse & Recycling Ltd are planning to commence the construction of the new wet waste building at the southwest of the site in the next 5 weeks (by end of mid June 2011).

   The target completion time for the transfer of wet waste processing to the newly constructed building is Q4 2011.

   The current wet waste processing will continue in the existing location at the site for until the transfer in Q4 2011 to the new buildings. Currently processing in the wet waste buildings involves waste from the pre segregated 3 bin system.

10. The Hazardous waste storage areas will be the designated area at the new Engineering Workshop and in the existing building. The hazardous waste arising from the depollution of the End of Life vehicles such as oils, lubricants will be stored in an indoor bunded area in the designated area in the Engineering Workshop. Hazardous waste arising included fluorescent tubes, WEE and lead-acid batteries will be stored in suitable containers indoors in a designated area in the vicinity of the drop down skip processing area.

    Drawing C(IRL)WL-35 shows the areas where hazardous waste will be stored under the licence. This activity indicated by number 15 on the site layout map.

02 WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING

02 01 wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing

02 01 04 waste plastics (except packaging)
02 01 07 waste from forestry
02 01 09 agrochemical waste other than those mentioned in 02 01 08
02 01 10 waste metal
02 01 99 wastes not otherwise specified

02 06 wastes from the baking and confectionery industry

02 06 01 materials unsuitable for consumption or processing

03 WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD

03 01 wastes from wood processing and the production of panels and furniture

03 01 01 waste bark and cork
03 01 05 sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in

08 WASTES FORM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS,) ADHESIVES, SEALANTS AND PRINTING INKS

08 01 wastes from MFSU and removal of paint and varnish

08 01 11* waste paint and varnish containing organic solvents or other dangerous substances
08 01 12 waste paint and varnish other than those mentioned in 08 01 11
08 01 17* wastes from paint or varnish removal containing organic solvents or other dangerous substances
08 01 21* waste paint or varnish remover
08 01 99 wastes not otherwise specified

10 WASTES FROM THERMAL PROCESSES

10 01 wastes from power stations and other combustion plants (except 19)

10 01 01 bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02 coal fly ash
10 01 03 fly ash from peat and untreated wood

10 10 wastes from casting of non-ferrous pieces

10 10 08 casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07

11 WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY

11 01 wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)

11 01 10 sludges and filter cakes other than those mentioned in 11 01 09

12 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS

12 01 wastes from shaping and physical and mechanical surface treatment of metals and plastics

12 01 01 ferrous metal filings and turnings
12 01 02 ferrous metal dust and particles
12 01 03 non-ferrous metal filings and turnings
12 01 04 non-ferrous metal dust and particles
12 01 05 plastics shavings and turnings
12 01 13 welding wastes
12 01 21 spent grinding bodies and grinding materials other than those mentioned in 12 01 20
12 01 99 wastes not otherwise specified

13 OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)

13 02 waste engine, gear and lubricating oils

13 02 04* mineral-based chlorinated engine, gear and lubricating oils
13 02 05* mineral-based non-chlorinated engine, gear and lubricating oils
13 02 06* synthetic engine, gear and lubricating oils
13 02 07* readily biodegradable engine, gear and lubricating oils
13 02 08* other engine, gear and lubricating oils

13 07 wastes of liquid fuels

13 07 01* fuel oil and diesel
13 07 02* petrol
13 07 03* other fuels (including mixtures)

15 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED

15 01 packaging (including separately collected municipal packaging waste)

15 01 01 paper and cardboard packaging
15 01 02 plastic packaging
15 01 03 wooden packaging
15 01 04 metallic packaging
15 01 05 composite packaging
15 01 06 mixed packaging
15 01 07 glass packaging
15 01 09 textile packaging

15 02 absorbents, filter materials, wiping cloths and protective clothing

15 02 02* absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances

15 02 03 absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02

16 WASTES NOT OTHERWISE SPECIFIED IN THE LIST

16 01 end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)

16 01 03 end-of-life tyres
16 01 04* end-of-life vehicles
16 01 06 end-of-life vehicles, containing neither liquids nor other hazardous components
16 01 07* oil filters
16 01 08* components containing mercury
16 01 09* components containing PCBs
16 01 10* explosive components (for example air bags)
16 01 11* brake pads containing asbestos
16 01 12 brake pads other than those mentioned in 16 01 11
16 01 13* brake fluids
16 01 14* antifreeze fluids containing dangerous substances
16 01 15 antifreeze fluids other than those mentioned in 16 01 14
16 01 17 ferrous metal
16 01 18 non-ferrous metal
16 01 19 plastic
16 01 20 glass
16 01 22 components not otherwise specified
16 01 99 wastes not otherwise specified

16 02 wastes from electrical and electronic equipment

16 02 11* discarded equipment containing chlorofluorocarbons, HCFC, HFC

16 02 13* discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12
16 02 14 discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16 components removed from discarded equipment other than those mentioned in 16 02 15

16 03 off-specification batches and unused products

16 03 03* inorganic wastes containing dangerous substances
16 03 04 inorganic wastes other than those mentioned in 16 03 03
16 03 05* organic wastes containing dangerous substances
16 03 06 organic wastes other than those mentioned in 16 03 05

16 05 gases in pressure containers and discarded chemicals
16 05 05 gases in pressure containers other than those mentioned in 16 05 04

16 06 batteries and accumulators
16 06 01* lead batteries
16 06 02* Ni-Cd batteries
16 06 03* mercury-containing batteries
16 06 04 alkaline batteries (except 16 06 03)
16 06 05 other batteries and accumulators

16 07 wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 08* wastes containing oil

16 08 spent catalysts
16 08 01 spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 03 spent catalysts containing transition metals or transition metal compounds not otherwise specified

17 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)

17 01 concrete, bricks, tiles and ceramics

17 01 01 concrete
17 01 02 bricks
17 01 03 tiles and ceramics
17 01 06* mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
17 01 07 mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06

17 02 wood, glass and plastic

17 02 01 wood
17 02 02 glass
17 02 03 plastic

17 03 bituminous mixtures, coal tar and tarred products

17 03 01* bituminous mixtures containing coal tar
17 03 02 bituminous mixtures containing other than those mentioned in 17 03 01

17 04 metals (including their alloys)

17 04 01 copper, bronze, brass
17 04 02 aluminium
17 04 03 lead
17 04 04 zinc
17 04 05 iron and steel
17 04 06 tin
17 04 07 mixed metals
17 04 11 cables other than those mentioned in 17 04 10

17 05 soil (including excavated soil from contaminated sites), stones and dredging spoil

17 05 03* soil and stones containing dangerous substances
17 05 04 soil and stones other than those mentioned in 17 05 03

17 06 insulation materials and asbestos-containing construction materials

17 06 01* insulation materials containing asbestos
17 06 03* other insulation materials consisting of or containing dangerous substances
17 06 04 insulation materials other than those mentioned in 17 06 01 and 17 06 03

17 06 05* construction materials containing asbestos (18)

17 08 gypsum-based construction material

17 08 01* gypsum-based construction materials contaminated with dangerous substances
17 08 02 gypsum-based construction materials other than those mentioned in 17 08 01

17 09 other construction and demolition waste

17 09 04 mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03

18 WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)

18 01 wastes from natal care, diagnosis, treatment or prevention of disease in humans

18 01 01 sharps (except 18 01 03)
18 01 04 Waste whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)

19 WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE

19 01 wastes from incineration or pyrolysis of waste

19 01 02 ferrous materials removed from bottom ash
19 01 12 bottom ash and slag other than those mentioned in 19 01 11
19 01 14 fly ash other than those mentioned in 19 01 13

19 02 wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)

19 02 06 sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 99 wastes not otherwise specified

19 08 wastes from waste water treatment plants not otherwise specified

19 08 01 screenings
19 08 02 waste from desanding
19 08 05 sludges from treatment of urban waste water
19 08 09 grease and oil mixture from oil/water separation containing only edible oil and fats

19 09 wastes from the preparation of water intended for human consumption or water for industrial use

19 09 01 solid waste from primary filtration and screenings
19 09 02 sludges from water clarification
19 09 99 wastes not otherwise specified

19 12 wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

19 12 01 paper and cardboard
19 12 02 ferrous metal
19 12 03 non-ferrous metal
19 12 04 plastic and rubber
19 12 05 glass
19 12 07 wood other than that mentioned in 19 12 06
19 12 08 textiles
19 12 09 minerals (for example sand, stones)
19 12 10 combustible waste (refuse derived fuel)
19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

19 13 wastes from soil and groundwater remediation

19 13 02 solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04 sludges from soil remediation other than those mentioned in 19 13 03
19 13 06 sludges from groundwater remediation other than those mentioned in 19 13 05

20 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS

20 01 separately collected fractions (except 15 01)

20 01 01 paper and cardboard
20 01 02 glass
20 01 08 biodegradable kitchen and canteen waste
20 01 10 clothes
20 01 11 textiles
20 01 21* fluorescent tubes and other mercury-containing waste
20 01 23* discarded equipment containing chlorofluorocarbons
20 01 25 edible oil and fat
20 01 26* oil and fat other than those mentioned in 20 01 25
20 01 27* paint, inks, adhesives and resins containing dangerous substances
20 01 28 paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 33* batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 34 batteries and accumulators other than those mentioned in 20 01 33
20 01 35* discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (21)
20 01 36 discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 37* wood containing dangerous substances
20 01 38 wood other than that mentioned in 20 01 37
20 01 39 plastics
20 01 40 metals
20 01 41 wastes from chimney sweeping
20 01 99 other fractions not otherwise specified

20 02 garden and park wastes (including cemetery waste)

20 02 01 biodegradable waste
20 02 02 soil and stones
20 02 03 other non-biodegradable wastes

20 03 other municipal wastes

20 03 01 mixed municipal waste
20 03 02 waste from markets
20 03 03 street-cleaning residues
20 03 04 septic tank sludge
20 03 06 waste from sewage cleaning
20 03 07 bulky waste
20 03 99 municipal wastes not otherwise specified

HABITATS DIRECTIVE ASSESSMENT

Stage 1: Screening

Waste Transfer Station At Ballinagun West, Cree, Co. Clare

4th June 2010

For further information contact:
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NATURA ENVIRONMENTAL CONSULTANTS

SUMMARY

Natura Environmental Consultants Ltd. were commissioned by Bord na Móna to carry out a Habitats Directive Assessment: Stage 1 Screening for the proposed upgrade of a waste transfer station owned by Clean (Irl) Refuse & Recycling Ltd, Cree, Co. Clare as requested by Clare County Council. The development of the site will allow the facility to expand the business to include new waste processing methods and increase the current tonnes per annum from 21,000 tonnes to 64,600 tonnes . The proposed works entail the construction of a biostabiliation plant with adjacent biofilter. The biostabilisation plant will house a CHP engine which will utilise biogas to generate electricity with potential to feed into the national grid. Extensions to the existing processing buildings, relocation of the glass bunkers, installation of diesel storage bunded unit, and the creation of End of Life Vehicle unit will be secondary in terms of the scale of the development.

The site is located approximately 3.5 km east of the Natura 2000 site comprising of Carrowmore Dunes Special Area of Conservation (SAC). Carrowmore Dunes are situated on the south-western coast of County Clare, between Milltown Malbay and Kilkee, and extend from Carrowmore Point to Doonbeg Bay. The site is an SAC selected for four habitats that are listed on Annex I of the EU Habitats Directive and for *Vertigo angustior*, a species of snail that is listed on Annex II of the directive.

The waste transfer site is located a significant distance from Carrowmore Dunes. The site has indirect hydrological links to the Natura 2000 site via the Skivileen River/Creegh River. The river enters Doughmore Bay at Rinnagonnaght Strand at the southern edge of the dune system. The river discharges into an area characterised by intertidal reef habitat (Annex I) and intertidal sandflats. There are no links to the dune habitats or the protected snail species.

Contamination of surface water during construction arising from materials used on the site or by sediment is not considered to be a likely impact, as appropriate measures will be taken during construction in accordance with best practice to prevent run-off or contamination of adjacent waters. The indirect hydrological link to the site further buffers the Natura 2000 site from potential contaminants.

The potential for a contamination event during the operational phase is considered to be unlikely due to the closed nature of the facility and does not represent a likely significant impact.

It has been concluded that there are no likely significant impacts on the qualifying interests of the designated sites or the integrity of the sites arising from the proposed development. Hence, a Stage 2 is not required.

HABITATS DIRECTIVE ASSESSMENT (HDA)

Stage 1: SCREENING MATRIX FOR THE PROPOSED DEVELOPMENT OF A WASTE TRANSFER STATION AT BALLINAGUN, CREE, CO. CLARE WITH REGARD TO POTENTIAL IMPACTS IN CAROWMORE DUNES cSAC NATURA 2000 SITE (candidate Special Conservation Area) * .

**(Following Article 6 (3) of the European Union Habitats Directive (92/43/EEC))

Description of the project or plan	
Location	The site for the proposed development is located in the town land of Ballinagun West, approximately 1.4km southwest of Cree, Co. Clare. The site occupies a total area of c.3.0ha. The site is wholly owned by Clean (Irl) Refuse & Recycling Ltd. The site is currently occupied by the existing waste processing buildings, which will not be altered as part of this development. The site is located within a predominantly rural environment with agricultural lands and a number of residential properties located along the roadways. The entrance is located to the north of the site on the L-6108.
Distance from designated site	Carrowmore Dunes SAC is located c. 3.5km west of the proposed development. The proposed development is within the catchment of the Creegh River which is a tributary of the Skivileen River which flows to sea at the southern end of the Carrowmore Dune system.
Brief Description of the project or plan	The site has operated as a waste transfer station by Clean (Irl) Refuse & Recycling Ltd since 1984. The development of the site will allow the facility to expand the business to include new waste processing methods and increase the current tonnes per annum from 21,000 tonnes to 64,600 tonnes. The most significant development of the site will be localised to the most southerly section of the site where it is proposed to build a biostabiliation plant with adjacent biofilter. The Biostabilisation plant will house a CHP engine which will utilise biogas to generate electricity with potential to feed into the national grid. Extensions to the existing processing buildings, relocation of the glass bunkers, installation of diesel storage bunded unit, and the creation of End of Life Vehicle unit will be secondary in terms of the scale of the development. The proposed infrastructure development will include: • Construction of a biostabilisation Plant (dry fermentation and in vessel composting tunnels) with adjacent biofilter and • Construction of biofilter and Fabric Roof • Construction of CHP Plant • Extension to existing processing buildings • Relocation of glass bunkers • Provision to End of Life Vehicle unit • Relocation of existing diesel tank bunded storage area • Truck wash area • Wheel wash • Hardstanding skip storage area The introduction of new waste processes/activities which will include: • Biostabilisation of source segregated brown waste and organic fines from MSW (municipal solid waste) using mechanical separation technique • Utilisation of Biogas from dry fermentation process in a CHP Engine

	to provide heat and electricity • End of Life Vehicle processing • Hazardous waste acceptance and storage • Storage of RDF (Refuse Derived Fuel) • Truck wash • Wheel wash The waste types proposed include Brown Bin Waste (compostable), Dry Recyclables, Municipal Soild Waste (MSW), Construction and Demolition Waste (including timber waste), wet waste and hazardous waste, which will mainly include hazardous components from the depollution of End of Life Vehicles, waste paints/inks, asbestos, WEEE etc. The facility will operate under the conditions of an EPA Waste Licence. All domestic wastewater from the site will continue to be treated from the on-site wastewater treatment plant. On-going monitoring of the treated effluent as part of the conditions of the waste permit (and subsequently the Waste Licence) will ensure the discharges to ground will not have a negative impact on groundwaters. All potentially polluting substances (such as hydrocarbons) will be/are stored in properly bunded areas in accordance with best engineering standards and environmental guidelines. Waste accepted and processed through the facility will be/is carried out within designated areas. Any leachate runoff from the waste in the Biotstabilistaion Plant will be/is directed through the leachate collection system to the underground leachate storage tank on site. The foul waters is temporarily stored within this tank for subsequent collection by a licensed haulier for discharge in the Clare County Council's waste water treatment plant in Lisdoonvarna under agreement with the local authority. Surface water run-off from the yard areas are directed through the surface water collection system and discharged off site through a siltation trap and oil interceptor (located to the front of the facility). There is no direct discharge into a river or stream from the facility. Two surface water outfalls discharge into a drainage ditch which ultimately drain into the Creegh River.
Brief description of other existing developments in the area	Doonbeg golf course is partly located within Carrowmore Dunes SAC. There are currently two development applications relating to the golf course with Clare Co. Council. These relate to: a development comprising coastal erosion management works and retention sought for a pathway and retaining wall. Other developments in the area comprise of one off housing and upgrading of existing private residences.
Is the plan directly connected with or necessary to the Natura 2000 site management for nature conservation?	No

* A candidate Special Area of Conservation is designated under the EU Habitats Directive (92/43/EEC) for the protection of certain habitats and species as listed in the Directive.

** Prepared in accordance with documents: European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC and European Commission (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/49/EEC; clarification of the concepts of: Alternative solutions, Imperative reasons of overriding public interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.

In the absence of a Conservation Management Plan for the sites, information has been taken from the Site Synopses[1] unless otherwise credited.

2. Brief Description of the Natura 2000 site	
Name	Carrowmore Dunes (site code 002250)
Site designation status	Special Area of Conservation (SAC)
Basis	EU Habitats Directive (92/43/EEC)
Natura 2000 Site description	Carrowmore Dunes are situated on the south-western coast of County Clare, between Milltown Malbay and Kilkee, and extend from Carrowmore Point to Doonbeg Bay. Fine sandy beach merges into a cobble beach on the seaward side of a sand dune system. Exposed bedrock marks the northern and southern boundaries of the site. Seaward, the site extends for 500m from the shore to include shallow marine waters. The geology of the site comprises Upper Carboniferous sandstone and shale. Pure sand dominates the soils on the seaward side, with increasing organic content further inland. Fixed dune with herbaceous vegetation is the largest dune habitat present within the site. Typically, the high dunes have an abundant Marram (*Ammophila arenaria*) cover and in places attain a height of up to 25 m. Marram dunes occur on the steeper, seaward slopes of the dunes above the beach and at the edges of blow-outs. Typically the cover of Marram is high and there is little ground vegetation over bare sand. Due to the exposure and high levels of coastal erosion at this site, the embryonic shifting, or fore dunes are not significantly developed, and consist of a loose sand slope grading into the back of the beach. Characteristically, there is much bare sand (typically associated with the first stages of dune building) and the habitat is species-poor, being dominated by Sand Couch (*Elymus farctus*). Intertidal reefs occur on the seaward side of the site, and are particularly well developed about Magrath's Point at the southern end of the site. The reef is particularly rich in algal and invertebrate species and supports a number of rare taxa, including the snapping shrimp (*Alpheus macrocheles*) and the algae *Phyllophora sicula* and *Pterosiphonia pennata.* This site contains a relatively small area of intertidal sandflats, comprised of fine to course sand. The main expanse of sandflats occurs along the length of the site before merging northwards and southwards with low exposed reefs. Other than occasional Eelgrass (*Zostera marina*), plant species are typically scarce. The sandflats provide feeding areas for wintering wildfowl and waders. The site supports a population of the rare snail, *Vertigo angustior*, a species that is listed on Annex II of the E.U. Habitats Directive.
Unit size	427.7 ha
Qualifying Interests (Species)	▪ Narrow-mouthed whorl snail *Vertigo angustior*[2]
Qualifying Interests (Habitats)	▪ Fixed coastal dunes with herbaceous vegetation (grey dunes) ▪ Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) ▪ Embryonic shifting dunes ▪ Reefs

Non-qualifying species of interest	The site is used by a number of bird species, including Chough, a species that is listed on Annex I of the E.U. Birds Directive, Curlew, Dunlin, Oystercatcher, Ringed Plover, Lapwing, Wigeon, Black-headed Gull and Common Gull.
Conservation Objectives	**Objective 1**: To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status: Reefs; Embryonic shifting dunes; Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes); Fixed coastal dunes with herbaceous vegetation (grey dunes). **Objective 2**: To maintain the Annex II species for which the cSAC has been selected at favourable conservation status: *Vertigo angustior*. **Objective 3**: To maintain the extent, species richness and biodiversity of the entire site. **Objective 4**: To establish effective liaison and co-operation with landowners, legal users and relevant authorities.
Assessment Criteria	
3. Describe the individual elements of the plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 sites.	Elements of the construction and operation phases may result in the following impacts to receiving waters which link the development site to the Carrowmore Dunes cSAC: ▪ Inappropriate construction methods may cause contamination of surface water arising from toxic materials used on the site including hydrocarbons (hydraulic fluid, oil, diesel etc.) and cement, concrete or grout. ▪ Inappropriate construction methods may cause contamination of surface waters through discharge of silted runoff from the sites as a result works. ▪ There is the potential for accidental discharges to ground from leachate generated within the waste material as it is accepted and processed at the facility. ▪ Due to the movement of vehicles and machinery on site and the storage of hydrocarbons there is a potential for accidental spillages and/or leakages of potentially polluting materials which could have a negative impact on the underlying groundwaters. ▪ The potential pollutants (associated with the development) are hydrocarbons, metals, nutrients and bacteria. ▪ Surface water run-off from the yard areas are directed through a surface water collection system and discharged off site through a siltation trap and oil interceptor (located to the front of the facility). In the event of this system becoming damaged or overburdened, there may be a release of silt and hydrocarbons to surface water. In order to identify potential *In Combination Effects*, other plans and projects were identified for this area. Works have been proposed for Doonbeg Golf Club within Carrowmore Dunes SAC that includes: the re-profiling of sand dune slopes, installation of concrete 'seabee' units buried within the re-profiled dune sections, marram planting, sand trap fencing and ancillary golf course alterations all at three locations within the Carrowmore Sand Dune System and Doonbeg Golf Course. The proposed upgrading of the waste transfer station would represent an insignificant component of the overall In Combination Effects of the combined projects.

4. Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of: ▪ Size and scale; ▪ Land-take; ▪ Distance from Natura 2000 site or key features of the site; ▪ Resource requirements; ▪ Emissions; ▪ Excavation requirements; ▪ Transportation requirements; ▪ Duration of construction, operation etc.; ▪ Others.	There will be no direct impact on the Carrowmore Dunes cSAC through construction work associated with the proposed upgrade of the waste transfer station, or the operational phase of the development. The development site has indirect hydrological links to the Natura 2000 site by virtue of the fact that two surface water outfalls discharge into drainage ditches which ultimately drain into the Creegh River. The Creegh River joins the Skivileen River approximately 2km upstream of where the watercourse enters the sea at Rinnagonnaght Strand in Doughmore Bay. The distance from point source at either outfall to the Natura 2000 site would be over 6.5km though a system of drainage channels, first, second and third order streams. There will be no direct or indirect impacts on fixed dunes, Marram dunes or embryonic shifting dunes or the snail species *Vertigo angustior* that inhabits them, arising as a result of the proposed development as these habitats are not linked to the Skivileen River. Construction phase: ▪ There is the potential for contamination of surface water to occur during construction arising from accidental spillage of materials used on the site including hydrocarbons (hydraulic fluid, oil, diesel etc.) and cement/concrete and inefficient pollution control measures. Dilute concentrations of hydrocarbons may reach the Skivileen River and Rinnagonnaght Strand. ▪ There is potential to discharge silted runoff from the waste transfer station as a result of upgrading works and inefficient silt control measures. ▪ There is potential for sedimentation and toxins arising from the construction process to impact on a section of intertidal reef at the mouth of the Skivileen River which could affect the diverse algal and invertebrate species. ▪ Intertidal sandflats run the length of the Natura 2000 site and provide feeding areas for wintering wildfowl and waders. There is potential for indirect impacts on a limited area of sandflat in the incidence of a pollution event. Operation Phase: ▪ There is potential for the discharge of contaminated water into the bay under two scenarios: the accidental discharge of leachate and the release of silt and hydrocarbons due to a system failure of the silt traps and interceptors at the outfall locations. Both of these scenarios are considered to be highly unlikely due to monitoring conducted at the site and to the closed nature of the waste facility.
5. Describe any likely changes to the site arising as a result of: ▪ Reduction of habitat area; ▪ Disturbance of key species; ▪ Habitat or species fragmentation; ▪ Reduction in species density; ▪ Changes in key indicators of conservation value;	▪ There will be no reduction in habitat area or species fragmentation resulting from the proposed works. ▪ There will be no direct or indirect disturbance of *Vertigo angustior* arising as a result of the proposed development. ▪ The presence of extensive areas of sand and a diverse macro-invertebrate community provides valuable source of food for wintering water birds. Contamination of these feeding areas by material such as hydrocarbons during the construction phase could have a temporary negative effect on the adjacent habitats and species. ▪ The accidental release of sediments or toxins could damage the species diversity of reef habitat at the mouth of the Skivileen River. ▪ The accidental release of pollutants from the waste facility due to accidental spillage or system failure could potentially increase the availability of organic matter in the sediment. However, the scale

▪ Climate change.	and frequency of this event would be extremely limited and minor in comparison to other sources of organic matter within the bay such as from rivers and other freshwater sources around the bay. ▪ Climate change will result in an increase in sea levels[3], reducing the extent of habitat available to species dependent on sand and mud flats.
6. Describe any likely impacts on the Natura 2000 site as a whole in terms of: ▪ Interference with the key relationships that define the structure of the site; ▪ Interference with key relationships that define the function of the site.	▪ Carrowmore Dunes forms part of the extensive coastal habitat within Co. Clare. Water quality, tidal regime and salinity are the key environmental conditions that support the site integrity. Interference or deterioration of any of these factors could alter the structure and function of the site and could potentially negatively impact on the habitats and species for which the sites are designated. ▪ A contamination event during the construction or operation phases of the proposed development could result in a negative impact on structure and function of a limited area of the Natura 2000 site.
7. Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.	▪ The site of the proposed upgrade of the waste facility is approx 3.5 km east of Carrowmore Dunes and over 6km upstream of the receiving waters at Doughmore Bay. The Skivileen River enters Doughmore Bay at Rinnagonnach strand at the southern end of Dune complex. ▪ Contamination of surface water during construction arising from materials used on the site or by sediment is not considered to be a likely impact, as appropriate measures will be taken during construction in accordance with best practice to prevent run-off or contamination of adjacent waters. The indirect hydrological link to the site further buffers the Natura 2000 site from potential contaminants. ▪ The potential for a contamination event during the operational phase is considered to be unlikely and does not represent a likely significant impact. It has been concluded that there are no likely significant impacts on the qualifying interests of the designated sites or the integrity of the sites arising from the proposed development. Hence, a Stage 2 is not required.

REFERENCES

1. National Parks and Wildlife Service (2003) Site Synopses for Carrowmore Dunes (site Code 002250)
2. National Parks and Wildlife Service. The narrow-mouthed whorl snail (Vertigo angustior) Conservation Status Assessment Report
3. EPA (2003) Climate Change Scenarios and Impacts for Ireland. ERTDI report Series No. 15. Environmental Protection Agency, Wexford.