



STARRUS ECO HOLDINGS LTD t/a GREENSTAR

DEEP WATER QUAY, SLIGO

STAGE 1 APPROPRIATE ASSESSMENT



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Client :-  
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## 1 INTRODUCTION

IE Consulting was requested by Starrus Eco Holdings Ltd t/a Greenstar, to undertake a Stage 1 Appropriate Assessment (Natura Impact) for a proposed alteration to the drainage layout at Deep Water Quay Sligo. The proposal is to dispose of the surface water generated trade effluent directly to the sanitary authority sewerage system.

This assessment has been undertaken to accompany a request for a technical amendment to the Waste Licence W0058-01;

## 2 SCOPE OF WORKS

The scope of works for the assessment undertaken comprised the following:

- Desk study
  - Review of details regarding the proposed development;
  - Desk Study review of the information on the SAC.
- Field Work.
- Site walkover by IE Consulting on 7<sup>th</sup> May 2015.
- Reporting
  - Interpreting and analysing the information in the context of appropriate guidance to determine if an Appropriate Assessment is warranted.

### 3 LEGISLATIVE CONTEXT

The Adoption of the EU Habitats Directive 2 Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, as amended by Council Directive 97/62/EC into Irish law through European Communities (Natural Habitats) Regulations, 1997 requires the implementation of article 6 (3) of this directive.

Full text of Article 6(3) of the Habitats Directive states that

*“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”*

In addition, as per European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) Part 5;

*“A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.”*

Screening for Appropriate Assessment is required and, if screening indicates the need, for Appropriate Assessment, the AA itself, must be carried out and the assessment and conclusions recorded to ensure that existing and future plans or projects are not authorised if they are likely to adversely affect the integrity of a site. These safeguards are designed to ensure the conservation of Natura 2000 sites.

### 4 SCREENING FOR APPROPRIATE ASSESSMENT

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

- whether a plan or project is directly connected to or necessary for the management of the site,
- whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project.

The findings and conclusions of the screening process should be documented, with the necessary supporting evidence and objective criteria. This is of particular importance in cases where the AA process ends at the screening stage because the conclusion is that no significant effects are likely.

Screening involves the following:

- Description of the plan or project and local plan area characteristics;
- Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives;
- Assessment of likely effects – direct, indirect and cumulative undertaken on the basis of available information as a desk study or field survey or primary research as necessary;
- Screening statement with conclusions.

And this approach is followed below in the context of the proposed development.

The AA Screening process takes account of guidance contained in the following documents:

- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities. (Department of Environment, Heritage and Local Government, 2010 revision).
- Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission Environment Directorate-General, 2001); hereafter referred to as the EC Article 6 Guidance Document. The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Article 6(3) and (4) of the Habitats Directive.

## 5 DESCRIPTION OF THE PROJECT

The proposed project involves the diverting of trade effluent generated from the external hardstanding open yard Baled MSW storage area and civic amenity area from the stormwater drainage system to the sanitary authority sewerage system.

It is proposed that the discharge be directed to a newly constructed pump house before being pumped to the sanitary authority sewerage system via the existing discharge point, SE-1.

## 6 SIGNIFICANT NATURA 2000 SITES

The site is located approximately 30 - 70 m south-west of the Garavogue River as it enters the estuary of Sligo Harbour. This estuary is included in the Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC area 000627 and Cummeen Strand SPA area 004035.

### Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC 000627

This large coastal site extends from Cullamore in the north-west to Killaspug in the south-west, and from Sligo town in the south-east to Drumcliff village in the north-east. It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. Sand dunes and sand hills at Rosses Point, Killaspug, Yellow Strand and Coney Island are included, as are grasslands at Ballintemple and Ballygilgan (Lissadell), along with a variety of other habitats such as woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes. The site is largely underlain by Carboniferous limestone, but acidic rocks are also found on the Rosses Point peninsula. At Serpent Rock in the north-western section of the site the most complete section of the north-western Carboniferous strata is exposed. Here are found an excellent series of fossilised corals which, in some strata, stand out from the rock matrix.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (priority; numbers in brackets are Natura 2000 codes):

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [2110] Embryonic Shifting Dunes
- [2120] Marram Dunes (White Dunes)
- [2130] Fixed Dunes (Grey Dunes)\*
- [5130] Juniper Scrub
- [7220] Petrifying Springs\*
- [1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1365] Common (Harbour) Seal (*Phoca vitulina*)

The dominant habitats on the site are estuaries and intertidal sand and mud flats. Sligo Harbour receives the waters of the Garavogue River, which flows from Lough Gill, while Drumcliff Bay receives the Drumcliff River which flows from Glencar Lough. At low tide extensive areas of intertidal flats are exposed

in both of these sheltered estuarine bays. The intertidal flats support a diverse macrofauna, with invertebrate species such as lugworm (*Arenicola marina*), common cockle (*Cerastoderma edule*), sand mason worm (*Lanice conchilega*), Baltic tellin (*Macoma balthica*), spire shell (*Hydrobia ulvae*) and common mussel (*Mytilus edulis*) being frequent. Of particular note is the presence of the eelgrasses *Zostera noltii* and *Z. angustifolia* beds in both bays. Areas of saltmarsh fringe both bays in places.

Sand dune habitats are rare and threatened in Europe and three types are found in this site - embryonic dunes, Marram (*Ammophila arenaria*) dunes and fixed dunes. Embryonic dunes, with characteristic species including Sand Couch (*Elymus farctus*), occur at the southern end of the sand spit at Rosses Point. Shifting Marram dunes are found in a number of locations, including Rosses Point, Strandhill, Coney Island and Yellow Strand. In the latter three areas, the areas of shifting dunes are linked at least to some extent to recent disturbance (e.g. erosion, storm breaches, etc.).

Fixed dune grassland is found behind Yellow Strand, and the main species are Sand Sedge (*Carex arenaria*) and Smooth Meadow-grass (*Poa pratensis*), with associated species including Lady's Bedstraw (*Galium verum*), Mouse-ear Hawkweed (*Hieracium pilosella*), Common Milkwort (*Polygala vulgaris*), Common Dog-violet (*Viola riviniana*), Mountain Everlasting (*Antennaria dioica*), Common Spotted-orchid (*Dactylorhiza fuchsii*), Early Marsh-orchid (*D. incarnata*), Frog Orchid (*Coeloglossum viride*) and Autumn Lady's-tresses (*Spiranthes spiralis*). Some areas of fixed dune at the site are suffering from under-grazing (e.g. north of Strandhill), and have a rank vegetation dominated by Marram, with species such as Red Fescue (*Festuca rubra*), Creeping Willow (*Salix repens*), Daisy (*Bellis perennis*) and Wild Thyme (*Thymus praecox*) also occurring. A relatively species-poor example of the habitat is found at Rosses Point, but typical species like Marram, Red Fescue, Lady's Bedstraw, Harebell (*Campanula rotundifolia*), Kidney Vetch (*Anthyllis vulneraria*) and Common Mouse-ear (*Cerastium fontanum*) do occur here.

An area with Juniper (*Juniperus communis*) scrub is found on a gravel hill with species-rich fixed dune vegetation. Other species present in this area include Marram, Autumn Gentian (*Gentianella amarella*), Red Fescue, Lady's Bedstraw, Common Bird's-foot-trefoil, Harebell, Yellow-wort (*Blackstonia perfoliata*), Thyme-leaved Sandwort (*Arenaria serpyllifolia*), Common Whitlowgrass (*Erophila verna*), Hoary Whitlowgrass (*Draba incana*), Devil's-bit Scabious (*Succisa pratensis*) and Early Hair-grass (*Aira praecox*).

Wetlands on the site include Doonweelin Lake, a freshwater lake on the Rosses Point peninsula, which supports interesting vegetation communities that reflect the juxtaposition of the underlying acidic and basic rocks. Ardtermon Fen, a small, floristically-rich area of freshwater marsh, swamp, wet grassland and fen is situated at the back of the Yellow Strand sand hills.

The site includes small areas of Hazel (*Corylus avellana*) and Ash (*Fraxinus excelsior*) woodland on limestone (e.g. Cummeen Wood), and several other stands of mixed woodland and wet willow (*Salix* spp.) woodland (as at Ardtermon Fen).

Cliff-top grassland is common in the north-western part of the site. This is typically dominated by Red Fescue and White Clover (*Trifolium repens*).



Species including Daisy, Common Bird's-foot-trefoil (*Lotus corniculatus*), plantains (*Plantago coronopus*, *P. lanceolata* and *P. maritima*), Bulbous Buttercup (*Ranunculus bulbosus*), Common Scurvygrass (*Cochlearia officinalis*), Field Wood-rush (*Luzula campestris*) and Spring Sedge (*Carex caryophyllea*).

The site has a good example of petrifying springs with tufa formations, with several species of bryophyte typical of the *Cratoneurion*. The springs occur along seepage zones in clay sea cliffs on the northern side of Sligo Harbour.

The site has a very rich and diverse flora, on account of the wide variety of habitats found, and the presence of both basic and acidic substrates. Several rare, Red Data Book species have been recorded from the site, including Rough Poppy (*Papaver hybridum*) which is also listed under the Flora (Protection) Order, 1999, Hoary Whitlowgrass and Yellow Saxifrage (*Saxifraga aizoides*).

Both Drumcliff Bay and Cummeen Strand are important for the large numbers of waterfowl which use them in autumn/winter, including Ringed Plover, Redshank, Lapwing, Knot, Bar-tailed Godwit, Oystercatcher, Curlew, Golden Plover, Dunlin, Turnstone, Brent Goose, Grey Heron, Teal, Wigeon, Mallard, Shelduck and Red-breasted Merganser. The fields at Lissadell and Ballintemple support one of the largest populations of Barnacle Goose in the country (c. 2,000 in winters of 1995/96 and 1996/97). Both Drumcliff Bay and Cummeen Strand have been designated as Special Protection Areas under the E.U. Birds Directive. The important feeding site for Barnacle Goose at Lissadell is a Statutory Nature Reserve.

The islands in the north-western section of the site hold important seabird colonies. A Cormorant colony of national importance occurs on Ardboline and Horse Islands, with a total of 261 pairs in 1998. Herring Gull and Great Black-backed Gull also breed on both islands. Common Tern formerly bred on both islands. The islands are also used by Barnacle Goose from the adjacent mainland, which roost or seek refuge here. The low sea cliffs on the adjacent mainland at Ballyconnell and Roskeeragh Points also support small numbers of seabirds, and both Black Guillemot and Fulmar nest there. Choughs feed in the sandy/grassy areas of the site and one pair is known to nest. Several of the bird species that use the site are listed on Annex I of the E.U. Birds Directive, i.e. Barnacle Goose, Chough, Golden Plover and Bar-tailed Godwit.

At least five species listed on Annex II of the E.U. Habitats Directive are found within this site. Drumcliff Bay is important for the presence of a breeding population of Common Seal. Ardboline and Horse Islands on the western side of the site are also important as haul-out areas for this species. A minimum population of 12-15 individuals was estimated from counts made in various months in 2007 and 2008. Sea Lamprey and River Lamprey have been recorded in the Garavogue River, and River Lamprey are also known from further upstream in the tributaries of Lough Gill. The Marsh Fritillary butterfly is found at Rosses Point, while the rare snail *Vertigo angustior* has recently been recorded from sand dunes at Killaspugbrone.

Cummeen Strand/Drumcliff Bay (Sligo Bay) is an important site of high conservation significance, which includes a wide variety of habitat types, including several listed on Annex I of the E.U. Habitats Directive, several species listed on Annex II of this Directive, large and important populations of waterfowl and seabirds, and several rare plant species.

## Cummeen Strand SPA 004035

Cummeen Strand is a large shallow bay stretching from Sligo town westwards to Coney Island. It is one of three estuarine bays within Sligo Bay, with Drumcliff Bay to the north and Ballysadare Bay to the south. The Garavogue River flows into the bay and forms a permanent channel.

At low tide, extensive sand and mud flats are exposed. These support a diverse macro-invertebrate fauna which provide the main food supply for the wintering waterfowl. Invertebrate species such as lugworm (*Arenicola marina*), ragworm (*Hediste diversicolor*), cockles (*Cerastoderma edule*), sand mason (*Lanice conchilega*), Baltic tellin (*Macoma balthica*), spire shell (*Hydrobia ulvae*) and mussels (*Mytilus edulis*) are frequent. Of particular note is the presence of eelgrass (*Zostera noltii* and *Z. angustifolia*) beds, which provide a valuable food stock for herbivorous wildfowl. The estuarine and intertidal flat habitats are of conservation significance and are listed on Annex I of the EU Habitats Directive. Areas of salt marsh fringe the bay in places and provide roosting sites for birds during the high tide periods. There are sand dunes at Killaspug Point and Coney Island, with a shingle spit at Standalone Point near Sligo town.

Cummeen Strand is of ornithological importance as it supports important concentrations of wintering waterfowl. The site supports an Internationally Important flock of Brent Geese (peak of 232 individuals in the winter of 1999/00, with the mean of peak monthly counts in the period 1996/99 (except 1998) being 228, peaking at 309) and Nationally Important populations of a further two species – Oystercatcher 891 and Redshank 501 (all figures are average peaks for the period). Other species which occurred in significant numbers included Shelduck 80, Wigeon 178, Teal 70, Mallard 170, Red-breasted Merganser 17, Golden Plover 567, Lapwing 734, Knot 18, Sanderling 18, Dunlin 601, Bar-tailed Godwit 57, Curlew 546, Greenshank 18 and Turnstone 80. Whooper Swans also occurred (9), though they are not regular visitors. The presence of Golden Plover, Bar-tailed Godwit and Whooper Swan is of particular note as these species are listed on Annex I of the EU Birds Directive.

This site is of high ornithological importance, with one species having a population of International Importance and two having populations of National Importance. In addition, there are three species that are listed on Annex I of the Birds Directive. The site is also important as a component of the much larger Sligo Bay complex.

## **7 ASSESSMENT OF LIKELY EFFECTS**

The proposed works do not physically impinge on any part of the SAC so it will not result in any direct loss of habitat, fragmentation of habitat, disturbance of the habitat, direct reduction in species density. However, as the proposed works will be within the area of Sligo Bay, any potential threats to water quality will need to be considered.

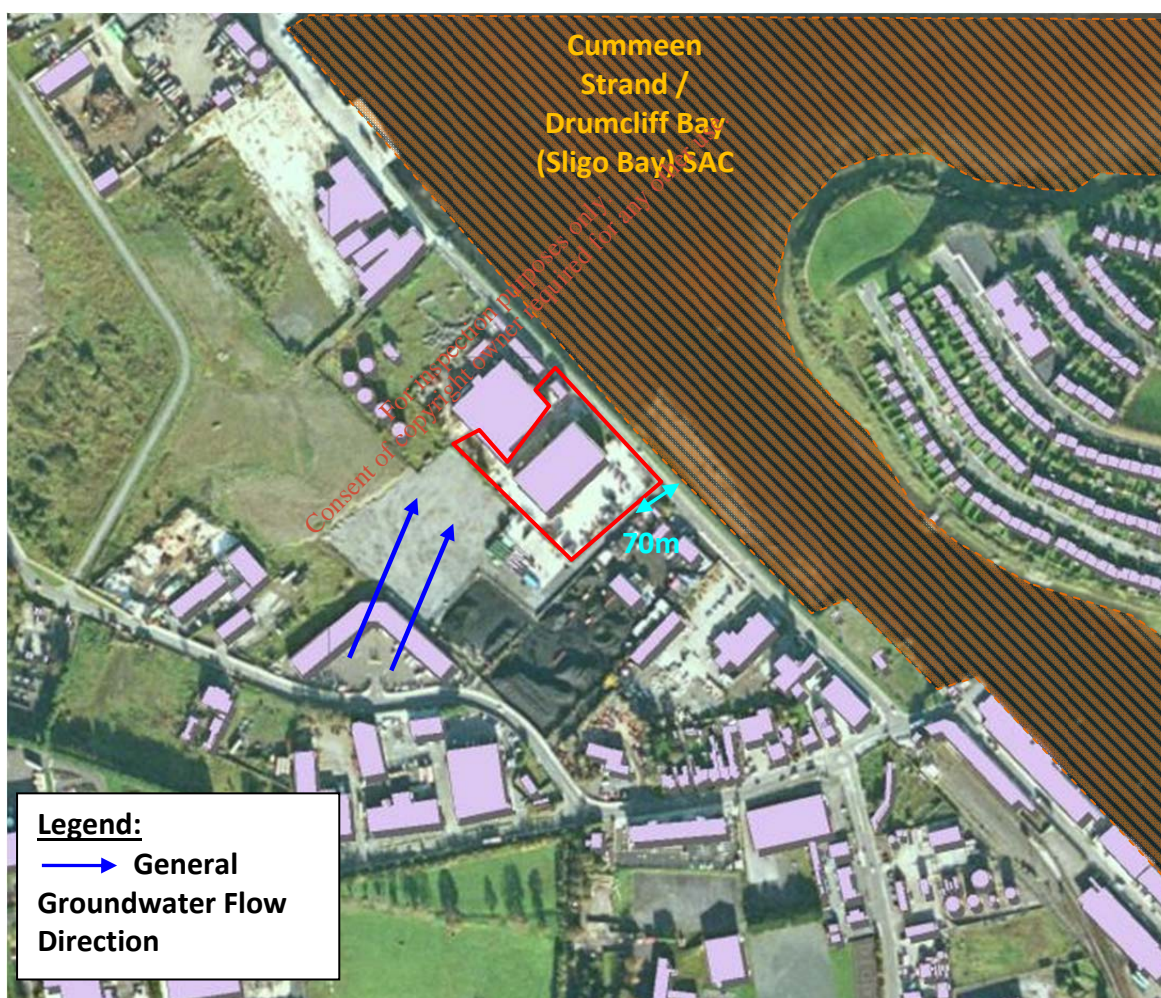
The most immediate hydrological features in the vicinity of the proposed site is the Garavogue Estuary located approximately 30 - 70 m beyond the eastern boundary of the site. The Garavogue Estuary at

this location connects the Garavogue River to the east of the proposed site to Sligo Harbour, situated to the west and north of the site. The River Garavogue flows east to west from Lough Gill.

From the desk study, mapping indicates that the site is underlain by a locally important aquifer of Bedrock which is moderately productive only in local zones (LI), with the vulnerability being classified as High (H). It is proposed to divert the deemed 'Trade Effluent' to the current sewerage system to be treated and it is therefore assumed that it will not result in an unacceptable impact on groundwater quality.

The groundwater flow direction is likely to be in a north to north-easterly direction towards Sligo Harbour as shown in *Figure 1* below.

Rainfall runoff from roof areas and car park area will be discharged to the on-site surface water drainage system. This clean surface water run-off is discharged to the Garavogue Estuary.



*Figure 1 – General Groundwater flow direction within proposed development site area in proximity to SAC*

During the site visit, the on-site stormwater drainage system was noted and a comprehensive CCTV survey was recently undertaken. Apart from grassed area, the entire site, including the floors of the transfer shed building and the open yard areas, are paved with concrete. The stormwater drainage

system comprises a number of stormwater drains, manholes, gullies and interceptors. Soils and subsoils of the surrounding area are mapped as made ground. The terrain of the site can be described as relatively flat (Figure 2). An elevation of 6 m OD (Malin) is mapped to the south-east of the site.



**Figure 2 – Topography of site**

The Construction Contractor shall be obliged to ensure no deleterious discharges are released from the site to surrounding watercourses during excavation and construction activities. Throughout the Design – Build works the Contractor shall also take account of relevant legislation and best practice guidance including but not limited to the following:

- C532 Control of water pollution from construction sites: guidance for consultants and contractors.
- C648 Control of water pollution from linear construction projects.
- SP156 Control of water pollution from construction sites – guide to good practice.

The Contractor's construction method statements shall also indicate how management, monitoring, interception, removal and/or treatment of silt run-off shall prevent contamination during construction of ground or surface waters by mobilisation of soil particles. Land shall only be stripped as necessary, to minimise soil erosion.

The proposed project involves the diverting of trade effluent generated from the external hardstanding open yard Baled MSW storage area and civic amenity area from the storm water drainage system to the sanitary authority sewerage system. The site is in the surrounding area of Sligo Harbour within an industrial area of warehouses and green areas. It will contribute very little to the hydraulic load of Garavogue Estuary.

Currently the runoff of the hardstanding open yard Baled MSW storage area and civic amenity area are discharge directly to Garavogue Estuary. The proposed works will reduce the impact of potentially elevated concentration of BOD, COD and Suspended Solids entering the Estuary.

The development therefore poses no measurable threat to the SAC since:

- The proposed works does not physically impinge on any part of the SAC so it will not result in any direct loss of habitat, fragmentation of habitat, disturbance of the habitat, direct reduction in species density.
- There is no direct discharge of potential polluting material to surface water.
- The assumption has been made that the proposed technical amendment to the Waste Licence W0058-01 should not pose a significant risk to the water environment.

## 8 SCREENING STATEMENT AND CONCLUSIONS

The conclusion of the study is that there is no potential for significant effects on the Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA, therefore, an Appropriate Assessment is not warranted. Screening establishes that there is no potential for significant effects and the project can proceed as proposed.

As such, no further assessment is required with regard to the site.

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## 9 REFERENCES

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Conservation Objective for SPA 004035, National Parks and Wildlife Service

EPA Hydrotools, Hydrometric data

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