EPA Application Form

1.2 – Non-Technical Summary Attachment

Organisation Name: *	Starrus Eco Holdings Limited
Application I.D.: *	LA005501

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1. Introduction

Starrus Eco Holdings Ltd (SEHL) operates a composting facility in Ballybeg, County Tipperary under planning permission granted by Tipperary County Council, an Industrial Emissions Licence (Licence No: W0249-01) issued by the Environmental Protection Agency (the Agency) and an approval from the Department of Agriculture Forestry and the Marine (DAFM) under the European Union (Animal By-Products) Regulations (Comp 45). The licence authorises the acceptance and processing of 45,000 tonnes of organic waste annually.

2. Planning & Licensing History

Planning

Planning permission was granted (Planning Ref.: 07511853) in October 2008 for the development of the composting plant on what was previously undeveloped lands in agricultural use.

A notification of a Decision to Grant Permission for retention (Planning Ref.: 21/520) issued on 10th June 2021 to alterations to the processing building including all other associated site development works above and below ground.

A notification of a Decision to Grant Permission (Planning Ref.: 20/550) issued on 14th June 2021 to construct extensions to the processing building and increase the annual waste intake to 80,000 tonnes.

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Licensing

The current licence was granted in October 2009. The licence was amended (IE Amendment) in November 2015 to transition the facility into the Industrial Emissions regulatory regime. The licence was amended in June 2016 (Technical Amendment A) to insert Fire Risk Assessment and Waste Storage conditions. In June 2019 the licence was transferred to SEHL.

3. Existing Installation

The site is located in a rural setting two kilometres south-east the village of Littleton. It is bounded to the west, north and east by willow plantations and to the south by farm land. The majority of the land surrounding the property comprises cutaway bog, beyond which are worked bogs to the north east and south.

The current licence boundary encompasses 3.58 ha and includes the access road off the L4101; a weighbridge; the composting building (4,864 m^2); an annex on the northern elevation of the building that houses a fuel store, main control room, a mezzanine office and electrical substation; an odour control unit (biofilter) to the south of the building; a condensate holding tank bund; portakabin offices and welfare facilities at the northern boundary; a firewater reservoir lagoon; a firewater retention lagoon, paved yards and unpaved access roads. The licensed area is surrounded by a stock proof security fence as required by the DAFM Animal By-Product Approval.

The composting process has the capacity to produced two outputs. The first is a soil improver suitable for use on farmland. The second is a material suitable for disposal/recovery at landfills made by the

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treatment of the small particles (fines) of organic waste left over from the treatment of household and commercial residual (black bin) wastes.

4. Proposed Changes

It is proposed to increase the annual to 80,000 tonnes. This will involve the extensions to the composting building to provide additional primary, pasteurising and secondary processing capacity. It is proposed to amend the licence boundary to accommodate the extensions and remove an access way to a surface water discharge point that was never installed. It is also proposed to alter the waste acceptance hours to 07.30 to 19.30 Monday to Saturday to align with the hours approved in the planning permission.

5. Classes of Activity

The classes of activities as listed in the First Schedule of the EPA Act as amended will be.

Class	Description
11.1	The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.
11.4 (b)	Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, (other than activities to which the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) apply): (i) biological treatment; when the only waste treatment activity carried out is anaerobic digestion, the capacity threshold for this activity shall be 100 tonnes per day.

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6. BAT Documents

The facility has been assessed against the BAT Conclusions in Commission Implementing Decision (EU) 2018/1147 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU.

7. Waste Management Policies

The proposed changes are consistent with European Union, national and regional waste management policies and plans, the objective of which is to maximise the recovery/recycling of waste.

8. Resource Consumption and Energy Use

Operations involve energy (electricity & diesel) and resource (groundwater) consumption. The resource consumption in 2020 was

- Electricity : 4740 GJ
- Diesel : 3619 GJ
- Water : 164 m^3

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9. Sources of Emissions

The extraction and aeration fans are sources of continuous noise emissions. Waste transport vehicles, staff private cars and the mobile plant are sources of intermittent noise emissions occurring during the waste acceptance and processing.

There are no fixed point emission sources associated with the operations. Potential fugitive emissions include odours, bioaerosols, dust and vehicle exhausts. Vehicle exhausts contain a range of compounds that affect air quality, for example carbon monoxide, methane, carbon dioxide, and particulates.

The run-off from the northern section of the compost building and the paved yard at the front goes to a drain along the northern boundary. The run-off from the southern section of the roof goes to a drain along the western boundary.

The facility is not connected to the municipal foul sewer. Sanitary wastewater from the welfare facilities is collected in an underground holding tank. The contents are transferred to the waste intake area, mixed with the incoming waste and then composted.

10 Environmental Monitoring

The environmental monitoring programme includes noise, air, dust deposition, storm water, and groundwater. The licence specifies the emission limit values that must be achieved

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11 Existing Environment, Potential Impacts, Mitigation and Residual Impacts

11.1 Climate

The climate in the area is mild and wet, with the prevailing wind direction from the south and south-west. The willow plantations (1.2 ha) inside the development site boundary act as a 'carbon sink' and one hectare of the plantation has the capacity to capture 0.12 tonnes of carbon.

There is a link between direct and indirect greenhouse gas (carbon dioxide, methane and nitrous oxide) emissions and climate change. Direct emissions from waste management plants are associated with on-site processing and off-site electricity power generation, while indirect emissions are linked to the vehicles transferring wastes to and from the site and staff transport.

Composting is an aerobic process that reduces or prevents the release of methane during the breakdown of organic matter breakdown. The global warming potential of methane is approximately 34 times that of carbon dioxide. While the composting process does produce carbon dioxide, as it is from a biological treatment process it is not considered to contribute to global warming.

All greenhouse gas emissions contribute to a cumulative negative environmental effect unless offset by mitigation or compensatory measures. The development will result in additional greenhouse gas emissions associated with the increase in traffic and waste processing, while the loss of ca 0.8ha of the willow plantation will reduce the carbon capture capacity by ca 0.1 tonne carbon.

However, these impacts will be somewhat offset by the treatment of the organic fines, which will significantly reduce their potential to generate methane when disposed to landfill.

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11.2 Traffic

The entrance roadway is a 6m wide single carriageway with central road markings. All traffic to and from the site arrives on the L4101 via the R639 to the north and the R689 to the south. The sightlines along the L4101 at the entrance are good. Traffic from the facility joins the local road network via a priority T-junction to the L4101.

Traffic counts established that peak traffic on the L4101 and the peak traffic to and from the facility occurs between 8:15am and 9:15am. During this period, 9 vehicles arrived and departed the site, the majority of which were light goods vehicles arriving via R639. Departures are more evenly split, with approximately half of all traffic travelling north and the other half travelling south.

Traffic modelling for the operational stage was based on traffic count and the levels are well below the threshold for a Traffic and Transport Assessment. Predicted traffic modelling for the worst-case scenario (high sensitivity growth, heavy vehicles) found that all lanes at the priority T-junction will operate using less than 5% of available capacity in 2036, meaning the development will not have an adverse impact on traffic flows on the local road network.

The proposed development will see a permanent increase in the operational stage. The estimated traffic generation will be 20 trips per day, which is 224% of the current traffic movements: however, the traffic modelling predicts that all lanes at the junction will operate using less than 5% of available capacity in 2036 and, therefore, the proposed development will not have an adverse impact on traffic flows on the local road network.

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11.3 Land & Geology

The subsoils underlying the majority of the site comprise cut peat approximately 1 m thick that is underlain by boulder clay, followed by sandy gravel, and finally gravel. The western part of the site is underlain by limestone till. The depth to the limestone bedrock was found to be between 7.6 and 10.15 m.

The development will increase the compost building footprint by 6,083m^2 and will involve the excavation of the soils and subsoils for the extension foundations and formation levels. The land taken by the development comprises existing gravel access roads, a landscaped area, wet grassland and willow plantations. The excavated soils excavated will be retained on site for use in landscape works.

The proposed changes will involve 8,940 m^2 land take and the excavation of subsoils. Once the construction works have been completed, the land take area will be permanently occupied by the extensions to the building and biofilter and gravel access roads. This will result in the loss of ca 0.8 ha of willow plantation. The plantations are a biomass and not a food crop, have no impact on water supplies and are not critical to nutrient cycles.

At present there are no direct or indirect emissions to ground and the proposed development will not give rise to any new discharges. The development will have a slight negative impact on the soils, have no impact on the bedrock and will have a permanent, imperceptible negative impact on land.

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11.4 Water

The site is in the catchment of the Ballyley River, which is approximately 120 m to the south. The Ballyley River flows from east to west and becomes the Breagagh River, which then flows north east to join the Drish River, which is a tributary of the River Suir. There are several man-made drainage ditches around the site that feed into the Ballyley River. The site is not in an area which is prone to flooding and there have been no recorded past flood events.

The bedrock is a locally important aquifer and the vulnerability to pollution from the ground surface is moderate. The local direction of groundwater flow is to the south. The closest recorded well is ca 1.1 km to the north. Groundwater monitoring at the three on site monitoring wells has established high levels of naturally occurring ammonia.

There will be a slight increase in the volume of storm water run-off, but no change in the water quality. There will be no direct or indirect emissions to groundwater and a slight decrease in groundwater recharge rate due to the increase in the impermeable areas.

The proposed development will result in a slight increase in the storm water run-off to the Ballyley/Breagagh River due to increased flow, but it will not present a risk of flooding downstream. It will slightly reduce the groundwater recharge rate. It will not give rise to any new discharge to groundwater and will have no discernible impact on surface water and groundwater quality.

11.5 Biodiversity

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The buildings and yards are classified as artificial surfaces, which includes all buildings other than derelict stone buildings and ruins. The firewater reservoir and firewater retention ponds are classed as Reservoirs. There are grassed landscaped areas to the south of the offices, to the north of the firewater retention lagoon and east of the composting building.

There are treelines along the southern and eastern site boundaries of the operational area comprising a mix of ash, sycamore, alder and whitethorn. The lower parts of the trees host ivy, with scrub at the base. There are drainage ditches immediately west of treeline along eastern boundary and along western and northern boundaries of the operational area. The area between the biofilters and the southern boundary comprises spoil and bare ground. There is no evidence of any invasive species within the site boundaries. To the east, west and north of the operational area are willow plantations. The land to the south of the site is improved agricultural grassland.

Rabbits and red foxes are likely to be present and badgers may also use the site. Badgers are protected under the Wildlife Act 1976. The birds likely to be present are all common native and transitory species, none of which are protected. Similarly, the likely insects are all common.

The site is not in any designated areas (Special Areas of Conservation (SAC) and Special Protection Areas (SPA) respectively) that are collectively known as Natura 2000 Sites. The closest Natura 2000 Sites are the Lower River Suir SAC, which is 8.3km to the west and the River Barrow and River Nore SAC, 12.5 km to the east.

The habitats inside the development boundary, with the exception of the tree line along the eastern side of the operational area, are typically not species diverse and are of low ecological value. The trees are potential roosts for bats, which are a protected species under the Wildlife Act 1976.

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The development will result in the loss of some areas of habitat, which include 80 m sections of the mature tree line and drainage ditch along the eastern boundary of the operational area, 920m^2 grassed area east of the composting building; a section of the planted hedge row along the western boundary and ca 8000 m^2 of the willow plantations to the east and west of the composting building. Due to the relatively small size of the site it is not envisaged that any movements of migratory birds or mammals will be significantly affected by this development.

11.6 Air

The EPA's Air Quality Index for Health (AQIH) is a number from one to 10 that indicates the air quality currently in a region and whether or not this might affect human health. A reading of 10 means the air quality is very poor and a reading of 1 to 3 inclusive means that the air quality is good. The AQIH is calculated every hour and as of April 2020 the reading for the site and surrounding area was 2.

The licence requires SEHL to carry out particulate (PM_{10}), dust, odour and microbial monitoring. The results indicate that the current operations are not a significant source of particulate, dust, odour and microbial emissions.

Emissions from the compost process with the potential to adversely impact on air quality include, depending on the nature of the waste, odours, dust, bacteria and vehicle exhaust gases.

SEHL implements the control measures specified in the licence that are designed to ensure waste activities do not give rise to negative impacts on air quality and these will continue to be applied on site.

The odour control system will be upgraded to accommodate the increased processing capacity and associated increase in the volumes of odorous air that must be treated.

This will involve the increasing the air extraction capacity, installing additional ducting and increasing the size of the biofilter.

The trucks that deliver the wastes are typically fitted with nitrous oxides reduction systems and it is SEHL policy not to allow engine idling.

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11.7 Noise

Littleton is approximately 2 km to the north-west. The closest residential properties are on the L4101, 300 m to the east and 432 m to the north-west.

The licence requires SEHL to carry out annual noise surveys to assess the impacts associated with its operations. The licence also specifies the noise limits that must be complied with, which are 55 dBA at noise sensitive locations during daytime hours (8am to 10pm). The nearest noise sensitive locations are the two residencies on the L4101.

The surveys completed between 2010 and 2019 has found that the day and night time noise levels at both locations regularly exceed the day time limit; however, the dominant day and night time noise sources is road traffic on the L4101. In the 2019 survey, noise from the facility was not audible in the day time, with the exception of faint intermittent noise from fans and a diesel engine. No tonal or impulsive noise was audible from the facility. Noise from the facility was not audible during the night time.

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Noise sources include delivery vehicles, mobile plant and the fans. The delivery vehicles and mobile plant are usually only active between 8.00 a.m. to 7.00 p.m. Monday to Friday, and between of 8.00 a.m. to 2.00 pm on Saturday. As the composting is a continuous process, the fans are operational 24/7.

The existing fans and the new ones are and will be located at the rear of the composting building, furthest away from the noise sensitive locations. SEHL implements the control measures specified in the licence that are designed to ensure waste activities do not give rise to noise nuisance outside the facility boundary and these will continue to be applied.

The noise emissions from the proposed development will be significantly below the noise limits that will be specified for the noise sensitive locations in the revised licence.

11.8 Landscape & Visual Impact

The site is located in the Littleton Farmland Mosaic and Marginal Peatland Landscape Character Area. This is a working landscape with no sensitivities and an established pattern of use and settlement. At a site-specific level, the facility is not close any to major rivers/water bodies and ridge lines, is not overlooked by any designated views and is not close to any cultural and historic sites. The existing compost building resembles an agricultural building, with mass concrete walls and grey/green wall and roof cladding.

The willow plantations to the north, east and west effectively screen the site from views from the nearest residences. They also screen views from most of the L4101, with the only public view point being at the site entrance gate.

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The proposed development involves the construction of extensions to the eastern and western sides of the composting building and an expansion of the biofilter along the southern side. The shape, form, external appearance and ridge height of the building extensions are similar to the existing building. Similarly, the extension to the biofilter will be of the same shape and form as the existing one.

The western and eastern parts of the willow plantations will be retained and along with the plantations to the north, which will not be affected, will continue to screen the site from public view on the L4101. Given the location and scale of the development additional prevention and mitigation measures, including a boundary landscaping plan, are not required.

The facility is an existing established waste treatment facility located in an area where the landscape sensitivity classified as low. The form and mass of the extensions will be similar to that of the existing building and biofilter.

The retention of the willow plantation outside western and eastern boundaries of the development area, along with the plantations to the north, will continue to effectively screen the operational area from public view points.

11.9 Population &Human Health

Vehicle exhaust gases can affect air quality with consequent implications for human health. While odours, noise and dusts do not present a direct risk to health, they can be a significant nuisance and cause of discomfort that may indirectly affect human health. Composting plants are potential sources of nuisance (birds, vermin and insects) that can significantly adversely impair the amenity value outside the site boundaries if they are not properly controlled. Traffic movement to and from waste

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management facilities can, depending on the size, location and capacity of the local road network, be a cause of congestion that affects local residents.

There is a former Bord na Móna peat briquette factory and a plastic recycling facility 1.4 km to the south east of the site. The closest private residences are on the L4101, 300 m to the east and 432 m to the north-west. Littleton is the closest population centre and in the 2016 census, which is the most recent one for which detailed information is available, it had a population of 394.

The prevention and mitigation measures that are and will be implemented to mitigate impacts associated with emissions to air (odours, vehicle exhaust gases and dusts) and noise emissions are described above has engaged a specialist pest and vermin control contractor who visits the site regularly to ensure pests and vermin are properly controlled.

The air quality in the vicinity of the site is good. The additional traffic will increase vehicle exhaust gases, which will contribute to a slight decrease in air quality. The traffic impact assessment has established that the development will not have an adverse impact on the local road network. The existing operational controls, and those conditioned in the revised licence will ensure that the site will not be a source of odour, dust or noise nuisance outside the boundary.

11.10 Archaeology, Architecture and Cultural Heritage

There is no record of any archaeological feature, protected structure, or cultural heritage feature within the site boundary and it is not in a designated Architectural Conservation Area.

The development involves the extensive ground disturbance inside the development boundary; however, there is no record of any archaeological feature, protected structure or cultural heritage feature on the site.

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11.11 Material Assets & Resource Consumption

The amenity value of the lands immediately surrounding the site is low and the nearest amenity to the Moycarkey Borris Community Centre in Littleton. The Bord na Móna peat briquette factory, which is ca 1.5km to the south-east of SEHL was an important local employer closed in 2019. A waste management company has developed a waste plastic recycling facility at the site and the projected employment levels are ca 40. The SEHL facility employs 8 full time staff.

Current waste processing involves the use of diesel fuelled waste transport vehicles and mobile plant and electricity for lighting and heating of the offices and yard lighting. A private well is used to supply water.

The development will contribute to maintaining local employment levels. The materials used in the construction stages will, in so far as is practical, be sourced locally. There will be an increase in traffic movements, which will result in an increase in diesel consumption and the expansion of the composting capacity will increase electricity and fuel consumption.

SEHL implements the nuisance control measures specified in the licence to prevent impacts on local amenities and also applies resource consumption control measures to minimise usage.

The current operations are not a source of adverse environmental nuisance or impairment of amenities outside the site boundary. SEHL operations have not adversely affected the existing economic activities in the surrounding area, nor have they reduced the potential for the future

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expansion of such activities. The local road network has the capacity to accommodate the increased traffic linked to the development. The development will result in an increase in resource consumption.

11.12 Interaction of the Foregoing

The proposed development has the potential to impact on human beings from, odour, air quality, noise, dust vehicle exhaust emissions and accidents. The site design and proposed method of operation has taken account of these emissions and the impacts of accidents and effective mitigation measures have been identified. The increase in traffic will contribute to a slight reduction in air quality at a local level.

The assessment of the impacts of the proposed development took into consideration the impacts of the existing facility and other commercial operations in the area. The predictive assessments include the impacts of both the existing emissions and those associated with the proposed development.

12. Proposed technology and other techniques to prevent or eliminate, or where this is not practicable, limit, reduce or abate emissions from the installation

The current licence specifies the manner in which the facility must operate so as to ensure that pollution and or nuisance to neighbours and the general public is prevented. The licence conditions require the site management team to have the appropriate training and qualifications; they specify the types of wastes and processes that can be carried out; stipulate how wastes and raw materials that have the potential to cause pollution are handled and stored; describe the control measures that must be applied to prevent nuisance, for example litter and dust control, and require appropriate emergency response procedures to be in place.

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13. Measures to Comply with Waste Management Hierarchy

The proposed development will contribute to the implementation of the principles of the waste hierarchy through the provision/expansion of waste recovery infrastructure which will facilitate the management of wastes generated within the region and nationally, in a facility incorporating the best available techniques to ensure environmental protection, thus supporting the self-sufficiency and proximity tenets of the Waste Directive.

14. Abnormal Operating Conditions

SESHL has adopted an Emergency Response Procedure (ERP) that identifies the responsibilities and actions required to deal quickly and efficiently with an emergency.

15. Avoidance of the Risk of Environmental Pollution due to Closure of the Facility

SEHL has prepared an Environmental Liability Risk Assessment (ELRA) and a Closure, Restoration and Aftercare Management Plan (CRAMP) for the facility and these, have been approved by the Agency.

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16. Environmental Monitoring

SEHL currently conducts monitoring of the following:

- Storm water
- Groundwater
- Dust
- Air
- Noise

17. Measures to Comply with an Environmental Quality Standard

The emission limit values set in the current licence are based on achieving compliance with the relevant EQS. The measures also effectively minimise the risk of pollution over long distances.

The environmental quality standards that are relevant to the overall assessment for the licence application are those specified in:

- European Communities Environmental Objectives (Surface Water) Regulations S.I. No 272 of 2009, as amended;
- European Communities Environmental Objectives (Groundwater) Regulations S.I. No 9 of 2010, as amended;
- Air Quality Standards Regulations (S.I. No 271 of 2002), and
- Directive 2008/50 EC on ambient air quality and cleaner air for Europe.

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8. Measures to comply with Council Directive 80/68/EEC and 2006/118/EC in relation to the protection of groundwater.

There are no direct discharges to groundwater.

19. The Main Alternatives to the Proposed Technology, Techniques and Measures

The existing and proposed site layout and design comply with best practice and allows the implementation of effective mitigation measures. The current composting process is industry standard and meets the Best Available Technique (BAT) requirements specified at EU level.

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