

EXECUTIVE SUMMARY

INTRODUCTION

Die Boeram Venter Trust (project applicant) intends to establish and operate a composting and fertiliser processing plant on Farm 715 Division Uitenhage, MR 00470 (Sunlands Road), Nelson Mandela Bay Municipality. The farm, approximately 377 hectares in extent, is currently zoned for agriculture use and falls outside of the urban edge of the Nelson Mandela Bay Municipality (NMBM). The applicant proposes to compost poultry litter (manure) to produce fertiliser.

An application for Environmental Authorisation and a Waste Licence Application have been submitted to the Provincial Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) and reference number ECm1/LN2/M/12-02 has been assigned to the environmental authorisation and reference number CA/A/17,18/001-12 has been assigned to the waste licence application. The applicant has appointed Public Process Consultants as the independent Environmental Assessment Practitioner to manage the Scoping and EIA process for this project. The environmental assessment needs to show the responsible authorities, and the applicant, Die Boeram Venter Trust, what the consequences of their choices would be in biophysical, social and economic terms.

PROJECT NEED AND JUSTIFICATION

The national gross income from poultry meat for the period 2009 (as recorded by the Department of Agriculture, Fisheries and Forestry [DAFF]) was R23,165 billion and from poultry eggs it was R6,986 billion. Combined, the national gross poultry farm income for 2009 was R30,151 billion. Poultry producers are the largest part of South African agricultural GDP at 24% of all agricultural production in comparison with 20% in 2008. This equates to 48% of all animal products produced in South Africa (in Rand terms) in comparison with 44% in 2008. Based on the above the poultry industry is an important and growing sector of SA's agricultural industry.

The Nelson Mandela Bay Municipality includes numerous commercial poultry facilities engaged in either broiler or egg production on a range of scales; as well as a variety of poultry rearing and keeping facilities which support these operations (e.g. layer facilities, breeder facilities). During the course of rearing / production substantial amounts of poultry litter which accumulates in the enclosures requires regular removal as a fundamental component of the poultry production process. Due to the high residual nutrient content of the poultry litter, it is considered to be a valuable source of fertilizer for the agricultural industry. Composted manure is known to be a more effective fertiliser when compared with untreated manure (Brown *et al.* 2008). There is currently no such facility in the Nelson Mandela Bay or surrounding area. The applicant intends to provide such a facility for the composting of poultry litter to produce fertiliser.

Site Suitability

The proposed site (Farm 715) was selected based on the following criteria; distance to source and markets, proximity to residential areas, site topography, size and land availability. Farm 715 is located outside the urban edge of the NMBM (approximately 12 km), however it is still within travelling distance of the main poultry producing areas in the NMBM and SRVM. It is also in close proximity to potential markets in need of fertiliser in the Sundays River Valley Municipal area (citrus and crop producers). The site is rural in nature and is currently zoned for agricultural use. It is not located near any existing residential areas or land proposed for future zoning to residential use. Land-uses in the area include game and stock farming, calcrete mining, private nature reserves (not declared), and the proposed Regional Hazardous Waste Site. The site represents a gently sloping area where surface (storm) water runoff from the composting operation can be effectively managed. Chapter Five of the Scoping Report deals with alternative sites considered as part of this assessment process.

IDP & SDF

The IDP (2006 – 2011) of the NMBM relates the following with regards to extensive agriculture outside the urban edge of the NMBM:

“Areas outside of the urban edge represent a peripheral use zone, identified by the Department of Agriculture as prime agricultural land on which extensive agriculture should be protected and promoted”.

According to the NMBM SDF (March 2009), the area under assessment falls within the Agriculture Development Zone. The NMBM Rural Land Use Management Policy, indicates that permitted uses in this zone include, inter alia, Agriculture as defined in the section 8 zoning scheme. In addition the proposed site has been given an Agricultural Land Capability classification of VI. Land in Class VI has severe limitations that make it generally unsuited for cultivation and limits its use largely to pasture and range, woodland or wildlife food and cover.

PROJECT OVERVIEW

Farm 715 is currently zoned for agricultural use and is being used for small scale crop farming as well as rangeland (cattle and game), including associated infrastructure (farm house, dams and irrigation infrastructure, storage/maintenance sheds). The farm is currently fenced and it is proposed the project is developed in phases to provide for the following:

- Composting site (approximately 10 ha)
 - Mechanical bagging and bulk storage
- Fertiliser processing plant (approximately 2 400m²), in a phased manner
 - Phase One: Storage and collection area
 - Phase Two: Product intake and processing area
- Associated bulk infrastructure (internal roads, water, electricity, stormwater management and sanitation)

The total proposed developed area is anticipated to be approximately 10.5 ha and the development footprints (composting and fertiliser processing plant) will require a suitable zoning while the remainder of the farm is proposed to continue zoned for agriculture.

Composting Facility

The applicant proposes to produce fertiliser primarily from the composting of poultry litter, using an aerobic process. It is proposed that the poultry litter is sourced from various poultry production facilities in and around the Metro from where it will be delivered directly to the site (Farm 715) via covered side-tipper trucks. The composting footprint will consist of approximately 120 rows (or windrows) of poultry litter approximately 3m wide, 1.5m high and 100m long (75 000m³ or 30 000 tons of poultry litter annually), for a period of two to four months, to produce approximately 25 000m³ of fertiliser annually. Gaps of approximately 2m wide are required between the rows to allow for the movement of vehicles (delivery of product, machinery for watering, mechanical compost turner, mechanical bagger and compost collector). The composting footprint is proposed to be approximately 10ha in extent.

The poultry litter delivered to the facility loses bulk due to bacterial decay of organic matter and evaporative water losses. The volume lost will vary dependent on the composition of the raw material and its moisture content. During the composting process the windrow is monitored for moisture content and temperature, as these factors influence the efficiency of the process. A mechanical compost turner will be used to turn the windrows as this becomes necessary (to inhibit anaerobic conditions and maintain optimum temperature and moisture levels). The windrows require watering in order to ensure that optimum moisture conditions are maintained. It is estimated that approximately 6000 litres (6kL) of water will be required per 100 meter row. Thus 3 cycles of 120 rows (360 rows annually), will require 2 160 000 litres (2160 kL) of water annually, or 8 300 litres of water per day. After completion of the composting cycle the compost can either be sold directly to users in bagged or bulk form; or be processed further (pelletised) before being sold.

The applicant proposes a phased approach to the bagging, bulk storage; and further processing of the fertiliser. During Phase One the applicant proposes to manually bag the composted fertiliser by means of a mobile mechanical bagger and store the bagged product in existing storage sheds on site prior to distribution to markets. The applicant also proposes to cater for the bulk storage and collection of fertiliser during Phase One, which would require the construction of the bulk storage and collection area of the fertiliser processing plant.

Fertiliser Plant

The product intake and processing section of the fertiliser processing plant is required predominantly to produce pelletised fertiliser. Based on growth in demand for pelletised fertiliser the applicant intends to construct the fertiliser processing plant in phases. Depending on market demand it is anticipated the completion of the construction of the fertiliser processing plant will be within five years of the establishment of the composting component of the proposed project. Upon completion, the facility will

be an enclosed roofed structure with a footprint of approximately 2 400m² and 20 m high. The fertiliser processing plant can be divided into the following areas: product intake area, processing area, storage and collection area; and services and offices (boiler, electricity, compressed air, work shed)

Bulk Services

Water will be required for the watering of the windrows and in the fertiliser plant (steam generation and domestic consumption). The total demand for the composting facility and fertiliser plant is estimated to be 10 900 litres per day. Subject to the outcome of the testing of the yield of existing borehole/s on the farm, it is proposed that underground water is used as a primary source of water. The water requirements will be supplemented with rainwater harvesting and recycling of rainwater runoff through a two-phased semi-dry detention pond system.

There is an existing 3 phase 50 kva line on the farm which is proposed to be used as a source of electricity. As far as possible existing vehicles tracks on the site will be used as internal roads. The Traffic Impact Assessment will assess and make recommendations with regards to roads affected by the project.

Additional sanitation services in the form of a water-tight conservancy tank system will be required for the office component of the fertiliser processing plant. Sufficient capacity is required for 5 employees; a conservancy tank of approximately **11.38 m³** will be required.

In order to manage stormwater runoff from the site, it is proposed that a “v” drain is created at the base of the footprint of the composting area, into which runoff water will eventuate. This water will be diverted into a two-phased semi-dry detention pond system. Subject to further specialist investigation the stormwater detention system will consist of a primary and a secondary treatment system with an outlet into a collector system, where the water will be regularly tested and treated if required. It is proposed the runoff water is used as a secondary source of water for the watering of the rows of compost.

SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

In terms of the National Environmental Management Act (Act no 107 of 1998), as amended (NEMAA), and the NEMA EIA Regulations 2010 published in Government Notice R 543, 544, 545 and 546 on the 18 June 2010 in Government Gazette 33306 (as amended), the project requires a Basic Assessment in order to obtain Environmental Authorisation and a Waste Licence, prior to commencement of activities on site.

- The project requires Environmental Authorisation from the Provincial Department of Economic Development Environmental Affairs and Tourism (DEDEAT) in terms of the National Environmental Management Act (Act No. 107 of 1998) as amended (“NEMAA”) and the NEMA EIA regulations 2010 (as amended) for activities listed in GN R 544 and 546.
- The project also requires a Waste License in terms of the National Environmental Management Waste Act (NEM:WA), Act 59 of 2008, for Category A listed Activities in GN R718 which is also issued by the Provincial DEDEAT.

The application to commence the Scoping and EIA process in terms of the NEMA EIA Regulations 2010 was prepared and submitted to the DEDEAT, dated the **27 May 2011**. The acknowledgement of receipt of the application was not issued within the prescribed period, due to the need to obtain confirmation regarding the application and interpretation of Category 10: Animal Matter Processing, listed in terms of NEM:AQA. In accordance with Regulation 20 (3) in GN R543 of the NEMA EIA Regulations, 2010 a recommendation was submitted to DEDEAT on the **13 December 2011**, to adopt a precautionary approach towards the assessment process and, regardless of whether an AEL would be required by the project, to apply Scoping and EIA, instead of a Basic Assessment. Acknowledgement of the application submitted and confirmation of the approach to the assessment process, was received from DEDEAT in correspondence dated the **10 February 2012** and reference number **ECm1/LN2/M/12-02** has been assigned to the application for environmental authorisation. An application for a waste licence was submitted to DEDEAT, dated **3 June 2011**, acknowledgement of receipt was received on the **10 February 2012** and reference number **CA/A/17,18/001-12** has been assigned to the waste licence application.

Chapter Four of the Scoping Report provides an overview of the listed activities that are triggered by the project proposal.

SCOPING AND IDENTIFICATION OF ISSUES

The purpose of the Scoping Phase of the EIA is to identify issues which would require assessment during the EIA process, to inform stakeholders about the proposed development, and to present an opportunity for public participation to occur at an early stage, allowing for a transparent and inclusive process. It is intended that the outcome of the Scoping Phase would provide sufficient information to enable the authorities to reach a decision regarding the scope of issues to be addressed in the EIA process. Within this context, the objectives of this Scoping process are to:

- Identify and inform a broad range of stakeholders about the proposed development;
- Clarify the scope and nature of the proposed activities and the alternatives being considered;
- Conduct an open, participatory and transparent approach and facilitate the inclusion of stakeholder issues in the decision-making process;
- Identify and document the key issues to be addressed in the forthcoming Environmental Impact Reporting Phase of the EIA, through a process of broad-based consultation with stakeholders;
- Ensure due consideration of alternative options with regard to the proposed development, including the “No development” option.

The Draft Scoping Report was made available to all stakeholders for a 44 day review period. The Final Scoping Report includes all the comments received during the DSR review period. Chapter 6 of the Scoping Report provides the Plan of Study for EIA and the Terms of Reference for the specialist studies, which have been informed by the issues identified through the Scoping Process to date. The following provides an overview of the proposed specialist studies to be undertaken during the EIA Phase of the Assessment:

- Biophysical site assessment (vegetation and fauna) to include:
 - Mapping of sensitive features and assigning appropriate no development buffers
 - Identification and verification of Critical Biodiversity Areas on the site
 - Potential project related impacts on natural vegetation and faunal habitat need to be considered
- Wetland specialist assessment
 - The occurrence, locality and importance of wetlands on the site
- Heritage specialist Assessment
 - A desktop Paleontology and a phase 1 Archaeological Impact Assessment
- Air quality specialist assessment
 - A specialist Air quality assessment will need to determine the air quality impacts of the composting process and fertiliser plant
- Geohydrological assessment
 - To establish suitable placement of the composting site relating to soil infiltration and groundwater contamination
 - Assessment of the borehole yield
- Stormwater Management Plan
 - Provision of stormwater infrastructure to manage and treat stormwater runoff from the composting facility and fertiliser plant
- Traffic Impact Assessment
 - To determine the impacts of the development-related traffic on the condition of the roads in the vicinity
- Bulk Services
 - To determine water requirements, stormwater management, electricity, sanitation and internal roads
- Materials Handling and Waste Management
 - Identify and make recommendations for waste streams
- Visual Impact Assessment
 - To identify and assess sensitive visual receptors