

EXECUTIVE SUMMARY

INTRODUCTION

The applicant, San Miguel Fruits SA (Pty) Ltd, proposes to expand their existing Packhouse, namely Ponders End Packhouse, located on Portion 316 of Farm Commando Kraal No. 113, Addo, Sundays River Valley Municipality (SRVM). The site is currently zoned Agriculture I and located on the site is an existing Packhouse, which consists of one (1) production line and associated infrastructure. It is proposed that the existing Packhouse is expanded to include two (2) additional production lines under roof, as well as associated infrastructure. The Packhouse will provide for the sorting and packing of fresh whole fruit for local and international markets. Fruit that is deemed unsuitable for sale as fresh whole fruit will be sent for further processing (juicing) at a local juicing factory.

The site is located ~3km east of Sunland and can be accessed via the gravel road (DR01988) which intersects with R336, ~570m west of the existing entrance to the Packhouse. The nearest boundary of the Addo Elephant National Park is located ~3km east of the site.

The existing scenario on Portion 316 includes some vegetated open space areas, as well as a fenced in residential dwelling (east), a number of buildings (some disused, some currently utilized i.e. store, shed, stables, labourer's houses), citrus orchards (west), and the existing Packhouse with associated infrastructure (centre). Existing infrastructure includes:

- Existing Packhouse (one (1) line), associated offices and infrastructure.
- Stormwater pond.
- Irrigation water storage pond.
- Wash water pond.
- Water pumping and water treatment facilities.
- Domestic effluent infrastructure
- Administrative buildings.
- Fuel tanks and generators.
- Internal roads (gravel and paved surfaces).

The existing Packhouse has a footprint of ~8155m², consisting of one (1) production line. The total development footprint of the Packhouse, with associated infrastructure currently measures ~30 900m²/ 3.09ha. The proposed extension to the Packhouse will mainly be located to the west of the existing Packhouse. The western portion of the site consists largely of a gravel surface and existing citrus orchards. Associated infrastructure (e.g. Stormwater detention ponds and sewer batch plant) are proposed within areas that are mostly grassed with some shrubs and trees, to the south, east and north of the existing buildings on site.

In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment, because it triggers, amongst others, the following listed activity, in Listing Notice 1 (GN R327):

"43. The expansion and related operation of hatcheries or agri-industrial facilities outside industrial complexes, where the development footprint of the hatcheries or agri-industrial facilities will be increased by 2 000 square metres or more."

Public Process Consultants has been appointed by San Miguel Fruits SA (Pty) Ltd, as the independent Environmental Assessment Practitioners (EAP) to undertake the Basic Assessment including Public Participation for the project.

PROJECT DETAIL

The proposed future expansion consists of two (2) additional production lines, thus the maximum future expansion to the Packhouse will consist of a total of three (3) productions lines. The Packhouse will provide for the sorting and packing of fresh whole fruit for local and international markets. Fruit that is deemed unsuitable for sale as fresh whole fruit will be sent for further processing (juicing) at a local juicing factory.

In addition, and in order to ensure that the associated services (access, water, stormwater, process water and effluent) are effectively provided and managed, the expansion is proposed to include the following components:

- Wash water pond (500m²/ 480m³).
- Two semi-dry stormwater ponds (2600m²/ 1823m³).
- Expansion of the existing irrigation water pond to incorporate the adjacent existing stormwater pond (Expanded by 1201m²/ 1950m³; Final footprint 3100m²/ 4800m³).
- New access/ egress point.
- Internal roads (varying widths between 4m and 8m).

- Sewer batch plant (Cleardge Sewage Treatment System (375m²).
- Maturation pond (1089m²/1089m³).
- 110mm sewer pumping main and 160mm gravity sewers.
- Rainwater storage tanks.
- Relocation of existing pumphouse, water purification plant and 30kl fire tanks.
- Expansion of existing packhouse buildings (17 986m²).

The above components are described in detail in the respective services sections of the Consultation Basic Assessment Report (CBAR) and are indicated in the Facility Illustration Drawing attached as Appendix C.

As part of the expansion process, the following facilities will require removal and/ or decommissioning, as they are located within portions of the development footprint:

- An existing stormwater pond will be incorporated into the expanded irrigation water storage pond.
- The orchards on the western portion of the site will be removed to accommodate the proposed Packhouse expansion.
- The existing access will be retained as an emergency exit.

The total expanded development footprint is thus anticipated to be ~91 422m² (~9.14ha). Consequently, the project proposal is for the expansion of the existing Packhouse facilities and associated infrastructure by ~60 522m² (~6.05ha).

Packhouse Facility Operations

The packing process entails the washing, sorting and grading of a variety of citrus for the local and international market. This is both a mechanical and labour intensive process. The first step entails the arrival of the citrus at the Packhouse, via truck or tractor trailer and in plastic crates, where they are tipped into a chlorinated bath for cleaning. The crates are stored temporarily on site where they are washed under cover to remove excess dust and chemicals, before being collected and returned to the orchards for filling during harvest season.

Washing of the fruit in the chlorinated bath requires the use of chemicals, such as Citroside and chlorine for cleaning and disinfecting the fruit or vegetables. Further steps include fungicidal baths, followed by drying and waxing or coating the produce with a layer of wax to improve the appeal of the product. The citrus is then packed directly into cartons, crates or bags for transport to local or international markets.

Process wash water with premixed chemical additives is used at various stages of the packing process to clean the fruit of excess dust, as well as to disinfect and enhance the appeal of the product, amongst others. Process wash water is recycled within this system for a total of 10 shifts, which equates to approximately five (5) days. Each step in the process recycles the water used in that step, so as not to contaminate other water/ chemical solutions. The chemical concentration is ~200-250ppm in any given solution. After 10 shifts have elapsed, the process wash water must be discharged. This water is discharged at the end of the week before a new batch of produce arrives at the start of a new week. The process wash water will be conveyed to the proposed **wash water pond** near the mid-northern boundary of the site.

Chemical Storage and Handling

The current chemical store consists of an ~15m² store which serves one (1) production line. The existing store has spare capacity and is anticipated to be able to accommodate the additional chemicals that will be required for the proposed expansion. However, should additional storage space be required, it is proposed that an existing store room (~15m²), located adjacent to the existing chemical store, be renovated to accommodate additional chemical storage. The combined chemical store area for the three (3) production lines will, therefore, be ~30m² in total and will not require expansion of the total facility footprint.

Associated Infrastructure Requirements

Roads and Access

Access to the existing packhouse is currently provided from DR01988, ~500m east of the R336/ DR01988 junction. A new truck access/ egress is proposed at a point ~430m west of the existing access point (130m east of the R336/ DR01988 junction). The existing access is proposed to be utilised as an emergency exit. It is proposed to surface DR01988 along the length of the property under assessment, as indicated in Map 3 of the CBAR, due to the increased turning movements into and out of the site.

Preferably, a minimum width of 8m is required for the main internal distribution road, near the entrance to the site. Subject to the applicable trip generation figures, the width of the other main internal access areas should vary between 8m and 4m.

Stormwater Management

In an attempt to address the post-development stormwater drainage in a responsible manner including adherence to the accepted objectives, the following preliminary design proposals are recommended:

- The areas where the crates will be washed, will be under roof to have better control over the wash water in case of a rain storm.
- Intercept and convey the wash water by channels and/ or a gravity/ medium pressure pumping main system to the wash water pond to prevent the potential contamination (by sediment or residual pesticides) of the normal storm water run-off on site.
- Collect the afore-mentioned wash water in a wash water pond where the discharge can be controlled. The wash water pond shall be designed to retain the normal wash water generated from crate washing operations, as well as the washing of fruit (process wash water).
- In order to reduce the volumes of stormwater, intercept storm water from the roof areas and convey it to rainwater storage tanks near the buildings. The surplus storm water from the roofs will be conveyed by means of gravity/ medium pressure pumping mains to the irrigation water pond which will be designed to act as a mechanism to also detain the surplus storm water from the roof areas during and after 1 in 100-year rain storm conditions.
- Discharge the overflow from the irrigation pond to the primary storm water detention pond PSW2.
- Intercept and convey the storm water from all the open hard stand areas and convey it to the primary storm water detention ponds as far as practically possible.
- The formed-gravel paved and/ or concrete surface areas will also in most instances act as shallow overland storm water channels to accommodate the responsible management of storm water. The primary storm water ponds, PSW1 and PSW2 shall be designed to retain post-development storm intercepted flows up to a maximum 1 in 100-year recurrence interval and release up to a maximum of a 1 in 5-year recurrence interval run-off in a distributed manner along the grassed verge adjacent to the southern boundary of the site.
- The detained flow of the afore-mentioned stormwater ponds can be released by irrigating the wind breaks and grassed verge near the southern boundary area of the site.
- Due to the partial sedimentation process that occurs under lower flow velocities in the wash water pond and primary detention pond, as well as the biological breakdown of contaminants by the sun energy and oxidation, the quality of the intercepted run-off can be improved prior to discharge.

Water Requirements

Domestic Water Demand

The current workforce consists of 336 factory workers and 10 administration personnel. Based on the design calculations, the current domestic water demand is 34.2m³ per day and 171m³ per week, for a 5-day work week during the packing season. The proposed expansion (by two (2) production lines) will increase the domestic water demand by 68.4m³ per day and 342m³ per week. Thus, the total future domestic water demand for the total development (three (3) production lines) will increase to **102.6m³ per day and 513m³ per week during the packing season** (normally April to October).

After the packing season, the domestic water demand has been estimated to vary on average from 1.2m³ per day and 6m³ per week up to 40m³ per day and 200m³ per week.

Wash Water Demand

The current wash water demand for one (1) production line is 8m³ per day and 40m³ per week, for a 5-day work week during the packing season. The total future wash water demand for the three (3) production lines is thus anticipated to be **24m³ per day and 120m³ per week for a 5-day work week during the packing season.**

After the packing season, the wash water demand can vary from nil to 40m³ per week.

Water Supply

The bulk water supply to the existing Packhouse is via the Lower Sundays River Water Users Association (LSRWUA) irrigation canal. The flow is directed from the canal offtake point to the irrigation water storage pond via an existing earthen canal. The existing irrigation water storage pond is proposed to be expanded by 1201m² (1950m³), so as to incorporate the adjacent existing stormwater detention pond and will have a total footprint of 3100m² and a capacity to hold 4800m³.

The current water demand (domestic plus wash water) for one (1) production line is 211m³ per week during the packing season. The anticipated water demand (domestic plus wash water) for the total development of three (3) production lines is 633m³ per week during the packing season. Based on the water use entitlements provided by the LSRWUA (attached as Appendix G(x)), the applicant is permitted to take off 8ha of irrigation water from the canal (72 000m³ per annum). This translates to an average canal supply of 1385m³ per week. The average weekly demand of the total development (consisting of three (3) production lines) is equal to 633m³. Subject to the approval of the LSRWUA for the usage of 633m³ irrigation water

as operational water (other than irrigation purposes), **the water supply will be adequate to accommodate the proposed expansion, including during extreme drought conditions.**

In addition to the supply from the LSRWUA canal system, it is proposed that roof rainwater harvesting also be employed to supplement the water supply of the expanded packhouse facility. This would require that the gutter system of the existing facility be upgraded and those of the new facility be designed to effectively intercept and convey the surface run-off up to a 1 in 100-year five (5) minute rain storm. The intercepted flow can then be directed to rainwater tanks and the surplus flow to the expanded irrigation pond.

Electricity Requirements

The applicant has an existing connection to an Eskom supply of 500kVA which provides electricity to the current Packhouse operations. It is proposed that the maximum demand, as a result of the proposed expansion, will increase to ~1500kVA. Eskom has confirmed that the additional 1000kVA is available on the relevant Addo Network (see confirmation attached as Appendix G(x)).

Waste Generation

The following potential sources of waste have been identified:

- Chemical packaging
- Domestic waste (general refuse, fluorescent tubing etc.)
- Packaging waste (cartons)
- Effluent
 - Process wash water
 - Domestic effluent

Since this is an existing facility it is proposed that the additional chemical packaging, office waste and packaging waste will be handled, classified and disposed of according to already established procedures and protocols at the facility so as to continue to meet accreditation requirements.

- *Chemical Packaging*

All waste materials including packaging of the chemicals, will be stored within a bunded, roofed, secure storage area, before final disposal at an appropriately registered facility.

- *Domestic Waste*

General waste that will be generated at the Packhouse which may contain hazardous elements (e.g. fluorescent tubes/ light bulbs) will be classified, separated and temporarily stored in a designated waste area storage area in suitably marked bins before final disposal at an appropriate registered facility. The total future domestic waste for the three (3) production lines is calculated to be 11.75m³ per week during the packing season.

- *Packaging waste*

The total estimated number of damaged cartons which will be generated by the three (3) production lines is calculated to be 54 000 per season. The damaged cartons will be carted and delivered to the Humansdorp Co-op at Hermitage near Addo, where it will be bailed and re-cycled.

- *Effluent*

Two types of effluent that will be generated at the Packhouse have been identified namely, process wash water and domestic effluent.

- Wash water

The wash water will be collected from the crate-washing area, as well as the respective production lines with a gravity pipe and/ or channel system and will drain to the respective wash water pump stations. The wash water will then be pumped from the pump stations and be discharged to the proposed wash water pond near the mid-northern boundary of the site.

It is recommended that the wash water pond shall have a capacity to effectively store at least 4 weeks of the wash water. Thus, the proposed storage capacity of the wash water pond is 480m³ (25m x 20m x 1.3m). Subject to the permeability of the in-situ soil conditions, it is recommended to seal the wash water dam with a plastic damp proof course and 300mm deep clay layer. The area of wind breaks and grassed spaces, which will be irrigated with the wash water, is 4490m².

○ Domestic Effluent

The Average Dry Weather Flow (ADWF) of the full development of the Ponders End packhouse (three (3) production lines) has been calculated to be **102.0m³** per working day for the 1008 factory workers and 30 administration personnel during the packing season.

The preferred option to treat the domestic effluent under post-development conditions is the Clearedge Sewage Onsite Treatment System or similar foul sewer treatment system as approved by the Sundays River Valley Municipality. The location to construct the foul sewer treatment plant has been identified near the north eastern boundary of the site. The treatment plant will have a daily throughput capacity of 102m³. The treatment plant will require an area of 15m x 25m (375m²) and maturation pond 33m x 33m x 1m deep (1089m²/1089m³).

The main internal waterborne gravity sewers have to be designed to accommodate the peak wet weather design flows. It is proposed that the gravity sewers will mainly be **160mm** diameter to convey the effluent from ablution and rest rooms to the underground sewer pump stations. The sewer pumping main from the private pump stations will mainly consist of **110mm** diameter pipelines and will convey the domestic sewer effluent to the communal septic tank/ buffer tank of the onsite foul sewer treatment plant near the north eastern part of the site.

The treated effluent will be directed to the maturation pond which will also act as an irrigation/ emergency retention ponding system at the foul sewer batch plant to make sure the final effluent is free from any chlorine residual, which could occur under isolated overdosing conditions. In case of extreme unforeseen package plant breakdowns, the irrigation/ emergency retention pond system should also be able to accommodate the inflow up to 15 days x ADWF that can be re-circulated to the "communal" septic tank if needed to limit the risk of possible contamination of underground water sources. The irrigation/ emergency retention pond shall be constructed with a plastic lined base covered with a 300mm clay layer to avoid percolation to lower lying ground layers. The approximate size of the maturation pond (irrigation/ emergency retention pond) to serve the package plant effluent from the full development of the packhouse should be the equivalent of 33m x 33m x 1m deep (1089m²/1089m³).

The grassed areas which will be irrigated with the treated effluent, is more than 18 680m². For further technical information regarding the proposed onsite effluent treatment see the Roads and Wet Services Report prepared by JJ Spies Civil Engineers attached as Appendix D(iv).

Project Timing

Should the proposed expansion receive Environmental Authorisation, it is proposed that the preconstruction phase (detailed planning and design approval) will commence immediately and will be completed within ~24 months. The construction phase will commence within 12 months of completion of the preconstruction phase and will take ~24 months to complete. The expanded facility will become operational upon completion of the construction phases and will continue in perpetuity.

BASIC ASSESSMENT PROCESS AND PUBLIC PARTICIPATION

In terms of the NEMA EIA Regulations 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment, because it triggers, amongst others, the following listed activity, in Listing Notice 1 (GN R327):

"43. The expansion and related operation of hatcheries or agri-industrial facilities outside industrial complexes, where the development footprint of the hatcheries or agri-industrial facilities will be increased by 2 000 square metres or more."

In addition to the above the following listed activities are triggered by the proposed expansion:

GN R327 (Listing Notice 1): 19, 27, 28. (ii), and 43.

GN R324 (Listing Notice 3): 2. a. ii. (ff), 4. a. i. (gg), 16. a. i. (hh) and 23. (ii) (c) a. i. (gg).

The listed activities require authorisation from the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT). The Basic Assessment needs to show the responsible authority, DEDEAT, and the project applicant, San Miguel Fruits SA (Pty) Ltd, what the consequences of their choices will be in biophysical, social and economic terms. Public involvement forms an important component of this process, by assisting in the identification of issues and alternatives to be evaluated.

Public Participation forms an important component of the BA Process and together with specialist input assists the competent authority, with their decision making. The Basic Assessment Process is currently at the stage where an Application Form for Environmental Authorisation has been submitted to the competent authority. In parallel to the submission of the Application Form, the Consultation Basic Assessment Report (CBAR) is being released for a 53-day comment and review period, which

extends from the **27 November 2018 to 19 January 2019**. Please note that the comment period has been extended from the minimum legislated 30-day comment period because, in terms of the NEMA EIA Regulations 2014 (as amended), **no Public Participation may be conducted during the period from 15 December to 5 January**.

SPECIALIST STUDIES

The following Specialist studies have been undertaken as part of the BA Process in order to inform the CBAR:

- Roads and Wet Services Assessment (roads, stormwater, effluent and water reticulation)
- Traffic Impact Assessment
- Aquatic Specialist Assessment
- Vegetation Specialist Assessment
- Desktop Archaeological and Palaeontological Impact Assessments (Letters of Exemption)

ENVIRONMENTAL STATEMENT

The proposed expansion of the existing packhouse facility is anticipated to have an overall **LOW NEGATIVE** impact on the receiving environment during the construction and operational phases, if all the recommended mitigation measures are applied.

Ecological impacts are not anticipated to be significant, as the site is largely modified, and no natural aquatic habitat has been identified on the site. In addition, the Coerney River is located ~440m west of the site and its associated riparian habitat is separated from the site by the road, railway and other modified areas. The potential impact on the Coerney and Sundays Rivers systems has been identified as a potential Cumulative Impact. However, with the application of the proposed mitigation measures, it has been rated as a **LOW NEGATIVE** impact which has a less than 50% chance of occurring.

Socio-economic impacts which have been identified, which include the generation of noise and dust, as well as health and safety impacts can also be mitigated to **LOW** or **VERY LOW NEGATIVE**, except for the Traffic Safety Impact, which can be mitigated to **MEDIUM NEGATIVE**.

Heritage impacts can be mitigated to **NEUTRAL** during the construction phase, if the ECO and/ or construction foreman are informed of the types of heritage artefacts which could be uncovered during vegetation clearing and excavations, and are aware of the required action to be taken should heritage material be uncovered.

The risks associated with the proposed expansion are largely associated with the creation of additional hard surface areas and the resultant stormwater flow, as well as the generation of waste (e.g. domestic effluent, wash water, chemical waste packaging) during the operational phase. However, the application of the proposed mitigation and design measures, as recommended by the respective specialists, are anticipated to effectively manage and reduce these potential impacts, so as to not have a detrimental effect on the receiving environment.

In addition, some positive impacts have also been predicted. These include the creation of a number of additional employment opportunities and associated economic growth for the local community (rated as **HIGH POSITIVE**), as well as the reduction of dust generated by the additional truck trips during the operational phase, as a result of tarring a section of the road (rated as **MEDIUM POSITIVE**).

No-go Alternative (compulsory)

The No-Go alternative will result in the potential employment and skills development opportunities for the local community not being realised. In turn, the potential opportunity for economic growth in the community will be lost. The capacity of the packhouse service industry in the area will also become overloaded as citrus production in the area continues to increase. These consequential impacts are regarded as **HIGH NEGATIVE**.