



THE PROPOSED EXPANSION OF THE SUPREME POULTRY CHICKEN PROCESSING PLANT'S SLAUGHTERING THROUGHPUT FROM 120 000 UNITS TO 150 000 UNITS PER DAY AND FOR THE RECOVERY, RECYCLING AND TREATMENT OF CHICKEN PROCESSING WASTE TO FEATHER MEAL ON ERF 9907, MAHIKENG, NORTH WEST PROVINCE

Final Basic Assessment Report

Ref No. (EA): NWP/EIA/22/2022

Ref No. (WML): 16/12/R

AUGUST 2022

Prepared for:



Prepared by:

Jan-Louis Jordaan
jl.jordaan@enviroworks.co.za
051 436 9675

Today's Impact | Tomorrow's Legacy

QUALITY AND REVISION RECORD

QUALITY APPROVAL

	Capacity	Name
Author & EAP	Environmental Consultant	Jan-Louis Jordaan
Review EAP	Environmental Consultant and Ecological Specialist (EAPASA Reg: 2019/1311)	Elana Mostert

This report has been prepared in accordance with Enviroworks Quality Management System.

REVISION RECORD

Revision Number	Objective	Change	Date
1	Draft Report	Internal review	30/05/2022
2	Draft Report	Client review	07/06/2022
3	Draft Report	Changes based on Public Participation Process comments	14/07/2022
4	Final Report	Changes based on Departmental and Client comments	29/08/2022

DISCLAIMER

Even though every care is taken to ensure the accuracy of this report, environmental assessment studies are limited in scope, time and budget. Discussions are to some extent made on reasonable and informed assumptions built on bona fide information sources, as well as deductive reasoning. Since environmental impact studies deal with dynamic natural systems additional information may come to light at a later stage during the impact assessment phase. The author does not accept responsibility for conclusions made in good faith based on own databases or on the information provided. Although the author exercised due care and diligence in rendering services and preparing documents, he accepts no liability, and the client, by receiving this document, indemnifies the author against all actions, claims, demands, losses, liabilities, costs, damages, and expenses arising from or in connection with services rendered, directly or indirectly by the authors and by the use of this document. This report should therefore be viewed and acted upon with these limitations in mind.

EXECUTIVE SUMMARY

Phakamile Risk Consultants (Pty) Ltd. appointed Enviroworks, an independent Environmental Assessment Practitioner (EAP), on behalf of Supreme Poultry (Pty) Ltd. (The Applicant), to undertake the required Basic Assessment (BA) process for the proposed expansion of the output of slaughtering and processing poultry from 120 000 units per day to 150 000 units per day and associated recovery, recycling and treatment of chicken waste to feather meal at the Supreme Poultry Mahikeng Chicken Processing Plant, North West Province.

The Processing Plant is an already established facility (prior to at least 1995 – Appendix I14), with the current slaughtering volumes not exceeding a hundred and twenty thousand (120 000) units per day. The Applicant proposes an expansion of the output to a hundred and fifty thousand (150 000) units per day and associated recovery, recycling and treatment of chicken waste to feather meal. This will lead to an increase in the availability of processed poultry products for the surrounding community and businesses. The Processing Plant is designed in such a manner as to process more units than what it currently processes, therefore no physical construction will occur in order to facilitate this increase of the slaughtering volumes.

The overall site amounts to an area of just under four hectares (4 ha), encompassing a total development footprint of ten thousand three hundred-and forty-five-point three square metres (10 345.3 m²). The total development footprint of the site includes, but is not limited to, a Tool shed, Workshop, Compressor plant room, Pack material stores, Pallet making shop, Workshop and material store, Meal loading area, Rendering Plant, Live bird receiving area, Processing building, Holding room, Refrigeration plant, Steam generator house, Substation, Change room, Ablution building, Canteen, Refuse area, Security office, PPE room, Weighbridge office, Office building, Factory shop, Carports, Concrete driveways, Parking areas, Water reservoir and surface areas consisting of concrete bed slabs, lawns and gardens, concrete block paving and ground surfaces. The Processing building measures at approximately three thousand nine hundred and eleven square metres (3 911 m²). The Steam Generator house and Rendering Plant combined equates to six hundred- and thirteen-point six square metres (613.6 m²). Please refer to the Site Layout Plan (Appendix C) for further references regarding the infrastructure present on site, as well as the square metre coverage of all the infrastructure on Erf 9907, Mahikeng.

The standard activities taking place in the processing plant include four (4) phases. The initial phase includes the delivery of the chickens, ante-mortem (before slaughtering) inspection and the lairage (where the birds are kept prior to slaughtering). Should there be Dead-on Arrival birds present during delivery at the receiving bay, then a post-mortem (after death) inspection will be performed. The second phase includes the slaughtering activities, which consist of the stunning and bleeding out of the chickens, debunking, removal of feathers and internal organs. After the organs are removed, they are washed, packaged, weighed and are stored. Hereafter the organs are sold to the intended prospective clients. The blood and feathers are transported to the rendering area and are removed and transported via conveyer belts and pipes in the facility to the Rendering Plant, whereas the heads, feet and viscera are packaged and stored in the holding rooms before being sold. The third phase includes the packaging and cooling of the processed units. An inspection is performed on the meat after slaughtering in order to determine whether the produce is compliant according to Health and Safety standards of the facility as well as the Foodstuffs, Cosmetics and Disinfectant Act, 1972 (Act No. 54 of 1972) and Meat Safety Act, 2000 (Act No.

40 of 2000). The cutting or quartering of the carcasses into portions then takes place, after which the portions are washed at the cut-up wash station. Hereafter the portions are packaged and chilled in large industrial freezers and in “fresh areas”.

Finally, the last phase constitutes the delivery phase, whereby the processed portions are transported to the loading bay area and then transferred to the intended prospective clients. Should the post-mortem inspection identify undesirable or unusable biological material, this material is transported to the Rendering Plant.

An average of one hundred and fifty-two point twenty-nine (152,29) tonnes of Grade A coal is delivered to the Supreme Poultry Mahikeng Processing Plant on a monthly basis. The coal is stored in a bunded storage area, before being loaded into the two steam generators present on site. Coal is burnt in the two steam generators, hereby generating steam which is subsequently transferred to various areas of Production and the Rendering Plant. It should be noted that one steam generator is not always simultaneously operational, with said steam generator being on stand-by and only used when/if necessary. The coal ash produced by the steam generators are then stored in a designated storage area, whereafter it is collected and removed by a brick maker. Approximately thirty-two point zero four cubic metres (32,04 m³) of ash is produced on a monthly basis.

As mentioned above, the heads, feet, blood, feathers, fats, inedible viscera and Dead-on Arrival birds are received from the processing plant with dedicated pipelines, conveyer belts and “trolleys” at the Rendering Plant. Here, steam obtained from the steam generators is utilised in order to cook the biological material. After the cooking process has been finalised, the material is then dried out, and grounded. The final product is feather meal, which is then packaged and stacked, whereafter it is sold to prospective clients. These clients use the meal as a high protein additive for animal feed.

It is estimated that the facility currently produces one hundred and seventy thousand, nine hundred and thirty kilogrammes (170 930 kg) (170.93 tons) of biological material per month, with Dead-on Arrival birds included within this figure. The upper and lower limits for this aforementioned quantity of biological material per month are two hundred and fifteen point forty four (215,44) tons and hundred and forty three point thirty eight (143,38) tons respectively. The feathers, blood, fat and Dead-on Arrival birds are re-worked into feather meal via the Rendering Plant (sterilization process, thus also referred to as the Sterilizing Plant). This process involves the cooking, drying out and grounding of the material whereby the biological material is transformed into feather meal.

Sieves at the back of the facility collect any solid materials (when the blood, feathers and fat material is removed), preventing these materials from entering the effluent drains. The liquid effluent is discarded within the municipality drains and is tested on a monthly basis. The excess fat and blood are collected from the sieves, and also processed at the Rendering Plant, whereafter it would be sold as feather meal. On average, more than eight thousand kilogrammes (8 000 kg) (8 tons) of animal matter (blood, feathers, fat, Dead-on Arrival birds) are processed by the Sterilizing Plant on a daily basis.

Sanitary and Medical Waste are collected by a registered waste removal contractor (Ecofirst Pest Prevention and Hygiene Services and Averda respectively) and are incinerated off-site. Sewerage from the ablution, canteen,

admin, stores and workshop areas; grey water from the showers and washing facilities; and, industrial effluent from processing activities are disposed of via the municipal effluent system. Paper and cardboard, plastic, scrap metal and wood pallets are recycled and reused wherever possible, where excess material is recycled by a third party (Willcor Services). Food waste produced within the Canteen is collected by a local pig farmer and/or disposed of at the local, registered landfill site by a registered general waste removal contractor.

Additionally, the Applicant proposes to construct a new generator building, with a new bunded diesel tank, south-east of the Rendering Plant. Please note that the new forty-five cubic metre (45 m³) diesel tank would be encapsulated within a fifty-point six cubic metre (50.6 m³) bund area. Although diesel may be classified as a dangerous good, due to the dimensions of the storage infrastructure being less than eighty cubic metres (80 m³), Activity No. 14 of Government Notice 327 dated 07 April 2017, as amended (Listing Notice 1) would not be triggered and therefore an Environmental Impact Assessment in the form of a BA would not be required. Additionally, although the diesel container does have a larger capacity than the thirty cubic metres (30 m³) prescribed by Activity No. 10 in Government Notice 324 of 07 April 2017, as amended (Listing Notice 3), the proposed location where the proposed activity is to be situated does not fall within the ambit of geographical areas described for the North West Province, and therefore a BA would not be necessary. Additionally, as all the necessary specialist studies and management plans were performed and drafted during the Water Use Licence (WUL) application, including an Integrated Waste Water Management Plan (IWWMP), thus additional specialist studies regarding the installation of the diesel storage tank and subsequent bund area are deemed to be unnecessary.

Please note that Category 10 as per the National Environmental Management: Air Quality Act (NEM:AQA) GN R. 893 in Government Gazette 37054 dated 22 November 2013, as amended, will be applicable for this expansion. However, an Atmospheric Emission Licence (NWPG/SUPREME/AEL10/JULY2020) has been applied for, and was issued on 21 July 2020 by the North West Department of Economic Development, Environment, Conservation and Tourism. A Water Use Application (WU16808) has also been submitted prior to this application on the 4th of December 2021, due to the abstraction of water from boreholes, the storage of water in reservoirs and tanks, processing water and irrigation (Section 21 (a), (b), (e) and (g)).

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iii
ACRONYMS AND ABBREVIATIONS	viii
TABLE OF FIGURES	
LIST OF TABLES	i
1 INTRODUCTION	1
1.1 Background and Introduction.....	1
1.2 Details and Expertise of the Environmental Assessment Practitioners (EAPs)	3
1.3 Report Layout	4
2 PROJECT DESCRIPTION	5
2.1 Project Location.....	5
2.2 Project Activities.....	6
2.3 Project Alternatives	8
2.3.1 Location Alternative	9
2.3.2 Lay-out Alternative.....	9
2.3.3 Technology Alternative	10
2.3.4 Preferred Alternative	11
2.3.5 No-Go Alternative	11
3 RELEVANT LEGISLATION AND LEGAL REQUIREMENTS.....	12
3.1 National Environmental Management Act (Act 107 of 1998)	12
3.2 NEMA 2014 EIA Regulations as amended:	12
National Environmental Management: Waste Act (Act No 59 of 2008) (NEM: WA) GN 278 of 01 July 2009, as amended	12
3.3 National Environmental Management: Waste Act (Act No 59 of 2008) (NEM: WA) GN 278 of 01 July 2009, as amended	12
3.4 Other Legislation	14
4 NEEDS AND DESIRABILITY	15
5 DESCRIPTION OF THE RECEIVING ENVIRONMENT	19
5.1 Climate	19
5.2 Vegetation	19
5.3 Surrounding Land Uses.....	19
5.4 Topography and Drainage	20
5.5 Cultural and Heritage	20
5.6 Socio-Economic	20
5.7 Demography and Population	21
5.8 Assumptions	23
6 PUBLIC PARTICIPATION PROCESS.....	24
6.1 Site Notices.....	24
6.2 Newspaper Advertisements	25
6.3 Notification of Stakeholders and I&APs	25
6.4 Notification of Governmental and other Authorities	26
6.5 Comments and Response during the Public Announcement of the Project	29

6.6	Conclusion	29
7	IMPACT ASSESSMENT	29
7.1	Impacts that may result from the Planning and Design, Construction, Operational, Decommissioning and Closure Phases as well as proposed management of identified impacts and proposed mitigation measures	29
7.2	Potential Impacts during the Planning, Design and Construction Phases.....	31
7.3	Potential Impacts during the Operational Phase	31
7.4	Potential Impacts during the Decommissioning and Closure Phases	34
7.5	Environmental Impact Statement	34
8	RECOMMENDATIONS OF THE PRACTITIONER	37
	APPENDICES	38
	Appendix A: Maps	38
	Appendix B: Photographs.....	38
	Appendix C: Facility Illustration(s).....	38
	Appendix D: Specialist Report(s)	38
	Appendix E: Public Participation	38
	Appendix F: Impact Assessment	38
	Appendix G: Environmental Management Programme (EMPr).....	38
	Appendix H: Details of the EAP and Review EAP	38
	Appendix I: Additional Information.....	38

ACRONYMS AND ABBREVIATIONS

AEL	-	Air Emissions Licence
AIR	-	Atmospheric Impact Report
BA	-	Basic Assessment
BAR	-	Basic Assessment Report
CO	-	Carbon Monoxide
CBA	-	Critical Biodiversity Area
DEDECT	-	Department of Economic, Development, Environment, Conservation and Tourism
DFFE	-	Department of Forestry Fisheries and the Environment
DWS	-	Department of Water and Sanitation (previously known as DWA / DWAF)
EAP	-	Environmental Assessment Practitioner
EIA	-	Environmental Impact Assessment
EMF	-	Environmental Management Framework
EMPr	-	Environmental Management Program Report
ESA	-	Ecological Support Area
GN	-	Government Notice
IDP	-	Integrated Development Plan
I&AP's	-	Interested and Affected Parties
M³	-	Cubic Metre
M²	-	Square Metre
NAAQS	-	National Ambient Air Quality Standards
NEMA	-	National Environmental Management Act
NEM:AQA	-	National Environmental Management: Air Quality Act
NEM:WA	-	National Environmental Management: Waste Act
NO₂	-	Nitrogen Oxides / Nitrogen Dioxide
NNR	-	No Natural Area Remaining
ONA	-	Other Natural Area
PM₁₀	-	Particulate Matter
PPB	-	Parts Per Billion
PSDF	-	Provincial Spatial Development Framework
SAHRA	-	South African Heritage Resources Agency
SA NAAQS	-	South African National Ambient Air Quality Standards
SAWS	-	South African Weather Service
SDF	-	Spatial Development Framework

SIP	-	Strategic Integrated Projects
SO₂	-	Sulphur Dioxide
SOP	-	Standard Operating Procedure
µg/m³	-	Micro-grams per Cubic Metre
US EPA	-	United States Environmental Protection Agency
WHO	-	World Health Organisation
WML	-	Waste Management Licence

TABLE OF FIGURES

Figure 1: Locality Map of the site where the proposed expansion is set to occur	6
Figure 2: Climatic Conditions in Mahikeng.....	19
Figure 3: Average Household Income of the Mahikeng Local Municipality.....	21
Figure 4: Employment demographics of the Mahikeng Local Municipality.....	21
Figure 5: Gender and Age distribution of the Mahikeng Local Municipality	22
Figure 6: Population demographics of the Mahikeng Local Municipality	22
Figure 7: Level of Education of the population of the Mahikeng Local Municipality.....	23

LIST OF TABLES

Table 1: Details of the EAP	3
Table 2: Project Location.....	5
Table 3: Heritage Impact Descriptions	20
Table 4: Locations and their coordinates regarding the placement of the Site Notices	25
Table 5: List of potential and registered I&APs.....	25
Table 6: List of Organs of State to be notified during the PPP	27
Table 7: Evaluation components and ranking scales	29
Table 8: Definition of Significant rating (positive and negative)	31

1 INTRODUCTION

1.1 Background and Introduction

Phakamile Risk Consultants (Pty) Ltd. appointed Enviroworks, an independent Environmental Assessment Practitioner (EAP), on behalf of Supreme Poultry (Pty) Ltd. (The Applicant), to undertake the required Basic Assessment (BA) process for the proposed expansion of the slaughtering output of Poultry from 120 000 units per day to 150 000 units per day and associated recovery, recycling and treatment of chicken waste to feather meal at the Supreme Poultry Mahikeng Chicken Processing Plant, North West Province.

The proposed project is a listed activity in terms of Sections 24(2) and 24(d) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) (as amended). The Environmental Impact Assessment (EIA) Regulations, 2014 (as amended) Government Notice Regulations No. (GN R No.) 982, as amended by GN R No. 517 of 11 June 2021 promulgated in terms of Chapter 5 of the NEMA provide for the control of certain activities that are listed in GN R No. 983, 984 & 985 (as amended by GN R No. 517 of 11 June 2021). Activities listed in these notices must comply with the regulatory requirements listed in GN R No. R982 (as amended), which prohibits such activities until written authorisation is obtained from the competent authority. Such environmental authorisation, which may be granted subject to conditions, will only be considered once there has been compliance with the EIA Regulations of 2014, as amended. GN R No. 327 (as amended). GN R No. 983 (as amended) sets out the procedure and documentation that need to be compiled with undertaking a Basic Assessment Report (BAR).

This development requires Environmental Authorisation (EA) in terms of the NEMA and a Waste Management Licence (WML) as per the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA), as amended. The following Listed Activities and Categories in terms of the EIA Regulations of 2014 (as amended) and NEM:WA (as amended) are triggered by the proposed expansion:

EIA Application:

Government Notice No. R. 327 of 7 April 2017, as amended by GN R. 517 of 11 June 2021 (Listing Notice 1 – relates to a BA):

Activity 38: The expansion and related operation of facilities for the slaughter of animals where the daily product throughput will be increased by more than-

- (i) 50 poultry

Waste Management License (WML):

According to LIST OF WASTE MANAGEMENT ACTIVITIES THAT HAVE, OR ARE LIKELY TO HAVE, A DETRIMENTAL EFFECT ON THE ENVIRONMENT GN. No. 921 of 29 November, 2013 (as amended by GN No. 332 of 02 May 2014, GN No. 633 of 24 July 2015, GN No. 1094 of 11 October 2017 and GN No. 1757 of 11 February 2022).

Category A, (3): The recycling of general waste at a facility that has an operational area in excess of 500m², excluding recycling that takes place as an integral part of an internal manufacturing process within the same premises; and,

The following definition as per the National Environmental Management: Waste Act (Act No. 59 of 2008) GN 278 of 01 July 2009, as amended:

‘ “recycle” means a process where waste is reclaimed for further use, which process involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material.’

The processing facility has an operational area in excess of 500 m². Additionally, waste is separated from the waste stream during the chicken processing: heads, feet, blood, inedible viscera, fats and feathers (the organic waste from the slaughtering process) are separated from the waste stream and transported via dedicated pipelines, conveyer belts and “trolleys” at the Rendering Plant (also referred to as the Sterilization Plant) for further use and processing.

At the Rendering Plant (sterilization process), steam obtained from the steam generators is utilised in order to cook the biological waste material. After the cooking process has been finalised, the material is then dried out, and grounded. The final product is feather meal, which is then packaged and stacked, whereafter it is sold to prospective clients. These clients use the meal as a high protein additive for animal feed.

Sieves at the back of the facility collect any solid materials (when the blood, feathers and fat material is removed), preventing these materials from entering the effluent drains. The liquid effluent is discarded within the municipality drains and is tested on a monthly basis. The excess fat and blood are collected from the sieves (waste removed from the waste stream), and also processed at the Rendering Plant, whereafter it would be sold as feather meal.

Category A, (5): The recovery of waste including the refining, utilisation, or co- processing of waste in excess of 10 tons but less than 100 tons of general waste per day or in excess of 500kg but less than 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.

The following definition as per the National Environmental Management: Waste Act (Act No. 59 of 2008) GN 278 of 01 July 2009, as amended:

““recovery” means the controlled extraction or retrieval of any substance, material or object from waste’

The separation of certain waste material from the waste stream for further processing can be considered a recovery process. The chicken heads, feet, blood, inedible viscera, fats and feathers (the

organic waste from the slaughtering process) are also further refined (cooked, dried out, and grounded) during the sterilization process at the Rendering Plant for further utilisation as feather meal.

The organic waste material processed ranges between 143.38 – 215.44 tons per month, which gives a daily average of 8 tons, but can be in excess of 10 tons per day, but is less than 100 tons of general waste per day.

Category A, (6): The treatment of general waste using any form of treatment at a facility that has the capacity to process in excess of 10 tons but less than 100 tons per day calculated as a monthly average, excluding the treatment of organic waste using composting or any other organic waste treatment.

The following definition as per the National Environmental Management: Waste Act (Act No. 59 of 2008) GN 278 of 01 July 2009, as amended:

“treatment” means any method, technique or process that is designed to-

- (a) change the physical, biological or chemical character or composition of a waste; or
- (b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or
- (c) destroy or reduce the toxicity of a waste.

in order to minimise the impact of the waste on the environment prior to further use or disposal’

General organic waste (chicken heads, feet, blood, inedible viscera, fats and feathers) is treated via cooking, drying out and grinding (i.e. the character changed) to produce feather meal. The facility has the capacity to process in excess of 10 tons but less than 100 tons per day calculated as a monthly average.

1.2 Details and Expertise of the Environmental Assessment Practitioners (EAPs)

Section 13(1) of EIA Regulations, Government Notice 326 (as amended) clearly indicates that an Environment Assessment Practitioner (EAP) should be independent and have expertise in conducting environmental impact assessments, including knowledge of the Act, and any guidelines that have relevance to the proposed activity. Enviroworks (Pty) Ltd is an independent company of professional environmental services that provide sound environmental solutions. Enviroworks (Pty) Ltd, was appointed by the Phakamile Risk Consultants on behalf of Supreme Poultry (The Applicant) to undertake the required to undertake the BA process for the project.

The qualifications and experience of the independent Environmental Assessment Practitioners (EAPs) undertaking the BA are detailed below and Curriculum Vitae (CV) provided in Appendix H.

Jan-Louis Jordaan, IA/Asa: Bachelor of Science Conservation Ecology and Entomology graduate from Stellenbosch University.

Table 1: Details of the EAP.

Business name of EAP:	Enviroworks
Physical address:	5 Walter Sisulu Road, Universitas, Bloemfontein

Postal address:	Private Bag
Postal code:	9301
Telephone:	051 436 0793
E-mail:	jl.jordaan@enviroworks.co.za
Fax:	086 268 2645
EAP Qualifications	B.Sc. Conservation Ecology and Entomology (Stellenbosch University) Short course in Environmental Law: North West University

1.3 Report Layout

Reg.	EIA Report Content	Included (Yes, No or N/A)	Report Section Reference
2(a)	details of:		
	(i) the EAP who compiled the report; and	Yes	Section 1.2
	(ii) the expertise of the EAP to carry out an environmental impact assessment;	Yes	
2(b)	a detailed description of the proposed activity;	Yes	Section 2
2(c)	a description of the property on which the activity is to be undertaken and the location of the activity on the property, or if it is -	Yes	Section 2.1
	• a linear activity, a description of the route of the activity;	N/A	N/A
	• an ocean-based activity, the coordinates where the activity is to be undertaken;	N/A	N/A
2(d)	a description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;	Yes	Section 5
2(e)	details of the public participation process conducted in terms of sub regulation (1). Including -	Yes	Section 6
	(i) steps undertaken in accordance with the plan of study;	Yes	
	(ii) a list of persons, organisations and organs of state that were registered as interested and affected parties;	Yes	
	(iii) a summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments; and	Yes	Appendix E
	(iv) copies of any representations and comments received from registered interested and affected parties;	Yes	
2(f)	a description of the need and desirability of the proposed activity;	Yes	Section 4
2(g)	a description of identified <u>potential alternatives</u> to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and the community that may be affected by the activity;	Yes	Section 2.3
2(h)	an indication of the methodology used in determining the significance of potential environmental impacts;	Yes	Appendix 7.1
2(i)	a description and comparative assessment of all alternatives identified during the environmental impact assessment process;	Yes	Section 7.1
2(j)	a summary of the findings and recommendations of any specialist report or report on a specialised process;	Yes	Section 8
2(k)	a description of <u>all environmental issues</u> that were identified during the environmental impact assessment process, an <u>assessment of the significance</u> of each issue and an indication of the <u>extent</u> to which the issue could be addressed by the <u>adoption of mitigation measures</u> ;	Yes	Section 7.1, 7.2, 7.3 and 7.4
2(l)	an assessment of each identified potentially significant impact including -	Yes	Section 7.1, 7.2, 7.3 and 7.4
	(i) cumulative impacts;	Yes	
	(ii) the nature of the impact;	Yes	
	(iii) the extent and duration of the impact;	Yes	Section 7

Reg.	EIA Report Content	Included (Yes, No or N/A)	Report Section Reference
	(iv) the probability of the impact occurring;	Yes	Section 7
	(v) the degree to which the impact can be reversed;	Yes	Section 7
	(vi) the degree to which the impact may cause irreplaceable loss of resources; and	Yes	Section 7
	(vii) the degree to which the impact can be mitigated;	Yes	Section 7
2(m)	a description of any assumptions, uncertainties and gaps in knowledge;	Yes	Section 5
2(n)	a reasoned opinion as to whether the activity should or should not be authorized, and if the opinion is that it should be authorized, any conditions that should be made in respect of that authorization;	Yes	Section 8
2(o)	an environmental impact statement which contain	Yes	Section 8
	(i) a summary of the key findings of the environmental impact assessment; and		
	(ii) a comparative assessment of the positive and negative implications of the proposed activity and identified alternatives;	Yes	Section 7
2(p)	a draft environmental management programme containing the aspects contemplated in regulation 33;	Yes	Appendix G
2(q)	copies of any specialist reports and reports on specialised processes complying with regulation 32;	Yes	Appendix D
2(s)	any other matters required in terms of sections 24(4)(a) and (b) of the Act.	N/A	N/A
(3)	The EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 31(2)(g), exist.	N/A	N/A

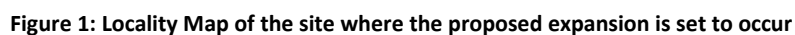
2 PROJECT DESCRIPTION

2.1 Project Location

The established Chicken Processing Facility is located on Portion 0 of Erf No. 9907, Mahikeng, North West Province (Figure 1).

Table 2: Project Location.

Description of Site	Portion 0 of Erf No. 9907, Mahikeng Industrial Area, North West Province
SG 21-digit code	TOJO00040000990700000
Coordinates of Approximate Center of Operations	25° 50' 23.33" S 25° 37' 41.86" E
Closest City	Mahikeng
Province	North West Province
Metropolitan/District Municipality	Ngaka Modiri Molema District Municipality
Local Municipality	Mahikeng Local Municipality



The Processing Plant is an already established facility (prior to at least 1995 – Appendix I14), with the current slaughtering volumes not exceeding a hundred and twenty thousand (120 000) units per day. The Applicant proposes an expansion of the output to a hundred and fifty thousand (150 000) units per day and associated recovery, recycling and treatment of chicken waste to feather meal. This will lead to an increase in the availability of processed poultry products for the surrounding community and businesses. The Processing Plant is designed in such a manner as to process more units than what it currently processes, therefore no physical construction will occur in order to facilitate this increase of the slaughtering volumes.

Page 6 | 30

(613.6 m²). Please refer to the Site Layout Plan (Appendix C) for further references regarding the infrastructure present on site, as well as the square metre coverage of all the infrastructure on Erf 9907, Mahikeng.

The standard activities taking place in the processing plant include four (4) phases. The initial phase includes the delivery of the chickens, ante-mortem (before slaughtering) inspection and the lairage (where the birds are kept prior to slaughtering). Should there be Dead-on Arrival birds present during delivery at the receiving bay, then a post-mortem (after death) inspection will be performed. The second phase includes the slaughtering activities, which consist of the stunning and bleeding out of the chickens, debunking, removal of feathers and internal organs. After the organs are removed, they are washed, packaged, weighed and are stored. Hereafter the organs are sold to the intended prospective clients. The blood and feathers are transported to the rendering area and are removed and transported via conveyer belts and pipes in the facility to the Rendering Plant, whereas the heads, feet and viscera are packaged and stored in the holding rooms before being sold. The third phase includes the packaging and cooling of the processed units. An inspection is performed on the meat after slaughtering in order to determine whether the produce is compliant according to Health and Safety standards of the facility as well as the Foodstuffs, Cosmetics and Disinfectant Act, 1972 (Act No. 54 of 1972) and Meat Safety Act, 2000 (Act No. 40 of 2000). The cutting or quartering of the carcasses into portions then takes place, after which the portions are washed at the cut-up wash station. Hereafter the portions are packaged and chilled in large industrial freezers and in “fresh areas”.

Finally, the last phase constitutes the delivery phase, whereby the processed portions are transported to the loading bay area and then transferred to the intended prospective clients. Should the post-mortem inspection identify undesirable or unusable biological material, this material is transported to the Rendering Plant.

An average of one hundred and fifty-two point twenty-nine (152,29) tonnes of Grade A coal is delivered to the Supreme Poultry Mahikeng Processing Plant on a monthly basis. The coal is stored in a bunded storage area, before being loaded into the two steam generators present on site. Coal is burnt in the two steam generators, hereby generating steam which is subsequently transferred to various areas of Production and the Rendering Plant. It should be noted that one steam generator is not always simultaneously operational, with said steam generator being on stand-by and only used when/if necessary. The coal ash produced by the steam generators are then stored in a designated storage area, whereafter it is collected and removed by a brick maker. Approximately thirty-two point zero four cubic metres (32,04 m³) of ash is produced on a monthly basis.

As mentioned above, the heads, feet, blood, feathers, fats, inedible viscera and Dead-on Arrival birds are received from the processing plant with dedicated pipelines, conveyer belts and “trolleys” at the Rendering Plant. Here, steam obtained from the steam generators is utilised in order to cook the biological material. After the cooking process has been finalised, the material is then dried out, and grounded. The final product is feather meal, which is then packaged and stacked, whereafter it is sold to prospective clients. These clients use the meal as a high protein additive for animal feed.

It is estimated that the facility currently produces one hundred and seventy thousand, nine hundred and thirty kilogrammes (170 930 kg) (170.93 tons) of biological material per month, with Dead-on Arrival birds included

within this figure. The upper and lower limits for this aforementioned quantity of biological material per month are two hundred and fifteen point forty four (215,44) tons and hundred and forty three point thirty eight (143,38) tons respectively. The feathers, blood, fat and Dead-on Arrival birds are re-worked into feather meal via the Rendering Plant (sterilization process, thus also referred to as the Sterilizing Plant). This process involves the cooking, drying out and grounding of the material whereby the biological material is transformed into feather meal.

Sieves at the back of the facility collect any solid materials (when the blood, feathers and fat material is removed), preventing these materials from entering the effluent drains. The liquid effluent is discarded within the municipality drains and is tested on a monthly basis. The excess fat and blood are collected from the sieves, and also processed at the Rendering Plant, whereafter it would be sold as feather meal. On average, more than eight thousand kilogrammes (8 000 kg) (8 tons) of animal matter (blood, feathers, fat, Dead-on Arrival birds) are processed by the Sterilizing Plant on a daily basis.

Sanitary and Medical Waste are collected by a registered waste removal contractor (Ecofirst Pest Prevention and Hygiene Services and Averda respectively) and are incinerated off-site. Sewerage from the ablution, canteen, admin, stores and workshop areas; grey water from the showers and washing facilities; and, industrial effluent from processing activities are disposed of via the municipal effluent system. Paper and cardboard, plastic, scrap metal and wood pallets are recycled and reused wherever possible, where excess material is recycled by a third party (Willcor Services). Food waste produced within the Canteen is collected by a local pig farmer and/or disposed of at the local, registered landfill site by a registered general waste removal contractor.

Additionally, the Applicant proposes to construct a new generator building, with a new bunded diesel tank, south-east of the Rendering Plant. Please note that the new forty-five cubic metre (45 m³) diesel tank would be encapsulated within a fifty-point six cubic metre (50.6 m³) bund area. Although diesel may be classified as a dangerous good, due to the dimensions of the storage infrastructure being less than eighty cubic metres (80 m³), Activity No. 14 of Government Notice 327 dated 07 April 2017, as amended (Listing Notice 1) would not be triggered and therefore an Environmental Impact Assessment in the form of a BA would not be required. Additionally, although the diesel container does have a larger capacity than the thirty cubic metres (30 m³) prescribed by Activity No. 10 in Government Notice 324 of 07 April 2017, as amended (Listing Notice 3), the proposed location where the proposed activity is to be situated does not fall within the ambit of geographical areas described for the North West Province, and therefore a BA would not be necessary. Additionally, as all the necessary specialist studies and management plans were performed and drafted during the Water Use Licence (WUL) application, including an Integrated Waste Water Management Plan (IWWMP), thus additional specialist studies regarding the installation of the diesel storage tank and subsequent bund area are deemed to be unnecessary.

2.3 Project Alternatives

Consideration of alternatives is an important element in the environmental assessment process.

“Alternatives” are defined in the NEMA EIA regulations, 2014 (GN 982 of 2014), as amended as: *“In relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the:*

- Property on which or location where the activity is proposed to be undertaken;
- Type of activity to be undertaken;
- Design or layout of the activity;
- Technology to be used in the activity; or
- Operational aspects of the activity; and
- The option of not implementing the activity” (No-Go option)

The role of the EAP is therefore to provide a framework for sound decision-making based on the principles of sustainable development. Potential alternatives that were considered for the proposed incinerator replacement are discussed below.

2.3.1 Location Alternative

No alternative site is considered as it is an existing, established processing facility. The area is already transformed with multiple facilities and established infrastructure present on site. Therefore, no other Location Alternatives would be applicable.

2.3.2 Lay-out Alternative

The overall site amounts to an area of just under four hectares (4 ha), encompassing a total development footprint of ten thousand three hundred-and forty-five-point three square metres (10 345.3 m²). The total development footprint of the site includes, but is not limited to, a Tool shed, Workshop, Compressor plant room, Pack material stores, Pallet making shop, Workshop and material store, Meal loading area, Rendering Plant, Live bird receiving area, Processing building, Holding room, Refrigeration plant, Steam generator house, Substation, Change room, Ablution building, Canteen, Refuse area, Security office, PPE room, Weighbridge office, Office building, Factory shop, Carports, Concrete driveways, Parking areas, Water reservoir and surface areas consisting of concrete bed slabs, lawns and gardens, concrete block paving and ground surfaces. The Processing building measures at approximately three thousand nine hundred and eleven square metres (3 911 m²). The Steam generator house and Rendering Plant combined equates to six hundred- and thirteen-point six square metres (613.6 m²). Please refer to the Site Layout Plan (Appendix C) for further references regarding the infrastructure present on site, as well as the square metre coverage of all the infrastructure on Erf 9907, Mahikeng. Additionally, it is important to note that as it is an existing facility, only one Lay-out Alternative is applicable as the facility is able to process the increased processing capacity, thus no construction or change in the lay-out is necessary for the proposed increase in processing units. The site has been established prior to 1988, thus before NEMA came into effect. Building plans in Appendix I14 indicates that expansion to the facility already occurred in 1988 and 1995 respectively, implying that the facility was established prior to NEMA coming into effect. It should be noted

that the site and facility was previously owned by another company, before being owned and operated by Supreme Poultry.

2.3.3 Technology Alternative

The equipment used for the processing and rendering is the latest and most modern technology available in South Africa. Furthermore, the equipment is upgraded, when possible, thus ensuring that the facility remains a state-of-the-art Processing Plant and is not outdated. Please note that only one Technology Alternative would be applicable as the current technology used for processing has the ability to process the increased unit output per day, thus no changes in technology type will be required.

Processing Plant:

The standard activities taking place in the processing plant include four (4) phases. The initial phase includes the delivery of the chickens, ante-mortem (before slaughtering) inspection and the lairage (where the birds are kept prior to slaughtering). Should there be Dead-on Arrival birds present during delivery at the receiving bay, then a post-mortem (after death) inspection will be performed. The second phase includes the slaughtering activities, which consist of the stunning and bleeding out of the chickens, debunking, removal of feathers and internal organs. After the organs are removed, they are washed, packaged, weighed and are stored. Hereafter the organs are sold to the intended prospective clients. The blood and feathers are transported to the rendering area and are removed and transported via conveyer belts and pipes in the facility to the Rendering Plant, whereas the heads, feet and viscera are packaged and stored in the holding rooms before being sold. The third phase includes the packaging and cooling of the processed units. An inspection is performed on the meat after slaughtering in order to determine whether the produce is compliant according to Health and Safety standards of the facility as well as the Foodstuffs, Cosmetics and Disinfectant Act, 1972 (Act No. 54 of 1972) and Meat Safety Act, 2000 (Act No. 40 of 2000). The cutting or quartering of the carcasses into portions then takes place, after which the portions are washed at the cut-up wash station. Hereafter the portions are packaged and chilled in large industrial freezers and in “fresh areas”.

Finally, the last phase constitutes the delivery phase, whereby the processed portions are transported to the loading bay area and then transferred to the intended prospective clients. Should the post-mortem inspection identify undesirable or unusable biological material, this material is transported to the Rendering Plant.

Rendering Plant:

An average of one hundred and fifty-two point twenty-nine (152,29) tonnes of Grade A coal is delivered to the Supreme Poultry Mahikeng Processing Plant on a monthly basis. The coal is stored in a bunded storage area, before being loaded into the two steam generators present on site. Coal is burnt in the two steam generators, hereby generating steam which is subsequently transferred to various areas of Production and the Rendering Plant. It should be noted that one steam generator is not always simultaneously operational, with said steam generator being on stand-by and only used when/if necessary. The coal ash produced by the steam generators

are then stored in a designated storage area, whereafter it is collected and removed by a brick maker. Approximately thirty-two point zero four cubic metres (32,04 m³) of ash is produced on a monthly basis.

As mentioned above, the heads, feet, blood, feathers, fats, inedible viscera and Dead-on Arrival birds are received from the processing plant with dedicated pipelines, conveyer belts and “trolleys” at the Rendering Plant. Here, steam obtained from the steam generators is utilised in order to cook the biological material. After the cooking process has been finalised, the material is then dried out, and grounded. The final product is feather meal, which is then packaged and stacked, whereafter it is sold to prospective clients. These clients use the meal as a high protein additive for animal feed.

It is estimated that the facility currently produces one hundred and seventy thousand, nine hundred and thirty kilogrammes (170 930 kg) (170.93 tons) of biological material per month, with Dead-on Arrival birds included within this figure. The upper and lower limits for this aforementioned quantity of biological material per month are two hundred and fifteen point forty four (215,44) tons and hundred and forty three point thirty eight (143,38) tons respectively. The feathers, blood, fat and Dead-on Arrival birds are re-worked into feather meal via the Rendering Plant (sterilization process, thus also referred to as the Sterilizing Plant). This process involves the cooking, drying out and grounding of the material whereby the biological material is transformed into feather meal.

Sieves at the back of the facility collect any solid materials (when the blood, feathers and fat material is removed), preventing these materials from entering the effluent drains. The liquid effluent is discarded within the municipality drains and is tested on a monthly basis. The excess fat and blood are collected from the sieves, and also processed at the Rendering Plant, whereafter it would be sold as feather meal. On average, more than eight thousand kilogrammes (8 000 kg) (8 tons) of animal matter (blood, feathers, fat, Dead-on Arrival birds) are processed by the Sterilizing Plant on a daily basis.

2.3.4 Preferred Alternative

The preferred alternative is for the output capacity to be increased from 120 000 units per day to 150 000 units per day in order to meet the demands of processed poultry products in the area.

2.3.5 No-Go Alternative

The No-go alternative would lead to no expansion of the slaughtering volumes at the Processing Plant. Should no expansion occur, then the increasing demand for processed poultry products will not be met, and additional job opportunities would not be created. Additionally, the facility would not be able to accommodate the increase in poultry delivered to the facility.

3 RELEVANT LEGISLATION AND LEGAL REQUIREMENTS

3.1 National Environmental Management Act (Act 107 of 1998)

The NEMA provides the overarching legislative framework for environmental governance in South Africa. Several Specific National Environmental Management Acts (SEMAs) have now been promulgated, all of which fall under the overarching NEMA (discussed below). The point of departure of NEMA is a set of National Environmental Management Principles that inform any subsequent environmental legislation, implementation of that legislation and formulation and implementation of environmental management plans at all levels of government.

NEMA gives expression to the Bill of Rights, within the Constitution of South Africa (No 108 of 1996), which states that everyone has a right to a non-threatening (safe and healthy) environment and requires that reasonable measures are applied to protect the environment. This protection encompasses preventing pollution and promoting conservation and environmentally sustainable development. These principles are embraced in NEMA and given further expression.

3.2 NEMA 2014 EIA Regulations as amended:

Government Notice No. R. 327 of 7 April 2017, as amended by GN R. 517 of 11 June 2021 (Listing Notice 1 – relates to Basic Assessment):

Activity 38: *The expansion and related operation of facilities for the slaughter of animals where the daily product throughput will be increased by more than-*

- (i) 50 poultry

3.3 National Environmental Management: Waste Act (Act No 59 of 2008) (NEM: WA) GN 278 of 01 July 2009, as amended

According to LIST OF WASTE MANAGEMENT ACTIVITIES THAT HAVE, OR ARE LIKELY TO HAVE, A DETRIMENTAL EFFECT ON THE ENVIRONMENT GN No. 921 of 29 November, 2013 (as amended by GN No. 332 of 02 May 2014, GN No. 633 of 24 July 2015, GN No. 1094 of 11 October 2017 and GN No. 1757 of 11 February 2022).

Category A, (3): The recycling of general waste at a facility that has an operational area in excess of 500m², excluding recycling that takes place as an integral part of an internal manufacturing process within the same premises.

The following definition as per the National Environmental Management: Waste Act (Act No. 59 of 2008) GN 278 of 01 July 2009, as amended:

‘ “recycle” means a process where waste is reclaimed for further use, which process involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material.’

The processing facility has an operational area in excess of 500 m². Additionally, waste is separated from the waste stream during the chicken processing: heads, feet, blood, inedible viscera, fats and feathers (the organic waste from the slaughtering process) are separated from the waste stream and transported via dedicated pipelines, conveyer belts and “trolleys” at the Rendering Plant (also referred to as the Sterilization Plant) for further use and processing.

At the Rendering Plant (sterilization process), steam obtained from the steam generators is utilised in order to cook the biological waste material. After the cooking process has been finalised, the material is then dried out, and grounded. The final product is feather meal, which is then packaged and stacked, whereafter it is sold to prospective clients. These clients use the meal as a high protein additive for animal feed.

Sieves at the back of the facility collect any solid materials (when the blood, feathers and fat material is removed), preventing these materials from entering the effluent drains. The liquid effluent is discarded within the municipality drains and is tested on a monthly basis. The excess fat and blood are collected from the sieves (waste removed from the waste stream), and also processed at the Rendering Plant, whereafter it would be sold as feather meal.

Category A, (5): The recovery of waste including the refining, utilisation, or co- processing of waste in excess of 10 tons but less than 100 tons of general waste per day or in excess of 500kg but less than 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.

The following definition as per the National Environmental Management: Waste Act (Act No. 59 of 2008) GN 278 of 01 July 2009, as amended:

“recovery” means the controlled extraction or retrieval of any substance, material or object from waste.’

The separation of certain waste material from the waste stream for further processing can be considered a recovery process. The chicken heads, feet, blood, inedible viscera, fats and feathers (the organic waste from the slaughtering process) are also further refined (cooked, dried out, and grounded) during the sterilization process at the Rendering Plant for further utilisation as feather meal.

The organic waste material processed ranges between 143.38 – 215.44 tons per month, which gives a daily average of 8 tons, but can be in excess of 10 tons per day, but is less than 100 tons of general waste per day.

Category A, (6): The treatment of general waste using any form of treatment at a facility that has the capacity to process in excess of 10 tons but less than 100 tons per day calculated as a monthly average, excluding the treatment of organic waste using composting or any other organic waste treatment.

The following definition as per the National Environmental Management: Waste Act (Act No. 59 of 2008) GN 278 of 01 July 2009, as amended:

‘“treatment” means any method, technique or process that is designed to-

- (a) change the physical, biological or chemical character or composition of a waste; or
- (b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or
- I destroy or reduce the toxicity of a waste.

In order to minimise the impact of the waste on the environment prior to further use or disposal.’

General organic waste (chicken heads, feet, blood, inedible viscera, fats and feathers) is treated via cooking, drying out and grinding (i.e. the character changed) to produce feather meal. The facility has the capacity to process in excess of 10 tons but less than 100 tons per day calculated as a monthly average.

3.4 Other Legislation

In addition to the requirements for licensing discussed above, there may be additional legislative requirements that need to be considered prior to commencing with the activity.

The following is a list of all additional legislation, policies and/or guidelines of relevant spheres of government that may be applicable to this application:

- South Africa’s Constitution, 1996 (Act No. 108 of 1996), including the Bill of Rights (Chapter 2 Section 24);
- National Ambient Air Quality Standards in Terms of Section 9(1)(a) and (b) of the NEM:AQA;
- Occupational Health & Safety Act, 1993 (Act No. 85 of 1993);
- National Heritage Resources Act, 1999 (Act No. 25 of 1999);
- National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA);
- National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA);
- The Water Act, 1956 (Act No. 54 of 1956);
- Municipal Structures Act, 1998 (Act No. 117 of 1998);
- Municipal Systems Act, 2000 (Act No. 32 of 2000); and,
- National Water Act, 1998 (Act No. 36 of 1998) (NWA).

Please note that Category 10 as per the National Environmental Management: Air Quality Act (NEM:AQA) GN R. 893 in Government Gazette 37054 dated 22 November 2013, as amended, will be applicable for this expansion. However, an Atmospheric Emission Licence (NWP/G/SUPREME/AEL10/JULY2020) has been applied for, and was issued on 21 July 2020 by the North West Department of Economic Development, Environment, Conservation and Tourism. A Water Use Application (WU16808) has also been submitted prior to this application on the 4th of December 2021, due to the abstraction of water from boreholes, the storage of water in reservoirs and tanks, processing water and irrigation (Section 21 (a), (b), (e) and (g)).

4 NEEDS AND DESIRABILITY

The Applicant aims to comply with the current (2020-2021) Integrated Development Plan of the Mahikeng Locally Municipality which focuses more of diversion of waste from the landfill and reduction of waste disposed of at the landfill. The aforementioned IDP milestones includes the insurance of household food and nutrition security. Additionally, this is in line with Outcome 7 of the Cabinet approved 12 National Outcomes to address the strategic priorities of government, whereby vibrant, equitable and sustainable rural communities and food security must be achieved. This proposed expansion is in line with the IDP as well as the Cabinet approved 12 National Outcomes with respect to the food security and production theme.

According to Section 2 of NEMA:

Through the undertaking of a BA process by a competent EAP, informed by guidelines, the consideration of impacts and alternatives (advantages and disadvantages coupled thereto) has been made. Moreover, the conducting of a public participation process and the relevant specialist investigation forms part of this BA process, whilst mitigation measures and the needs and desirability of the proposed project will be interrogated. This ensured that all provisions of the Act are to be considered and as such integrated environmental management will be accounted for as follow:

(2) Environmental Management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural heritage and social interests equitably.

The objective of this BA is to identify and mitigate potential socio-economic impacts in order to meet the terms of Section 24 of the Constitution.

(3) Development must be socially, environmentally and economically sustainable.

The overall goal of this BA is to predict, identify and manage potential positive and negative impacts in the socio-economic, cultural-heritage and biophysical environments in order to meet the needs of present generations without compromising the needs of future generations which will give effect to sustainable development.

(4)(a) Sustainable development requires the consideration of all relevant factors including the following:

- i. That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
- ii. that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
- iii. that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;*
- iv. that waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner;*
- v. that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;*

- vi. *that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;*
- vii. *that a risk averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and*
- viii. *that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.*

An Environmental Management Programme Report (EMP'r) was compiled to mitigate and manage all activities during the operational phase.

(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

All aspects, including socio-economic, cultural-heritage and biophysical have been evaluated and assessed in order to minimize potential negative impacts which will give effect to Integrated Environmental Management, as set out in Chapter 5 of NEMA, 1998.

(c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.

A Public Participation Process (PPP) have been undertaken in terms of Section 41 of the NEMA EIA Regulations which came into effect on 4 December 2014 (as amended), in order to give effect to Section 32 of the Constitution in such a way that adherence is given to Section 24 of the Constitution.

(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

All I&APs, irrespective of age, gender, race or religion, were included within the PPP. Additionally, should the proposed expansion be authorised, a more stable source of food supply in the form of processed poultry products will be ensured.

To add to this, the EMP'r, mitigation measures, standard operating procedures, management plans and permits associated with this development ensures that the human wellbeing of individuals in the surrounding area are not infringed upon.

(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.

The EMP'r will be applicable throughout the lifecycle of the project.

(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.

A comprehensive PPP was undertaken in terms of Section 41 of the NEMA EIA Regulations, as amended, which came into effect on 4 December 2014, in order to give effect to Section 32 of the Constitution in such a way that adherence is given to Section 24 of the Constitution.

(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.

The Competent Authority (CA) and the National Department of Forestry, Fisheries and the Environment (DFFE) decision making process has to be in accordance with the above.

(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.

95% of individuals currently employed at the facility are locally sourced, with community wellbeing being a core value of the facility.

Where feasible, efforts should be made to employ Local Contractors and suppliers that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria.

(i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.

This BAR does give effect to Section 5 of NEMA whereby all social, economic and environmental impacts of activities were considered, assessed and evaluated.

(j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.

Human rights were taken into account during all phases of the proposed project. The Applicant is legally obliged to comply with the Occupational Health and Safety Act (Act no. 85 of 1993) during all phases of the proposed project's lifecycle.

(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

The decision will take place in an open and fair manner and to give effect to Section 32 of the Constitution. I&AP's will be notified of the decision in terms of the requirements as set out in Section 41 of the NEMA EIA Regulations, 2014 (as amended).

(l) There must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment.

All relevant governmental authorities and organs of state will be considered during the BA process to give their inputs on the project.

(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.

Actual or potential conflicts of interest between organs of state should/will be resolved through conflict resolution procedures.

(n) Global and international responsibilities relating to the environment must be discharged in the national interest.

The facility is regularly audited with regards to Health, Safety and Environmental legislation and is compliant thereto. Global and international responsibilities relating to the environment will be discharged in the national interest.

(o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

Through the appointment of a suitably qualified EAP and reviewer EAP, mitigation measures have been drawn up to ensure that the proposed project does not harm the environment. Architectural plans were designed according to South African Norms and Standards.

(p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

An EMPr is compiled in order to prevent or minimize any potential negative impacts to the environment. It will be the responsibility of the Applicant and Contractor to adhere to all measures set out in the EMPr, in order to give effect to Section 28 (1) of NEMA.

(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.

All I&APs, irrespective of age, gender, race or religion, were within the Public Participation Period.

The recruitment selection process should seek to promote gender equality and the employment of woman wherever possible,

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

A Sensitivity map containing all vulnerable vegetation, watercourses and ecosystems is illustrated in order to visualise sensitive features that may be impacted upon. This aids in identifying "No-Go" areas, which must be avoided.

5 DESCRIPTION OF THE RECEIVING ENVIRONMENT

5.1 Climate

With Mahikeng situated on the Highveld, a local steppe climate is prevalent. The city is situated within an arid region of South Africa, with average annual rainfall ranging at 47 mm per month, with winter months being exceptionally dry with an average less than 10 mm (Figure 2). The average annual temperature is 18°C (Figure 2).

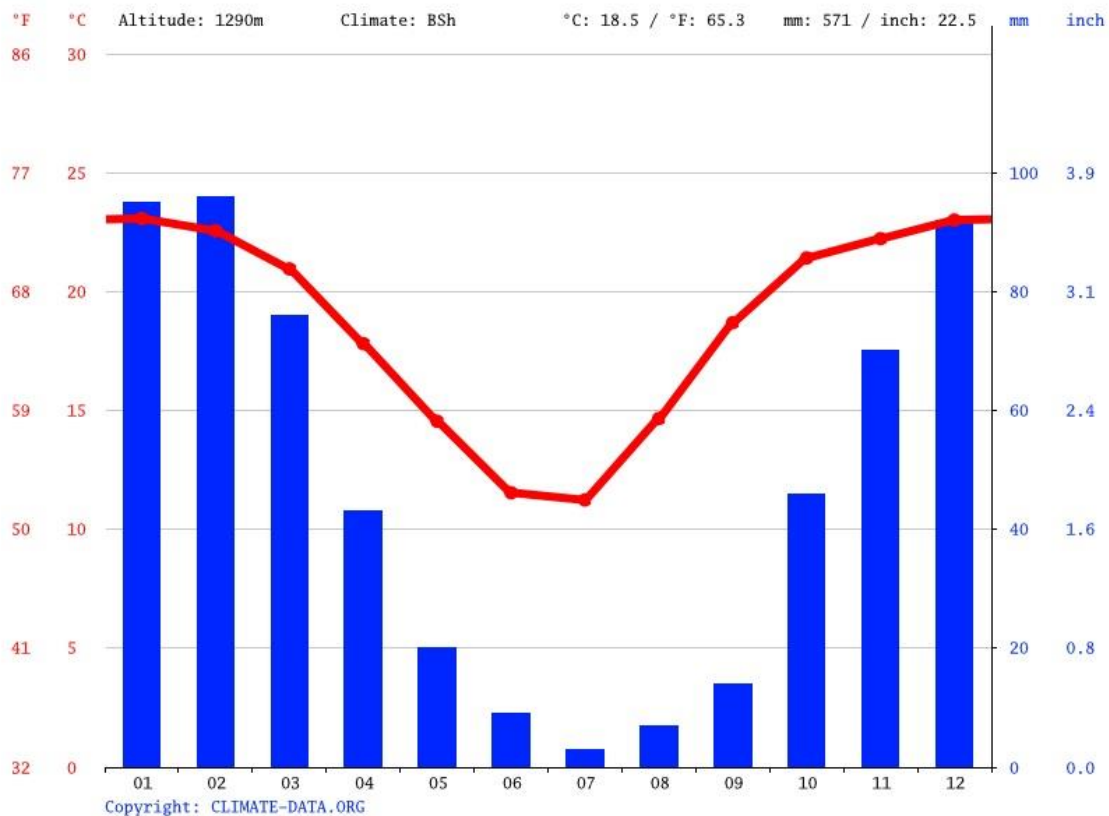


Figure 2: Climatic Conditions in Mahikeng

5.2 Vegetation

Low & Rebelo (1996) described the vegetation of the area as Eastern Kalahari Bushveld, specifically Mafikeng Bushveld (SVk 1). The surrounding area is described as Klerksdorp Thornveld (vegetation type Gh13 of Mucina & Rutherford 2006). It must however be noted that the site is ecologically transformed with no natural vegetation being present on the site where the proposed expansion is set to occur. The Processing Facility is located within the Industrial area of Mahikeng.

5.3 Surrounding Land Uses

The predominant land use on and around the study site is of industrial nature, with the property site currently being zoned as Industrial. Additionally, as per the Mahikeng Local Municipality Draft Integrated Development Plan (2021/2022) the site where the proposed expansion is set to occur is located within the Urban Edge of Mahikeng, in the industrial area.

5.4 Topography and Drainage

Mahikeng is located approximately one thousand five hundred metres (1500 m) above sea level. The area is relatively flat, with the only relative change in topography being the railway line being situated several metres lower than the property where the proposed expansion is set to occur. The only drainage line or non-perennial water course situated close by, is located more than four hundred metres (400 m) to the south.

5.5 Cultural and Heritage

No signs of aspects significant in terms of culture and heritage were identified on site (Table 3). Given the history of the current operations on site, no artefact or remains have been found on site over the past 15 years of operation. According to South African Heritage Resources and the DFFE Screening Tool Report, the area falls within the “Very High” sensitivity which requires further studies. The DFFE Screening Tool Report (Appendix I2) identifies a very small portion of the property to be located within two kilometres (2 km) of a Grade II Heritage site. However, the site does not trigger or impact any of the listed sections, detailed in the table below, in terms of Heritage Act (Act no 25 of 1999). Furthermore, as the site consists of an already established Processing Facility that will only experience an increase in the unit output capacity, with no construction or excavations taking place whatsoever, specialist studies regarding the Archaeological and Cultural Heritage aspects was not deemed necessary. However, the BAR and supporting documents will still be uploaded to the SAHRIS website during the PPP for further comments. Please refer to Appendix I1 for more details regarding the Archaeological and Cultural Heritage theme and the reasoning why specialist studies were deemed unnecessary.

Table 3: Heritage Impact Descriptions

Section	Description	Impact
34	Preservation of buildings older than 60 years	No Impact
35	Archaeological, paleontological and meteor sites	No Impact
36	Graves and burial sites	No Impact
37	Protection of public monuments	No Impact
38	Does activity trigger a HIA?	No

5.6 Socio-Economic

More than 50% (51,7%) of the population has an Average Monthly Household Income less than R38 200,00 (Figure 3). Sixteen point thirty percent (16,30%) of the population has no income whatsoever, with the rest of the population having an income above R38 200,00.

Additionally, more than a hundred and twenty-eight thousand (128 000) individuals are either currently not economically active, discouraged work seekers or unemployed, with only fifty-nine thousand seven hundred and twenty-six (59 726) individuals being employed (Figure 4). It must be noted that these figures do not take into account the effect that the Covid-19 pandemic had on the current employment figures of the area, whereby the unemployment rate was exacerbated.

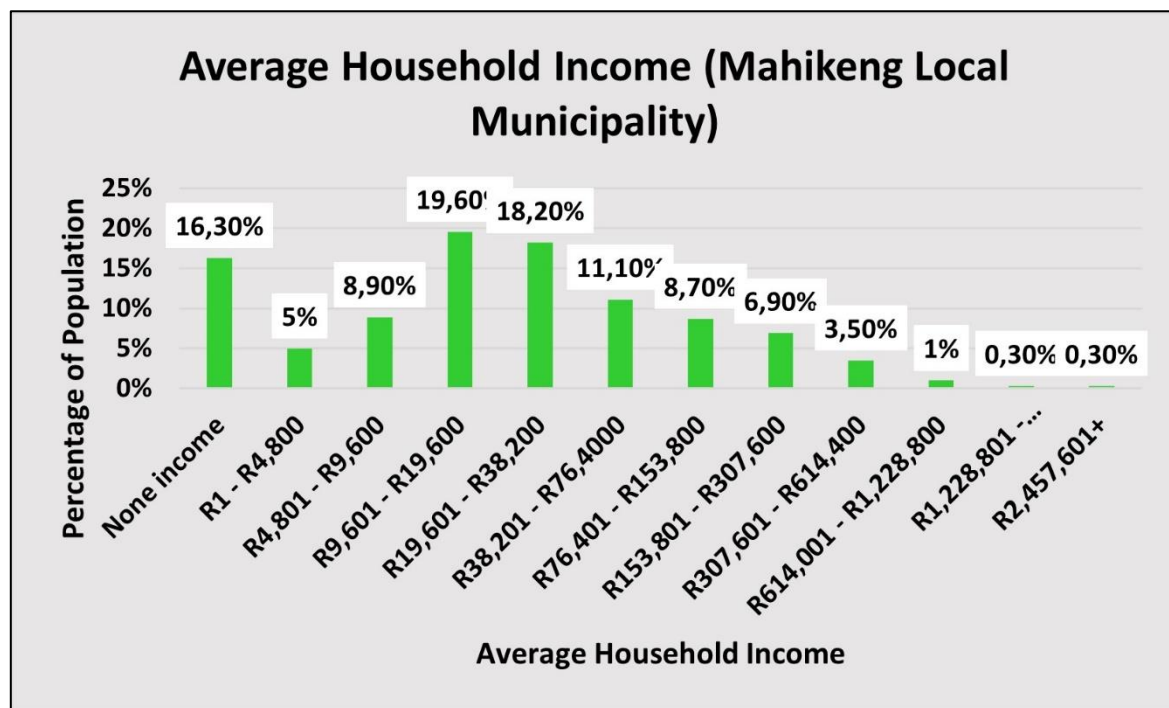


Figure 3: Average Household Income of the Mahikeng Local Municipality

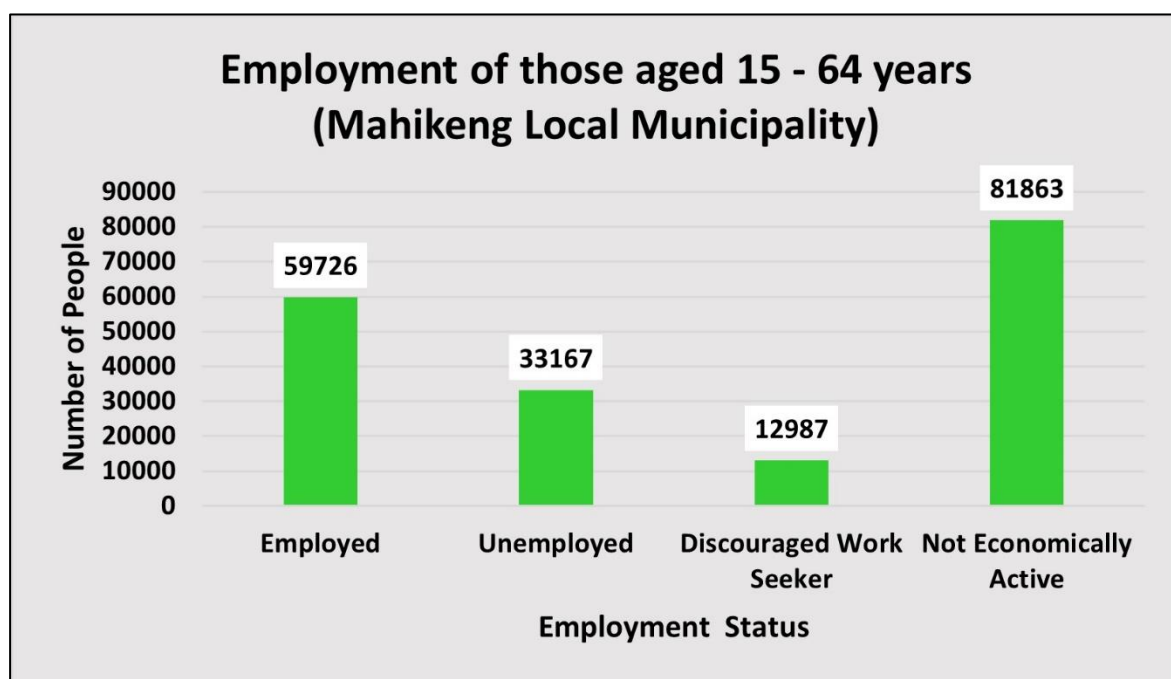


Figure 4: Employment demographics of the Mahikeng Local Municipality

5.7 Demography and Population

As per the 2011 Census data, the Mahikeng Local Municipality has a total population of 291 527 people, of which black Africans equate to 95,5% of the population (Figure 6). Two-point three percent (2,3%), one point three percent (1,3%) and zero-point eight percent (0,8%) of the population are coloured, white and Indian/Asian respectively. Setswana is the First language spoken by the vast majority of the population in the area at 78,4%

of the population, with Afrikaans and English being additional languages. Additionally, the gender demographics is rather even, as illustrated in the figure (Figure 5) down below.

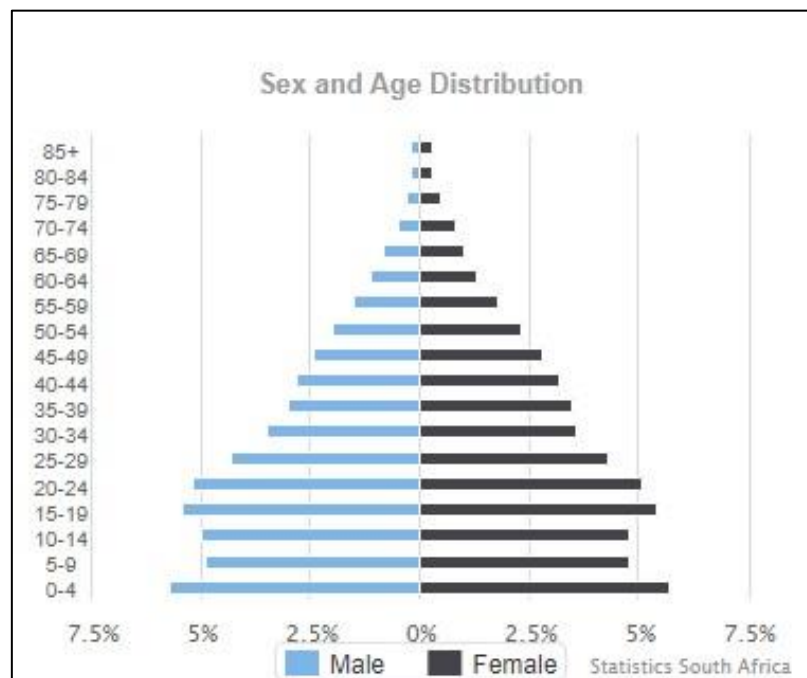


Figure 5: Gender and Age distribution of the Mahikeng Local Municipality

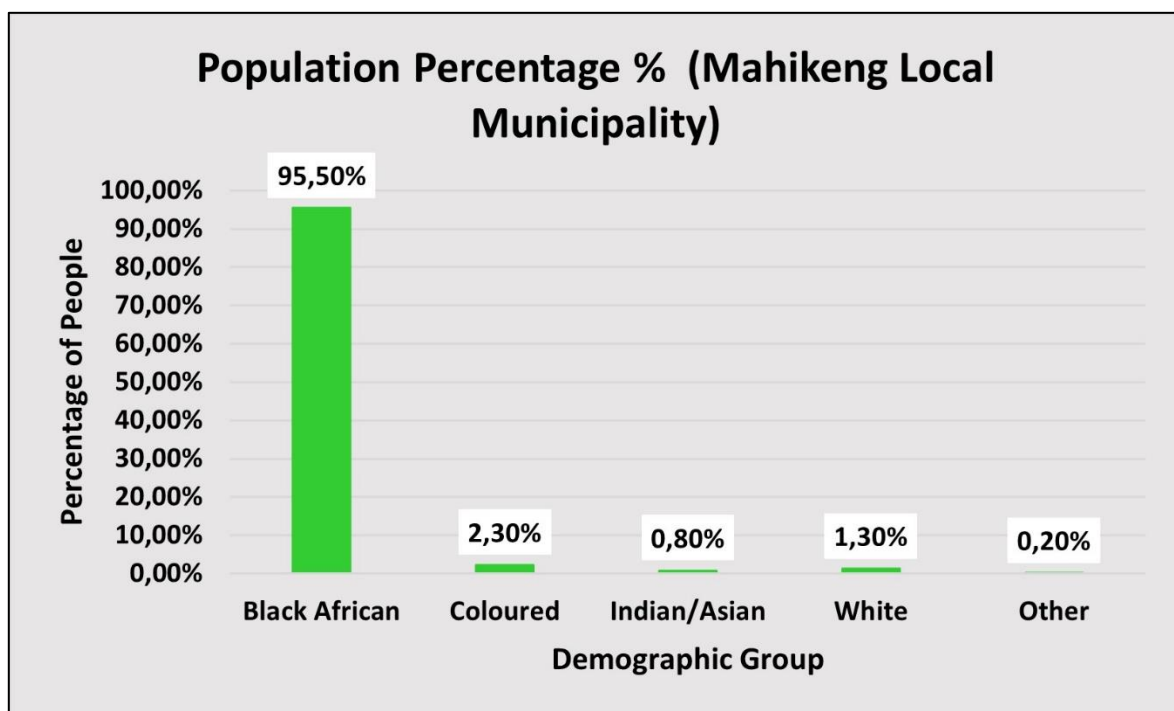


Figure 6: Population demographics of the Mahikeng Local Municipality

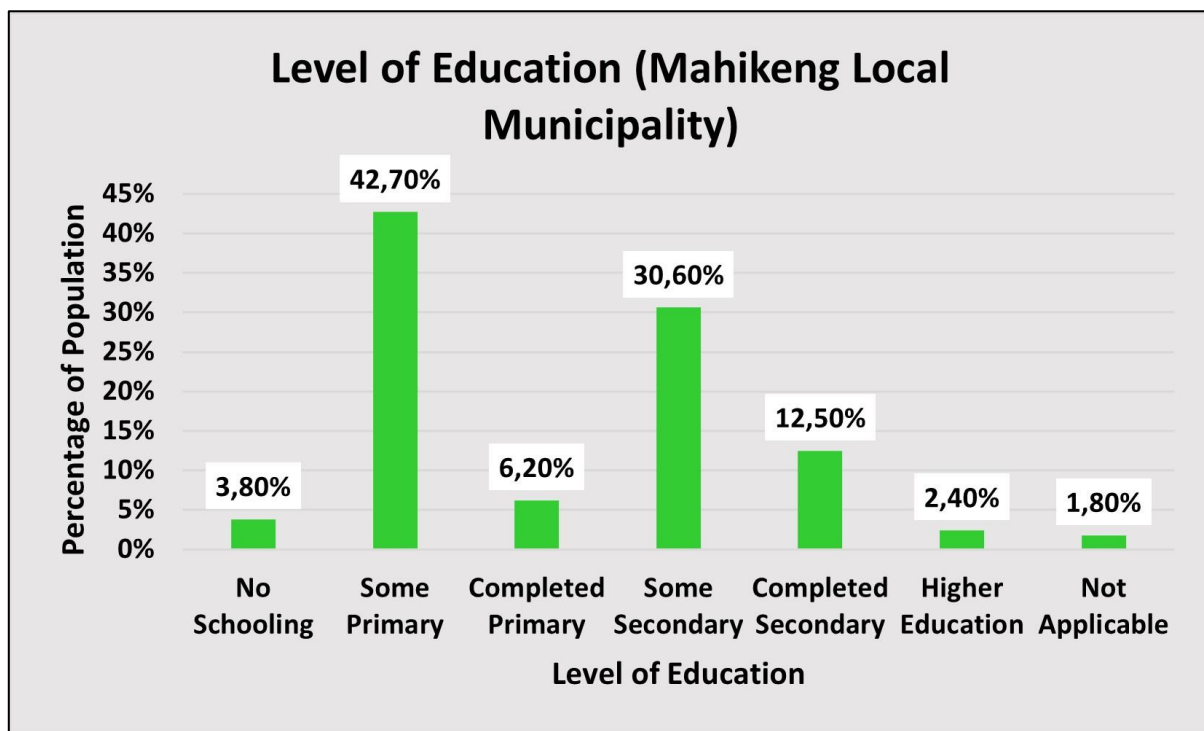


Figure 7: Level of Education of the population of the Mahikeng Local Municipality

It must be noted that a rather low rate of only 12,5% of individuals in this Local Municipality have completed secondary education, and only 2,4% have received higher education (Figure 7).

5.8 Assumptions

Assumptions

- All information provided by the Applicant to the EAP was correct and valid at the time it was provided.
- The need and desirability was based on strategic national, provincial and local plans and policies which reflect the interests of both statutory and public viewpoints;
- The EIA process is a project-level framework and is limited to assessing the environmental impacts associated with the project phases of the activity being applied for only; and,
- Strategic level decision making is achieved through co-operative governance with sustainable development principles underpinning all decision-making.

Uncertainties

Given that an EIA involves prediction, uncertainty forms an integral part of the process (FAO 2010). Two types of uncertainty are associated with the EIA process, namely process-related and prediction related. The FAO (2010) cites types of uncertainty as discussed by De Jongh in Wathern. These are summarised as follows:

- **Uncertainty of prediction** is critical at the data collection phase as final certainty will only be resolved on implementation of the activity being applied for;

- **Uncertainty of values depicts** the approach assumed during the EIA process, while final certainty will be determined at the time decisions are made. Enhanced communications and widespread co-ordination can lower uncertainty; and,
- **Uncertainty of related decision** relates to the decision-making aspect of the EIA process, which shall be appealed once monitoring of the project phase is undertaken.

The FAO (2010) further stresses the significance of widespread consultation towards minimising the risk of omitting significance impacts. The use of quantitative impact significance rating formulas can further limit the occurrence and scale of uncertainty.

However, uncertainty of prediction can be eliminated due to the fact that the activity being applied for has been operating for a while.

Gaps in knowledge

The EIA process is being undertaken prior to the availing of certain information which would be derived from the project design and feasibility studies. As such, technical aspects included herein derive from a range of sources including pre-feasibility engineering and through personal communication with the design team. The Competent Authority and other commenting and decision-making authorities are required to generate their decisions based on the information available to the study at the time, whilst measures can be adopted to manage any changes as conditions within decisions made.

Enviroworks is an independent environmental consulting firm and as such, all processes and attributes of the EIA are addressed in a fair and unbiased fashion. It is believed that through the running of a transparent and participatory process, risks associated with assumptions, uncertainties and gaps in knowledge can be, and were, minimised.

6 PUBLIC PARTICIPATION PROCESS

The Public Participation Process (PPP) for this BA Process was undertaken in accordance with section 54 of NEMA. The manner in which the PPP was undertaken is outlined below in a Public Participation Plan as stipulated in the directions regarding measures to address, prevent and combat the spread of Covid-19 relating to national environmental permits and licences (GN No. 650 on 05 June 2020). In general, the public and relevant authorities and stakeholders were notified on the proposed project in a manner that is line with the regulations issued in terms of section 27(2) of the Disaster management Act, 2002 (Act no. 57 of 2002).

6.1 Site Notices

The site notices were placed in areas easily noticeable to the public prior to the 30-day PPP process. Site notices were placed on the boundary of the site as well as at two public locations. Please find the co-ordinates of where site notices will be placed below:

Table 4: Locations and their coordinates regarding the placement of the Site Notices

Description of the location(s)	Co-ordinates of location(s)
The boundary and entrance of the development	25° 50' 22.68" S; 25° 37' 45.64" E
Mmabatho General Post Office	25° 50' 13.5" S; 25° 36' 35.0" E
The Crossing Shopping Centre	25° 50' 10.8" S; 25° 38' 11.5" E

6.2 Newspaper Advertisements

An advertisement inviting I&APs to register for the proposed project was placed in a local newspaper (Mahikeng Mail). The advert outlined the proposed development description and the Draft Basic Assessment Report commenting period. The advert was placed **10 June 2022**.

6.3 Notification of Stakeholders and I&APs

Stakeholders (landowner, adjacent landowners and occupants) and I&APs were directly informed via email of the proposed project via the distribution of a Background Information Document, the Draft Basic Assessment Report and a link to access the supporting documents. The email furthermore informed the Stakeholders and I&APs of the 30-day commenting period which occurred between **10 June 2022 – 11 July 2022**. Where it was not possible to inform I&APs via email, a hardcopy of the Background Information Document were delivered to them.

The landowner and adjacent landowners and their email addresses can be found in Table 5 below. Potential I&APs identified, who were notified during the PPP, can also be found in Table 5.

Stakeholders and I&APs were requested to submit their comments for the commenting period to the EAP via email.

Table 5: List of potential and registered I&APs.

Title, Name and Surname	Affiliation / key stakeholder status	Contact details (tel. number)	E-mail
Supreme Poultry (Pty) Ltd	Landowner and Applicant	018 381 4110	N/A
Gerrit van Wyk	Phakamile Risk Consultants	082 497 2411	gerrit@riskconsultants.co.za
Alex Kirsten	Phakamile Risk Consultants	N/A	alex@riskconsultants.co.za
Alex Geyer	Phakamile Risk Consultants	N/A	ag@riskconsultants.co.za
Mafikeng Digital Innovation Hub	Neighbouring business	087 153 2141	info@mafihub.co.za
Wash & Go	Neighbouring Business	076 615 2024	
Dominic (Security)	Premier's Office: Public Service Training	N/A	N/A
JA Ras	Econo Build (NWK)/ Neighbouring Business	018 381 4465	N/A
Phone to confirm	Tyre Centre/ Neighbouring Business	076 093 3574	N/A
Afzal	Dainty's Store/ Neighbouring Business	018 381 4775 / 076 332 8757	N/A

Title, Name and Surname	Affiliation / key stakeholder status	Contact details (tel. number)	E-mail
Tiro Ntuane	Director Legal Services: Government Department	0783883012/0769210111	tirontuane3@gmail.com
Mr H Thomas	Mr Injector/ Neighbouring Business	018 381 6498	nevillet@telkom.sa
B Mosin	Mahikeng Local Municipality: Traffic and Licensing Department/ Neighbouring Organ of State	018 384 0926 / 0731787861	N/A
Mothuri Selogibe	Mahikeng Emergency Services: Fire Brigade/ Neighbouring Organ of State	0183923333	Upwego1234@gmail.com
Tersia – Depot Manager	Easigas/ Neighbouring business	011 389 7700 / 071 265 7773 / 0769536022	info@easigas.com
Alvine Miller	Supreme Mazda/ Neighbouring business	018 381 1345	Reception@mazdasupreme.co.za
Getrude Izidine	Auto Master/ Neighbouring business	082 875 8999 / 0849243133	N/A
Sibongile Moabamb	Old Disaster/ Neighbouring business	083 289 9122	N/A
Hermanus	Wholesalers – Isicebi Trading/ Neighbouring business	083 411 7719	ho@isitrade.co.za
Maryfina Maqana	SA Funeral Supplies/ Neighbouring business	076 730 2047 / 0603476828	maryfinam@gmail.com
Tshepang Maruping	Red OX Bush Pub/ Neighbouring business	084 300 0013	MarupingTR@gmail.com
Bertunielo Mjova	NWDC Storage/ Neighbouring business	0183813663	Phone to confirm
HC Ackerman	Sheriff's Office/ Neighbouring Business	018 381 0030 / 0825550683 / 0867149325	sherriffmolopo@hotmail.com Box 4006, Mmabatho, 2735 24 James Watt CR, Mahikeng
Mandla Magwetyana	CFO/Neighbouring organ of state	018 388 2468 / 0183882371	mmagwetyana@nwpg.gov.za
Kagiso	Hands of RU/ Neighbouring Business	0609959126	Handsofru2008@gmail.com
Vslus Skkds	T&J Products/ Neighbouring Business	018 381 1367 / 0827896605	vskkds@gmail.com
Lesego Sathekge	Fine Roofing	0659922001	finderroofings@gmail.com
N/A	Neighbouring Business	0815797317	N/A

6.4 Notification of Governmental and other Authorities

A number of Authorities and Organs of State were directly informed, via email, of the proposed project. A Background Information Document, the Draft Basic Assessment Report and a link to access supporting documentation were distributed via email to all identified Authorities and Organs of State, informing them of the 30-day commenting period from **10 June 2022 – 11 July 2022**. Organs of State, who were notified during the PPP, are found in Table 6.

Organs of State were requested to submit their comments to the EAP via email.

Table 6: List of Organs of State to be notified during the PPP

Authority / Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail	Postal address
NW Department of Local Government & Human Settlements (neighbouring Organ of State)	TBC	018 388 2892	krabanye@gmail.com crooby@gmail.com yende50073@gmail.com modisakgotla@gmail.com Amandamanise11@gmail.com Mathibeditsholofelo@gmail.com	Private Bag X 2145, Mmabatho, 2735
Mahikeng Traffic Department (neighbouring Organ of State)	TBC	018 384 3175	TBC	TBC
Transnet	TBC	011 308 3000	enquiries@transnet.net	TBC
Department of Health, North West Provincial Office	TBC	018 391 4000	TBC	TBC
Department of Education (neighbouring Organ of State)	TBC	018 397 3009	TBC	TBC
Eskom Mmabatho Minor Works	TBC	TBC	TBC	TBC
NW Department of Economic Development, Environment, Conservation and Tourism (DEDECT)	Ms Ouma Skosana	TBC	oskosana@nwpg.gov.za	TBC
NW Department of Economic Development, Environment, Conservation and Tourism (DEDECT)	Ms Ellis Thebe	TBC	gethebe@nwpg.gov.za	TBC
State Veterinarian Mmabatho	C.M. Kruger-Rall	018 632 4061	Nelamrierall@yahoo.com	TBC
State Veterinarian Deputy Director: Vet Public Health	M. Molephe	018 389 5938	Mphane@nwpg.gov.za	TBC
Department of Agriculture and Rural Development	Kgomotso Mafole	018 389 5724	pmokaila@nwpg.gov.za	Private Bag x2039, Mmabatho, 2735
Ngaka Modiri Molema District Municipality	TBC	018 381 9400	info@nmmdm.gov.za	Cnr Carrington str and 1 st Avenue Industrial Site Private Bag X2167 Mafikeng 2745
Mahikeng Local Municipality	TBC	018 389 0111	communications@mahikeng.gov.za	Cnr University Drie & Hector Peterson Street Mmabatho North West Province

Authority / Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail	Postal address
Department of Water and Sanitation	Mr. Charles Nemutandani	012 207 9911	NematundaniT@dws.gov.za	TBC
North West Provincial Heritage Resources Authority	M Mosiane	018 388 2826	mosianem@nwpg.gov.za	Private Bag X90, Mmabatho, 2735
Agriculture North West	Ms. Bonolo Mhlakoana	018 389 5111	bmohlakoana@nwpg.gov.za	Private Bag X2039, Mmabatho, 2735
Civil Aviation Authority	Lizell Stroh	011 545 1232 / 083 461 6660	Strohl@caa.co.za	N/A
DWS	Mr Charles Nemutandani	012 207 9911 / 082 896 8222	nemutandanit@dws.gov.za	North West Operation (Hartebeespoort Dam)
Department: Economic Development, Environment, Conservation and Tourism North West Provincial Government Directorate: Environmental Quality Management	Kefentse Resane	018 389 5787	kresane@nwpg.gov.za	NWDC Building, Cnr. University & Provident Street, Mmabatho, 2735
Department: Economic Development, Environment, Conservation and Tourism North West Provincial Government Directorate: Environmental Quality Management	Ouma Skosana	018 389 5156	oskosana@nwpg.gov.za	AgriCentre Building, Cnr. Dr James Moroka Stadium Rd, Mmabatho, 273
Department: Economic Development, Environment, Conservation and Tourism North West Provincial Government (DEDECT) Directorate: Environmental Quality Management	Ms. Neo Mokotedi	(018) 389 5959	nmokotedi@nwpg.gov.za	Office No E09 Cnr. Dr. James Moroka Drive & Stadium Road (Opposite Convention Centre) Mmabatho 2735
Department: Economic Development, Environment, Conservation and Tourism North West Provincial Government (DEDECT)	Phethi Mpho	018 389 5244	mphethi@nwpg.gov.za	NWDC Building, Cnr. University & Provident Street, Mmabatho, 2735

Authority / Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail	Postal address
Sub-directorate Air Quality Management				

6.5 Comments and Response during the Public Announcement of the Project

The EIA Regulations, 2014 (as amended) specify that I&APs must have an opportunity to verify that their issues have been captured, through the inclusion of a Comments and Response Report (CRR) in the Final Basic Assessment Report. Comments received from I&APs will be included in a CRR.

6.6 Conclusion

It is concluded that the level of advertising, notification, and the mechanisms incorporated in the Public Participation Processes, to inform the Stakeholders, I&APs and Organs of State, were adequate.

7 IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 (as amended) and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

7.1 Impacts that may result from the Planning and Design, Construction, Operational, Decommissioning and Closure Phases as well as proposed management of identified impacts and proposed mitigation measures

For each potential impact, the **Duration** (time scale), **Extent** (spatial scale), **Irreplaceability** (loss of resources), **Reversibility** of the potential impacts, **Magnitude** (negative or positive impacts) and the **Probability** (occurrence of the potential impacts) must be assessed. The assessment of the above-mentioned criteria will be used to determine the **Significance** of each impact, with and without the implementation of the proposed mitigation measures. The scale used to assess these variables and define the ratings is tabulated in **Table 7** and **Table 8** below.

Evaluation components, scale ranking and description (criteria)

Table 7: Evaluation components and ranking scales

Evaluation component	Ranking scale and description (criteria)
MAGNITUDE of NEGATIVE IMPACT (at the indicated spatial scale)	10 - Very high: Bio-physical and/or social functions and/or processes might be <i>severely</i> altered. 8 - High: Bio-physical and/or social functions and/or processes might be <i>considerably</i> altered. 6 - Medium: Bio-physical and/or social functions and/or processes might be <i>notably</i> altered. 4 - Low : Bio-physical and/or social functions and/or processes might be <i>slightly</i> altered. 2 - Very Low: Bio-physical and/or social functions and/or processes might be <i>negligibly</i> altered. 0 - Zero: Bio-physical and/or social functions and/or processes will remain <i>unaltered</i> .

Evaluation component	Ranking scale and description (criteria)
MAGNITUDE of POSITIVE IMPACT (at the indicated spatial scale)	10 - Very high (positive): Bio-physical and/or social functions and/or processes might be <i>substantially</i> enhanced. 8 - High (positive): Bio-physical and/or social functions and/or processes might be <i>considerably</i> enhanced. 6 - Medium (positive): Bio-physical and/or social functions and/or processes might be <i>notably</i> enhanced. 4 - Low (positive): Bio-physical and/or social functions and/or processes might be <i>slightly</i> enhanced. 2 - Very Low (positive): Bio-physical and/or social functions and/or processes might be <i>negligibly</i> enhanced. 0 - Zero (positive): Bio-physical and/or social functions and/or processes will remain <i>unaltered</i> .
DURATION	5 – Permanent 4 - Long term: Impact ceases after operational phase/life of the activity > 60 years. 3 - Medium term: Impact might occur during the operational phase/life of the activity – 60 years. 2 - Short term: Impact might occur during the construction phase - < 3 years. 1 – Immediate
EXTENT (or spatial scale/influence of impact)	5 - International: Beyond National boundaries. 4 - National: Beyond Provincial boundaries and within National boundaries. 3 - Regional: Beyond 5 km of the proposed development and within Provincial boundaries. 2 - Local: Within 5 km of the proposed development. 1 - Site-specific: On site or within 100 m of the site boundary. 0 – None
IRREPLACEABLE loss of resources	5 – Definite loss of irreplaceable resources. 4 – High potential for loss of irreplaceable resources. 3 – Moderate potential for loss of irreplaceable resources. 2 – Low potential for loss of irreplaceable resources. 1 – Very low potential for loss of irreplaceable resources. 0 – None
REVERSIBILITY of impact	5 – Impact cannot be reversed. 4 – Low potential that impact might be reversed. 3 – Moderate potential that impact might be reversed. 2 – High potential that impact might be reversed. 1 – Impact will be reversible. 0 – No impact.
PROBABILITY (of occurrence)	5 - Definite: >95% chance of the potential impact occurring. 4 - High probability: 75% - 95% chance of the potential impact occurring. 3 - Medium probability: 25% - 75% chance of the potential impact occurring 2 - Low probability: 5% - 25% chance of the potential impact occurring. 1 - Improbable: <5% chance of the potential impact occurring.
Evaluation component	Ranking scale and description (criteria)
CUMULATIVE impacts	High: The activity is one of several similar past, present or future activities in the same geographical area, and might contribute to a very significant combined impact on the natural, cultural, and/or socio-economic resources of local, regional or national concern. Medium: The activity is one of a few similar past, present or future activities in the same geographical area, and might have a combined impact of moderate significance on the natural, cultural, and/or socio-economic resources of local, regional or national concern. Low: The activity is localized and might have a negligible cumulative impact. None: any cumulative impact on the environment.

Once the evaluation components have been ranked for each potential impact, the significance of each potential impact will be assessed (or calculated) using the following formula:

$$\text{SP (Significance Point)} = (\text{Duration} + \text{Extent} + \text{Irreplaceability} + \text{Reversibility} + \text{Magnitude}) \times \text{Probability}$$

The maximum value is 150 SP (Significance Points). The unmitigated and mitigated scenarios for each potential environmental impact should be rated as per **Table 8** below.

Table 8: Definition of Significant rating (positive and negative)

Significance Points	Environmental Significance	Description
125 – 150	Very high (VH)	An impact of very high significance will mean that the project cannot proceed, and that impacts are irreversible, regardless of available mitigation options.
100 – 124	High (H)	An impact of high significance which could influence a decision about whether or not to proceed with the proposed project, regardless of available mitigation options.
75 – 99	Medium-high (MH)	If left unmanaged, an impact of medium-high significance could influence a decision about whether or not to proceed with a proposed project. Mitigation options should be relooked.
40 – 74	Medium (M)	If left unmanaged, an impact of moderate significance could influence a decision about whether or not to proceed with a proposed project.
<40	Low (L)	An impact of low is likely to contribute to positive decisions about whether or not to proceed with the project. It will have little real effect and is unlikely to have an influence on project design or alternative motivation.
+	Positive impact (+)	A positive impact is likely to result in a positive consequence/effect, and is likely to contribute to positive decisions about whether or not to proceed with the project.

7.2 Potential Impacts during the Planning, Design and Construction Phases

No physical construction or excavations will occur as the facility has been designed to accommodate an increase in the slaughter volumes and the associated recovery, recycling and treatment of chicken waste to feather meal, therefore there are no proposed impacts to be assessed for these phases.

7.3 Potential Impacts during the Operational Phase

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Handling of general and hazardous waste materials on the development site.	Activity: Waste will be generated on site, if not disposed of correctly it will become a nuisance within the area and to the surrounding community. The expected general waste produced during the operational phase would be of a similar amount than what is currently produced.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken.
Significance rating:	M	L	-
Cumulative impact:	L	L	-
Nature of impact: Traffic impacts associated with the movement of vehicles within the area.	Activity: The regular movement of vehicles on James Watt Crescent and within the Industrial area would increase traffic flow and impede vehicle movement. It should however be noted that although more birds would be transported to the facility, these are smaller birds and would subsequently require a similar amount of space to be transported. Thus, the same number of vehicles would be required to transport the birds to the facility. Therefore, the impact of traffic in the area after expansion would be similar to the current operational impact.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken.

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
Significance rating:	L	L	-
Cumulative impact:	L	L	-
Nature of impact: Surface and groundwater contamination from the Processing Facility and the constructed diesel tanks.	Activity: Surface and groundwater can become contaminated due to operation of the Processing Plant. Currently, liquid effluent is discarded within the municipality drains and is tested on a monthly basis. Sieves at the back of the facility collect any solid materials (when the blood, feathers and fat material is removed), preventing these materials from entering the effluent drains. The solid materials collected in the sieves are processed at the Sterilizing Plant into feather meal.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken. Currently, liquid effluent is discarded within the municipality drains and is tested on a monthly basis. The Diesel tanks will be placed in a bunded area with an impermeable surface, preventing the hydrocarbons from leaching into the soil.
Significance rating:	M	L	-
Cumulative impact:	L	L	-
Nature of impact: Increased risk of fires.	Activity: Due to the presence of personnel in the area, fires can occur if not managed to the correct standard.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken. The facility is compliant with respect to Occupational Health and Safety regulations regarding Fire Management as per the Fire Risk Survey conducted by A & J Fire Services. Hot, cold work and confined space permit systems are implemented with lock-out-out procedure documents in place. Smoking areas are situated more than fifteen metres (15 m) away from any buildings.
Significance rating:	M	L	-
Cumulative impact:	L	L	-

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
POTENTIAL IMPACTS ON BIOLOGICAL ASPECTS:			
Nature of impact: Pesticides to control pests such as flies and rodents.	Activity: The Processing Plant will use pesticides (e.g., organic compounds and organo-metallic compounds) to control flies and rodents to prevent diseases (flies are carriers of diseases such as <i>Salmonella</i> , <i>Eschericha coli</i> as well as <i>Streptococcus</i> and <i>Staphyolococcus</i>). These pesticides can contaminate the soil, water, turf, vegetation and native biota if not managed correctly.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken. It should be noted that an increase in pesticides would not occur. Although more birds will be slaughtered should the slaughtering capacity be increased, a similar amount of biological material would be processed. A Pest Control Program is currently implemented on site and an external Pest Control

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
			Company is responsible for the management of pests on site.
Significance rating:	MH	L	-
Cumulative impact:	L	L	-
Nature of impact: Pathogens present due to carcasses of the chickens.	Activity: The carcasses of the chickens can be a source of odours, flies and diseases if not managed correctly. Currently, the facility is fully compliant with respect to Occupation Health and Safety Legislation and the Health Act regarding the general hygiene requirements for food premises and the transportation of food. A Standard Operating Procedure (SOP) is implemented at the facility which deals with the issue regarding odours and how best to prevent said odours from emanating at the facility.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken. Currently, the facility is fully compliant with respect to Occupation Health and Safety Legislation and the Health Act regarding the general hygiene requirements for food premises and the transportation of food. An odour management plan is in place as is required for the AEL.
Significance rating:	M	L	-
Cumulative impact:	L	L	-

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
POTENTIAL IMPACTS ON SOCIO-ECONOMIC ASPECTS:			
Nature of impact: Operation Activities may have a positive impact on the local and regional socio-economic conditions.	Activity: During the operational phase of the proposed expansion, it will create employment opportunities for individuals from the surrounding community. It is estimated that 17 employment opportunities would be created.		It is not expected that any additional employment opportunities will be created should the No-Go Alternative take precedence.
Significance rating:	M (+)	-	L (-)
Cumulative impact:	-	-	-
Nature of impact: Occupational Health and Safety.	Activity: During the operational phase, accidents, occupational diseases, ill health and damage to property can occur if pre-cautionary measures are not taken.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken. Currently, the facility is fully compliant with respect to Occupation Health and Safety Legislation.
Significance rating:	M	L	-
Cumulative impact:	L	L	-
Nature of impact: Operation Activities will have a positive impact on local and regional food supply.	Activity: During the operational phase of the proposed expansion, more birds will be slaughtered and therefore an increase in the local and regional food supply. Food security in the area would therefore be improved.		Should the No-Go Alternative take precedence, there would not be an increase in the slaughtering volumes and thus food supply in the area would be infringed upon.
Significance rating:	M (+)	-	L (-)
Cumulative impact:	-	-	-

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
POTENTIAL IMPACTS ON NOISE:			
Nature of impact: Noise nuisance generated by site operations.	Activity: Noise nuisance that may be created by the operation and maintenance work of the Steam generators and Rendering Plant, trucks and chickens (the facility is situated within the industrial area of Mahikeng). Please note that Occupational Noise surveys are conducted every second year. It is therefore not expected that more noise will be generated should the expansion occur.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken.
Significance rating:	M	L	-
Cumulative impact:	L	L	-

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
POTENTIAL ATMOSPHERIC IMPACT:			
Nature of impact: Emissions and odour from the Processing Plant	Activity: Emissions and odours from the Processing Plant could add to atmospheric pollution. Regarding emissions, an approved SOP (OHSaES 7.8.18P) is implemented on site.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken.
Significance rating:	M	L	-
Cumulative impact:	L	L	-

Operational Phase	Expansion Alternative 1		No-Go Alternative
	Before Mitigation	After Mitigation	
POTENTIAL IMPACTS ON THE CHICKENS:			
Nature of impact: Humane handling practices.	Activity: Bruises, mortalities, transport and stress associated with the handling of the birds. It must however be noted that a food safety management system is currently implemented with regards to Animal Welfare and that humane handling practices are in place at the facility.		Current operational phase impacts are associated with the no-go alternative; thus, no assessment has been undertaken.
Significance rating:	M	L	-
Cumulative impact:	L	L	-

7.4 Potential Impacts during the Decommissioning and Closure Phases

It is not anticipated that the facility will be decommissioned or closed in the near future. Therefore, the potential impacts have not been assessed.

7.5 Environmental Impact Statement

The Applicant proposes the expansion of the slaughtering volumes of the Supreme Poultry Mahikeng Chicken Processing Plant from 120 000 units per day to 150 000 units per day and associated recovery, recycling and

treatment of chicken waste to feather meal. The site where the proposed expansion is set to occur is situated on Erf No. 9907 in the Industrial Area of Mahikeng, North West Province.

The Processing Plant is an already established facility, with the current slaughtering volumes not exceeding a hundred and twenty thousand (120 000) units per day. The Applicant proposes an expansion of the output to a hundred and fifty thousand (150 000) units per day and associated recovery, recycling and treatment of chicken waste to feather meal. This will lead to an increase in the availability of processed poultry products for the surrounding community and businesses. The Processing Plant is designed in such a manner as to process more units than what it currently processes, therefore no physical construction will occur in order to facilitate this increase of the slaughtering volumes. It should additionally be noted that although an increase of thirty thousand (30 000) birds being slaughtered is proposed to occur, smaller birds would be processed and therefore a similar amount of waste will be generated by the facility.

The overall site amounts to an area of just under four hectares (4 ha), encompassing a total development footprint of ten thousand three hundred-and forty-five-point three square metres (10 345.3 m²). The total development footprint of the site includes, but is not limited to, a Tool shed, Workshop, Compressor plant room, Pack material stores, Pallet making shop, Workshop and material store, Meal loading area, Rendering Plant, Live bird receiving area, Processing building, Holding room, Refrigeration plant, Steam generator house, Substation, Change room, Ablution building, Canteen, Refuse area, Security office, PPE room, Weighbridge office, Office building, Factory shop, Carports, Concrete driveways, Parking areas, Water reservoir and surface areas consisting of concrete bed slabs, lawns and gardens, concrete block paving and ground surfaces. The Processing building measures at approximately three thousand nine hundred and eleven square metres (3 911 m²). The Steam Generator house and Rendering Plant combined equates to six hundred- and thirteen-point six square metres (613.6 m²).

It is estimated that the facility currently produces one hundred and seventy thousand, nine hundred and thirty kilogrammes (170 930 kg) (170.93 tons) of biological material per month, with Dead-on Arrival birds included within this figure. The feathers, blood, fat and Dead-on Arrival birds are re-worked into feather meal via the Rendering Plant (sterilization process, thus also referred to as the Sterilizing Plant). This process involves the cooking, drying out and grounding of the material whereby the biological material is transformed into feather meal.

All potential impacts on biological, geological and physical, noise, socio-economic and cultural-heritage aspects range from a moderate to low significance without mitigation and management thereof, however it can all be mitigated to an acceptable low significance rating with implementation of the mitigation measures and strict compliance with the EMPr.

In terms of the activities that are being applied for (i.e. the increase in the number of the slaughtering and processing of chickens; and, the recovery, recycling and treatment of organic waste) the emissions from the Boilers and Sterilization Plant are the most probable impacts and prominent impacts. The remainder of the identified potential impacts during the operational phase are also expected to be low and localised, and might

only have a negligible cumulative impact on the receiving environment. This is because the site is situated in an insensitive environment (industrial area), will make use of existing footprints and facility capacities and the impacts from the additional chicken numbers is not expected to cause an unacceptable level of change to the environment.

The no-go alternative will leave the Processing Facility in its current state, with the current slaughter volumes remaining as is. The proposed no-go alternative would mean that the ever-growing demand for processed poultry products would not be satisfied. Additionally, the employment opportunities that could be created at the facility due to the increase in the slaughtering volumes, would not be available.

8 RECOMMENDATIONS OF THE PRACTITIONER

Based on the outcome of the BA report and the Impact assessment, as attached in Appendix F, the EAP has no objections to the proposed project and is of the opinion that an EA may be provided to the applicant. The following recommendations have been made by the EAP:

1. Currently, 95% of staff at the facility are locally based employees. Furthermore, with the new employment opportunities created, members from the local community must be employed during the operational phase; and,
2. The Environmental Management Programme (EMPr) Report should form part of the conditions of approval of this Application.

The EIA process has assessed impacts associated with the proposed expansion and determined, based on the outcomes of a multitude of contributing information, that the proposed expansion would not result in any unacceptable impact or fatal flaws and as such may be authorised.

APPENDICES

Appendix A: Maps

Appendix A1: Locality Map

Appendix A2: Sensitivity Map

Appendix A3: Small Scale Sensitivity Map

Appendix B: Photographs

Appendix C: Facility Illustration(s)

Appendix C 1: Plant Layout

Appendix C2: Site Layout Plan

Appendix D: Specialist Report(s)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of the EAP and Review EAP

Appendix H1: EAP CV

Appendix H2: EAP declaration

Appendix H3: Review EAP CV

Appendix I: Additional Information

Appendix I1: Site Verification and Motivation to Exclude Specialist Studies

Appendix I2: DFFE Screening Tool Report

Appendix I3: Averda Service Level Agreement & Safe disposal slips for the part quarter (March, April & May)

Appendix I4: Air Emissions Licence (AEL)

Appendix I5: Confirmation of Water Use Licence Application (WULA) and reference number

Appendix I6: Willcor Services waste removal log and register

Appendix I7: Ecofirst Pest Prevention and Hygiene Services agreement and Hygiene services report

Appendix I8: Boiler ash log

Appendix I9: Waste inventory register

Appendix I10: Municipal services statements

Appendix I11: Canteen waste log

Appendix I12: Waste inventory register once processing unit numbers increase

Appendix I13: Standard Operating Procedures (SOPs) for the site

Appendix I14: Proof of facility establishment prior to 1995