



**24G Rectification Process for the clearance of
vegetation for agricultural purposes, portion 7,
portion 27 of portion 7 and a portion of portion 6
of the farm Isinga 122-JU, near Nelspruit,
Mpumalanga Province**

Draft Section 24G Report

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CORE Environmental Services

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EAPASA: 2020/602

EXECUTIVE SUMMARY

Mr. Zain Halle is applying for Environmental Authorisation by means of a Section 24G application process, for clearing more than 1 hectare of indigenous vegetation for agricultural purposes, prior to obtaining Environmental Authorisation (EA) from the DARDLEA. In 2010, prior to the applicant purchasing the property, some of the affected areas were previously cleared and used for agricultural activities. Since then, the areas were left unattended and revegetated. In 2017, Mr. Halle cleared the previously cleared area as well as additional areas on portion 7, portion 27 of portion 7 and a portion of portion 6 of the farm Isinga 122-JU. The total area cleared of vegetation amounts to approximately 4HA. The area cleared on a portion of portion 6 and portion 27 of portion 7 of the farm Isinga 122-JU amounts to approximately 6000m², however, this area will no longer be used for agricultural activities and will be rehabilitated.

Mr. Halle subsequently appointed Core Environmental Services to apply for the EA by means of conducting a Section 24G Environmental Authorisation Process for the areas which will continue to be cultivated.

According to the Mpumalanga Biodiversity Sector Plan of 2014, the site cleared of vegetation falls within a class classified as, *Other Natural Areas*. Such areas offer the most flexibility regarding potential land-uses, but these should be managed in a biodiversity-sensitive manner, aiming to maximize ecological functionality and authorization is still required for high impact land uses.

The operation of the agricultural activities is likely to result in environmental and socio-economic impacts. The identified impact areas are listed below and discussed thereafter:

- *Biodiversity Impact;*
- *Generation of dust;*
- *Erosion;*
- *Soil Pollution;*
- *Impact on water resources;*
- *Socio-economic impact.*

The table below summarises the impacts identified and assessed for the operational of the project:

IMPACT	SIGNIFICANCE BEFORE MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION MEASURES
Operational Impacts		
Alien Invasive Species and use of pesticides and herbicides	Medium	Low
Loss of habitat for fauna	Medium	Low
Generation of dust	Low	Very Low
Erosion	Low	Very Low
Soil Pollution	Medium	Low
Excessive Water Use	Medium	Low
Water Pollution	Medium	Low
Socio-economic impact	Neutral	High (+)

Although the project area has already been cleared and cultivated, it is believed that the farming practices can be undertaken in an environmentally friendly manner by strict adherence to the Environmental Management Plan (EMP) attached as Appendix D.

The impact assessment concluded that most of the impacts could be mitigated to be of low significance.

Various recommendations and measures have been made to address the identified impacts and these recommendations were included within Section 6 above and also the Draft Environmental Management Plan. The significance of the potential environmental (biophysical and social) impacts associated with the proposed project are discussed in detail under Section 6.

Taken all of the above into consideration, it is the opinion of the EAP that the EA for this project should be granted, and the proposed mitigation measures be included as conditions of the authorisation.

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ABBREVIATIONS

BAR	Basic Assessment Report
EA	Environmental Authorisation
I&AP	Interested and Affected Party
MDARDLEA	Mpumalanga Department of Agriculture, Rural Development, Land and Administration
MTPA	Mpumalanga Tourism and Parks Agency
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
PPP	Public Participation Process

1. OVERVIEW OF THE PROJECT

1.1 Introduction

Mr. Zain Halle is applying for Environmental Authorisation by means of a Section 24G application process, for clearing more than 1 hectare of indigenous vegetation for agricultural purposes, prior to obtaining Environmental Authorisation (EA) from the DARDLEA. In 2010, prior to the applicant purchasing the property, some of the affected areas were previously cleared and used for agricultural activities. Since then, the areas were left unattended and revegetated. In 2017, Mr. Halle cleared the previously cleared area as well as additional areas on portion 7, portion 27 of portion 7 and a portion of portion 6 of the farm Isinga 122-JU. The total area cleared of vegetation amounts to approximately 4HA. The area cleared on a portion of portion 6 and portion 27 of portion 7 of the farm Isinga 122-JU amounts to approximately 6000m², however, this area will no longer be used for agricultural activities and will be rehabilitated.

Mr. Halle subsequently appointed Core Environmental Services to apply for the EA by means of conducting a Section 24G Environmental Authorisation Process for the areas which will continue to be cultivated.

1.2 Location

Although the site is located on portion 7, portion 27 of portion 7 and a portion of portion 6 of the farm Isinga 122-JU, Environmental Authorisation is only being applied for on portion 7 of the farm Isinga 122-JU as the area cleared on a portion of portion 6 as well as portion 27 of portion 7 of the farm Isinga 122-JU, will be rehabilitated.

Coordinates:

25°26'8.89"S

31°3'29.25"E

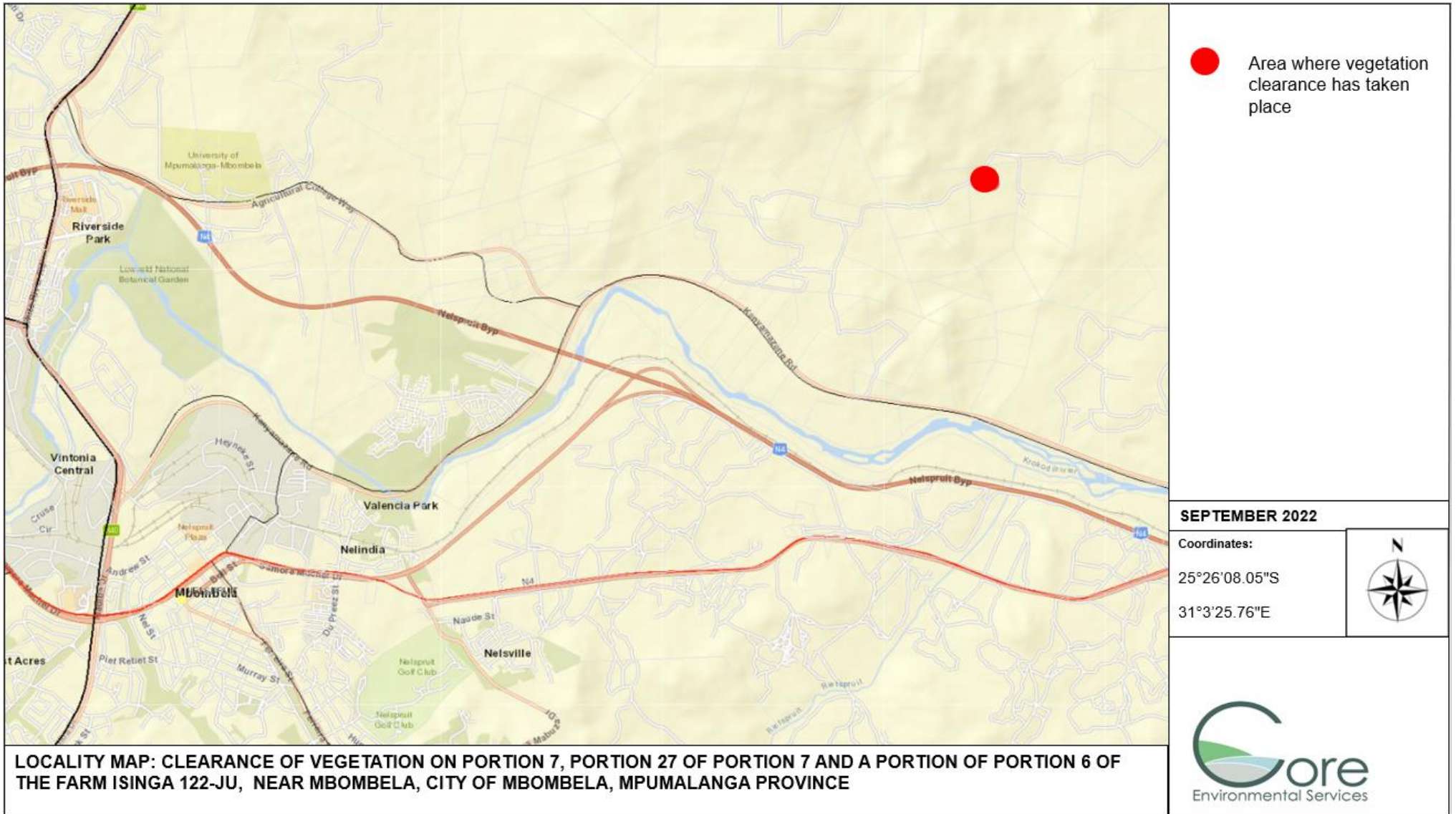


FIGURE 1: LOCALITY MAP – INDIGENOUS VEGETATION CLEARANCE ON THE FARM ISINGA 122-JU

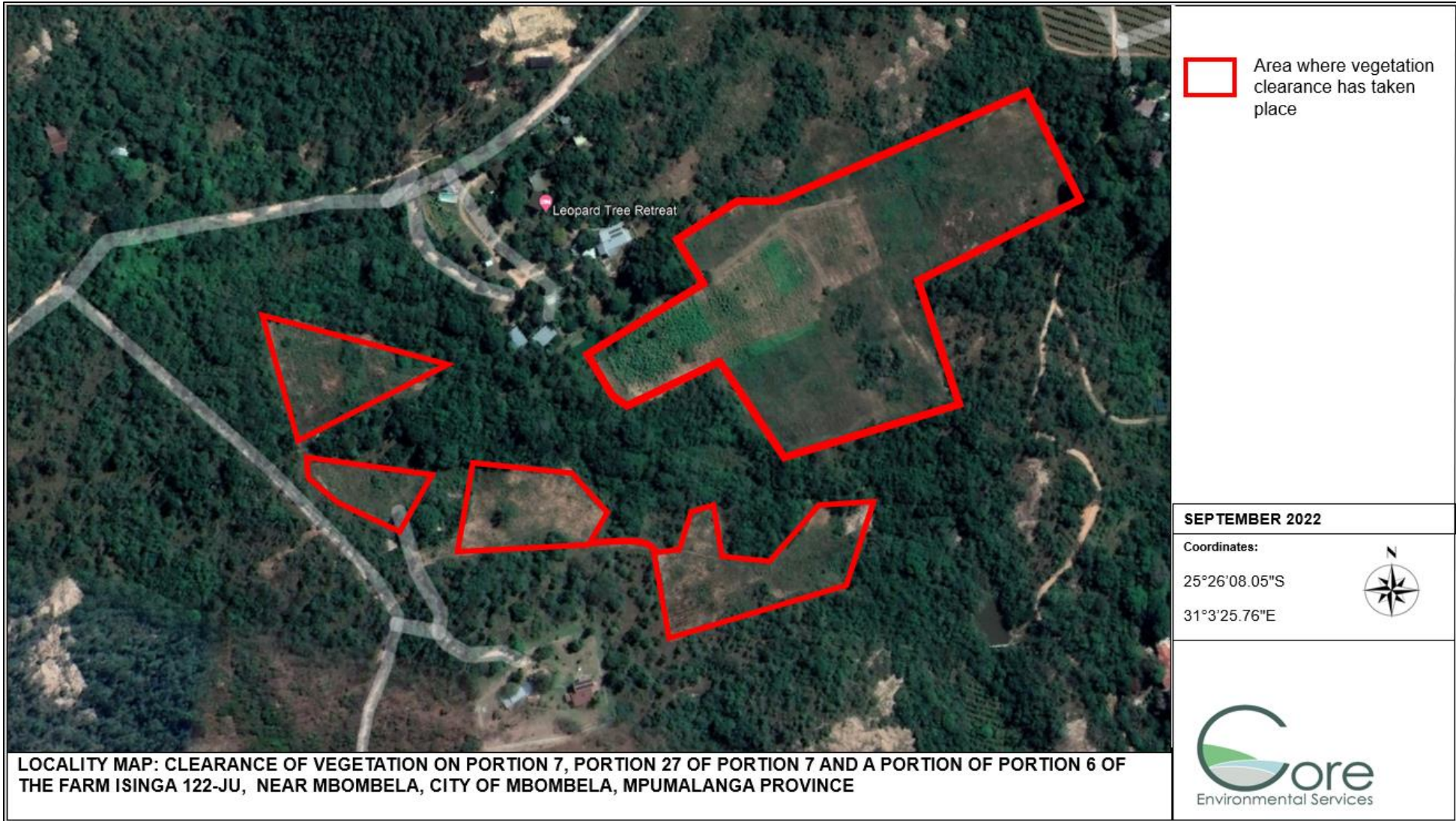


FIGURE 2: AREAS CLEARED OF VEGETATION ON THE FARM ISINGA 122-JU



FIGURE 3: AREAS FOR WHICH ENVIRONMENTAL AUTHORISATION IS BEING APPLIED FOR ON THE FARM ISINGA 122-JU

1.3 Details of the EAP

Ms. Anne-Mari White, is an Environmental Specialist, who started her studies at the North-West University (NWU) and completed her Bachelor of Science: Environmental Management at the University of South Africa (UNISA) in 2007. Ms. White is registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA Reg No: 2020/602) as well as the South African Council for Natural Scientific Professionals as a Certificated Natural Scientist (Reg. No 300067/15). In addition to her qualification, she completed short courses in soil classification and wetland delineations (Terrasoil Science), Geographic Information Systems (University of KwaZulu-Natal), and Environmental Impact Assessments (NWU).

1.4 Policy Legal and Administrative Framework

TABLE 1: LEGISLATION APPLICABLE TO THE PROJECT

Applicable legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments considered	Project application and type (permit / licence / authorisation / comment)
The Constitution of South Africa, Act No. 108 of 1996	<p>Mr. Halle will be required to adhere to the Environmental Management Programme (EMPr) requirements to ensure that social and environmental management considerations are considered and implemented.</p> <p>As per Section 25 the Constitution, a public participation process (PPP) was and will continue to be undertaken, as this is considered to be an essential mechanism for informing stakeholders of their rights and obligations in terms of the project.</p>
National Environmental Management Act, 1998 (Act No. 107 of 1998)	<p>The following listed activity was triggered with the clearance of vegetation in 2017:</p> <p>GNR 983, Activity 27, 2014 (as amended in 2017): The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for –</p> <p>(i) The undertaking of a linear activity; or Maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>Environmental Authorisation was however not applied for prior to the clearing of vegetation and therefore a Section 24G rectification process is undertaken to obtain Environmental Authorisation for the above listed activity.</p>
National Water Act, 1998 (Act No. 36 of 1998)	Water is sourced from boreholes located on the property.

<p>Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)</p>	<p>The Act provides for the control over the utilisation of the natural agricultural resources of the Republic in order to promote the conservation of soil, water, and vegetation and the combatting of weeds and invader plant species.</p> <p>Mr. Halle must comply with the regulations included within the CARA 43 of 1983, to ensure the preservation of soil, water resources, and vegetation and prevent the spreading of invader plant species.</p>
<p>National Heritage Resources Act, 1999 (Act No 25 of 1999)</p>	<p>This legislation aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations.</p>
<p>Mpumalanga Spatial Development Framework (MSDF) Draft (2013)</p>	<p>The MSDF has a vision to provide: <i>“a <u>sustainable urban and rural spatial development pattern focussed on a modern, ecologically sustainable economy, supported by a suitably skilled labour force and providing for quality of living</u> [emphasis added].”</i></p> <p>The underlined portions of the Vision address those aspects which are applicable to this project:</p> <ul style="list-style-type: none"> ● Mr. Halle will provide permanent job opportunities to employees. ● The implementation of the Environmental Management Programme (EMPr) associated with this application will ensure that the quality of the environment directly and indirectly affected by the operations of the farming activities does not deteriorate or is limited as far as reasonably possible.
<p>City of Mbombela Integrated Development Plan (IDP) (2017 - 2022)</p>	<p>The primary objective of the Mpumalanga Economic Growth and Development Path is to foster economic growth that creates jobs and reduce poverty and inequality in the Province.</p> <p>Investors and business sectors are called upon within the IDP of 2017 - 2022, to assist with regards to creating opportunities for economic growth and development within the municipality.</p> <p>Permanent job opportunities will be secured by the continuation of the farming activities of which all employees accrued to previously disadvantaged individuals</p>

1.5 Description of the project

Mr. Halle commenced with the clearance of vegetation on portion 7, portion 27 of portion 7 as well as a portion of portion 6 of the farm Isinga 122-JU, in 2017 to cultivate moringa trees. Approximately 4 hectares of vegetation was cleared for this purpose.

The area cleared on portion 27 of portion 7 as well as a portion of portion 6 of the farm Isinga 122-JU, was accidentally cleared on the property owned by the adjacent property owner. Mr. Halle mistook the boundaries of the property and accidentally cleared approximately 6000m² of vegetation on portion 6 and portion 27 of portion 7 of the farm Isinga 122-JU. This area will however be rehabilitated and not used for future agricultural purposes.

1.6 Need and Desirability

Moringa is used as an antioxidant to help protect cells from damage and is also used for asthma, diabetes and various other illnesses. Moringa is therefore a natural supplement which is derived from Moringa Trees.

The applicant is cultivating Moringa Trees for production of this natural medicine which is purchased and used to fight various ailments.

2. PUBLIC PARTICIPATION PROCESS

The purpose of this chapter is to provide an outline of the public participation process (PPP) to date and the way forward with respect to the Section 24G Environmental process.

Consultation with the public forms an integral component of the EA process. This process enables Interested and Affected Parties (I&APs) (e.g. directly affected landowners, national-, provincial- and local authorities, and local communities etc.) to raise their issues and concerns regarding the proposed activities, which they feel should be addressed in the BA process. The PPP has thus been structured such as to provide I&APs with an opportunity to gain more knowledge about the proposed project, to provide input through the review of documents/reports, and to voice any issues or concerns at various stages throughout the BA process.

I&APs were identified during the public participation phase of the project. All the parties identified as an I&AP (surrounding landowners, relevant departments, stakeholders, local and district authorities) have automatically been registered in the I&APs database for the project. The registered I&AP list is attached as **Annexure C.1**.

In effort to engage potential stakeholders, different communication methods were used to inform them about the project and how to get involved in the BA process. These methods include:

- Distributing English Background Information Documents (BIDs) to all registered I&APs, proof of which is attached in **Annexure C.2**;
- Placement of media advert in a local newspaper (The Lowvelder) on **22 September 2022** (see **Annexure C.3**).
- Placing of a notice at the proposed site took place on **16 September 2022** (see **Annexure C.4**);

The draft Section 24G Report will be made available for public review during October and November 2022.

To date, the following comments have been received from identified and registered I&APs:

Comment	Response
<p><u>Mr. Jacques Grundling (Email submitted on 24 September 2022)</u></p> <p><i>Owner of portion 6 and portion 27 of portion 7 of the farm Isinga 122-JU,</i></p> <p>Zain Halle has no formal training and has encroached on two properties owned by me with his clearing activities.</p> <p>This is currently in legal proceedings and should not be allowed to continue due to the lack/respect of the country's laws. He has removed significant vegetation on my property without permission not following</p>	<p><u>Core Environmental Services (Responded via email on 26 September 2022):</u></p> <p>Thank you for your comment, it has been received and is noted.</p> <p>It is noted that some of your property has been encroached upon and Mr. Halle will not cultivate these areas. With your permission, and in an effort to rehabilitate the affected area, it has been suggested that Mr. Halle remove all alien invasive vegetation which populated as a result of the activities. Should this not be acceptable by you, please inform me in order to ensure that this is communicated accordingly.</p>

<p>the most basic guidelines of agricultural practices.</p>	
<p><u>Mr. Jacques Grundling (Email 26 September 2022)</u></p> <p>The request for Mr. Halle to remove alien invasive species on the affected areas are not acceptable. There is a lot more damage than the invasive vegetation as per botanist report. I am filling for damages. Mr Halle has shown no regard to property rights and removed a fence in order to perform the encroachment. He has in fact trespassed last week which has now brought his staff into question who are here illegally. Halle is not a farmer nor has any formal training nor respects the law of the land and should not be conducting any farming activity including clearing of virgin land.</p>	<p><u>Core Environmental Services:</u></p> <p>Thank you Mr. Grundling, your response is noted.</p>
<p><u>Mr. Jacques Grundling (Email 27 September 2022)</u></p> <p>The statement of the clearance of 600m² is also incorrect.</p>	<p><u>Core Environmental Services:</u></p> <p>Thank you for notifying about the correction to be made. It was a typing error and should have read 6 000m² and not 600m².</p> <p>This will be stated as such in the Draft Section 24G Report to be drafted. All stakeholders and Interested and Affected Parties will receive a copy of such report.</p>
<p><u>Mr. Jacques Grundling (Email 27 September 2022)</u></p> <p>Mr Halle has also encroached on ptn27 of ptn 7 which is also my property. Mr Halle has no access through any of my properties. How is he allowed to have a field that access is via encroachment</p>	<p><u>Core Environmental Services:</u></p> <p>Thank you Mr. Grundling</p> <p>It is noted, it will be amended as such within the Draft Report.</p>

3. CONSIDERATION OF ALTERNATIVES

The EIA process requires the developer to identify and investigate/assess feasible and reasonable alternatives.

The assessment of the alternatives is a complicated and multi-faceted issue, which is essential to the success of this application and ultimately to the proper, responsible and sustainable operation of the proposed project.

3.1 Alternative Selection

3.1.1 Location alternatives

No other location alternatives were investigated as the owner and applicant already commenced with the clearing activities and agricultural activities. Some of the clearance activities was accidentally undertaken on property not owned by the applicant. These areas will therefore not be considered for future agricultural activities and is excluded from the application for Environmental Authorisation.

As the areas have already been cleared, investigating other locality alternatives are not feasible.

3.1.2 No-Go alternative

The no-go alternative would be to rehabilitate all the areas which are being cultivated to the condition it was prior to vegetation clearance, however, upon investigation and assessment of impacts, no impact was found to be so severe that rehabilitation of all the affected areas would be recommended.

It is however recommended that the areas not owned by the applicant, is rehabilitated.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The description of the affected environment below draws on existing knowledge from published data, previous studies, specialist investigations, and site visits to the area.

4.1 Topography

The topography of the of the area is approximately 665m above mean sea level. The areas on which agricultural activities are proposed to continue, is relatively flat with some slightly undulating areas. The topography of the affected project site is however fit for agricultural purposes.

4.2 Climate

The Nelspruit area does not normally experience extreme climatic conditions. It is characterized by moderate climatic conditions with a mean maximum temperature of 28°C during January and 22°C during June.

The site is situated in a medium-high summer rainfall area, with an annual rainfall average of 860mm. Winter rainfall is almost non-existent. Its lowest rainfall (4mm) is in June and highest (158mm) in January.

4.3 Surface and Groundwater

A drainage line is located between the two agricultural areas with a small pond approximately 50m to the south-east of the project area. These drainage lines seem to be draining toward a larger irrigation dam located near the Crocodile River.

According to the MBSP, 2014, the freshwater ecology of the project area is classified as an Ecological Support Area:

Ecological Support Area (Important Sub catchment): The MTPA requirements for an Ecological Support Area (important sub catchment) are quoted as follows: This sub-category includes National Freshwater Ecosystems Priority Areas (FEPA) sub-catchments and Fish Support Areas. A river FEPA is the river reach that is required for meeting biodiversity targets for river ecosystems and threatened fish species. In managing the condition of a river FEPA, it is important to manage not only the river itself, but also the network of streams and wetlands as well as land-based activities in the sub-catchment that supports the river FEPA. A proportion of tributaries and wetlands need to remain healthy and functional in order for the river FEPA to be kept in a good ecological condition. This requires that management activities are focused on maintaining water quantity and quality and the integrity of natural habitat in the sub-catchment.

4.4 Land use

The surrounding area and properties are also being used for agricultural purposes and some tourism facilities/self-catering accommodation facilities. The project area is however currently zoned for agricultural purposes.

4.5 Biodiversity

On a National level, the larger study area can be classified as Lowveld (A10), according to Acocks (1988) and Sour Lowveld Bushveld according to Low & Rebelo (1998). Classified on a regional scale and according to a more detailed system the study area comprises several distinct vegetation units (Mucina & Rutherford, 2006):

Overall, the site is located within the Savannah Biome. The Savanna Biome is the largest Biome in southern Africa, occupying 46% of its area, and over one-third the area of South Africa. It is well developed over the lowveld and Kalahari region of South Africa. It is characterized by a grassy ground layer and a distinct upper layer of woody plants. The vegetation type is classified as the Malalane Mountain Bushveld which has an ecosystem status of Least Threatened.

According to the Mpumalanga Biodiversity Sector Plan of 2014, the site cleared of vegetation falls within a category which is classified as, *Other Natural Areas*.

Other Natural Areas: According to the MBSP, Other Natural Areas (ONAs) are not required to meet biodiversity targets, and are not identified as a priority in the MBSP. They do however retain much of their natural character. The biodiversity in these non-priority landscapes may still be of value and contribute to the maintenance of viable species populations and natural ecosystem functioning and Other Natural Areas may provide essential ecological infrastructure and ecosystem services. ONAs offer the greatest flexibility in terms of management objectives and permissible land-uses, and are generally recommended (along with Modified Areas) as the sites for higher-impact land uses. An overall management objective should be to minimize habitat and species loss and ensure ecosystem functionality through strategic landscape planning. This classification is relevant to the northern section of the property.

A large portion of the area affected by the recent agricultural activities was previously cultivated and therefore the vegetation was previously disturbed. The vegetation composition of the areas which were not previously cultivated is unknown.

4.6 Economy

The area is located within the City of Mbombela. The larger portion of the 695 913 individuals within the Mbombela Local Municipality, lives in peri-urban and rural areas. Approximately 75% of the people live within communal areas on the eastern axis of the City which is far from the city.

The City of Mbombela currently has an unemployment rate of 28% with 50% of the people living below the poverty line. The levels of skill and qualifications of the population is also fairly low which is problematic for future economic development. The socio-economic context of the surrounding

environment can therefore be described as a community with a low percentage of education and high unemployment rate.

4.7 Geology and Soils

Mbombela is underlain with the Granite Group with highly permeable and erodible, colluvial sands and residual soils overlaying the granitic bedrock.

According to the Mpumalanga Biodiversity Sector Plan of 2014, the sites soil classification is undifferentiated shallow soils and land classes. The soils with minimal development it is usually shallow, on hard or weathering rock with or without intermittent diverse soils. Lime rare or absent in the landscape.

5. METHODOLOGY OF ASSESSING THE SIGNIFICANCE OF IMPACTS

This section outlines the method used for assessing the significance of the potential environmental impacts.

For each impact, the **EXTENT** (spatial scale), **MAGNITUDE** and **DURATION** (time scale) would be described, as shown in **Table 2**. These criteria are then used to determine the **SIGNIFICANCE** of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. The mitigation described in the Report represents the full range of plausible and pragmatic measures but does not necessarily imply that they would be implemented.

The following tables show the scale used to assess these variables and defines each of the rating categories.

TABLE 2: ASSESSMENT CRITERIA FOR THE EVALUATION OF IMPACTS

Criteria	Category	Description
Extent or spatial influence of impact	Regional	Beyond a 30km radius of the candidate site.
	Local	Within a 30km radius of the candidate site.
	Site-specific	On site or within 100 m of the candidate site.
Magnitude of impact (at the indicated spatial scale)	High	Natural and/ or social functions and/ or processes are <i>severely</i> altered
	Medium	Natural and/ or social functions and/ or processes are <i>notably</i> altered
	Low	Natural and/ or social functions and/ or processes are <i>slightly</i> altered
	Very low	Natural and/ or social functions and/ or processes are <i>negligibly</i> altered
	Zero	Natural and/ or social functions and/ or processes remain <i>unaltered</i>
Duration of impact	Long-term	More than 10 years after construction
	Medium-term	Up to 5 years after construction
	Construction-term	Up to 3 years

The **SIGNIFICANCE** of an impact is derived by taking into account magnitude, duration and extent of each impact. The criteria employed in arriving at the different significance ratings is shown in Table 3.

TABLE 3: DEFINITION OF SIGNIFICANCE RATINGS

Significance ratings	Level of criteria required
High	<ul style="list-style-type: none"> • High magnitude with a regional extent and long-term duration • High magnitude with either a regional extent and medium-term duration or a local extent and long-term duration • Medium magnitude with a regional extent and long-term duration
Medium	<ul style="list-style-type: none"> • High magnitude with a local extent and medium-term duration • High magnitude with a regional extent and construction period or a site-specific extent and long-term duration • High magnitude with either a local extent and construction period duration or a site-specific extent and medium-term duration • Medium magnitude with any combination of extent and duration except site specific and construction period or regional and long term • Low magnitude with a regional extent and long-term duration
Low	<ul style="list-style-type: none"> • High magnitude with a site-specific extent and construction period duration • Medium magnitude with a site-specific extent and construction period duration • Low magnitude with any combination of extent and duration except site specific and construction period or regional and long term • Very low magnitude with a regional extent and long-term duration
Very low	<ul style="list-style-type: none"> • Low magnitude with a site-specific extent and construction period duration • Very low magnitude with any combination of extent and duration except regional and long term
Neutral	<ul style="list-style-type: none"> • Zero magnitude with any combination of extent and duration

Once the significance of an impact has been determined, the **PROBABILITY** and **CONFIDENCE** of this impact are determined using the rating systems outlined in **Table 4** and **Table 5**. The significance of an impact should always be considered in concert with the probability of that impact occurring. Lastly, the **REVERSIBILITY** of the impact is estimated using the rating system outlined in **Table 6**.

TABLE 4: DEFINITION OF PROBABILITY RATINGS

Probability ratings	Criteria
Definite	Estimated greater than 95 % chance of the impact occurring.
Probable	Estimated 5 to 95 % chance of the impact occurring.
Unlikely	Estimated less than 5 % chance of the impact occurring.

TABLE 5: DEFINITION OF CONFIDENCE RATINGS

Confidence ratings	Criteria
Certain	Wealth of information on and sound understanding of the environmental factors potentially influencing the impact.
Sure	Reasonable amount of useful information on and relatively sound understanding of the environmental factors potentially influencing the impact.
Unsure	Limited useful information on and understanding of the environmental factors potentially influencing this impact.

TABLE 6: DEFINITION OF REVERSIBILITY RATINGS

Reversibility ratings	Criteria
Irreversible	The activity will lead to an impact that is in all practical terms permanent.
Reversible	The impact is reversible within 2 years after the cause of the impact is removed.

6. OPERATIONAL AND DECOMMISSIONING PHASE IMPACTS

Seeing that the vegetation has already been cleared, operational impacts are the only impacts to be assessed and mitigated.

6.1 Operational Phase Impacts

The operation of the agricultural activities is likely to result in environmental and socio-economic impacts. The identified impact areas are listed below and discussed thereafter:

- *Biodiversity Impact;*
- *Generation of dust;*
- *Erosion;*
- *Soil Pollution;*
- *Impact on water resources;*
- *Socio-economic impact.*

6.1.1. Biodiversity Impact (Fauna and Flora)

Description of the potential impact

As mentioned in Section 4 above, the Mpumalanga Biodiversity Sector Plan, 2014 (MBSP) indicated that the affected area is classified as *Other Natural Areas* which are not required to meet biodiversity targets, and are not identified as a priority in the MBSP.

The single most important impact on biodiversity as consequence of transforming natural land to agriculture, is the loss of vegetation and loss and fragmentation of natural habitats and consequently the loss of fauna. However, as discussed, most of the affected area was previously cleared and used for agricultural purposes in 2010.

As the vegetation has already been cleared, the impacts to be addressed during operation are the following:

- The invasion of alien vegetation on the transformed and surrounding areas;
- Use of pesticides and herbicides to control pests and alien vegetation; and
- Loss of habitat for fauna.

Significance of the impacts

Invasion of alien invasive species and use of pesticides and herbicides:

When natural vegetation is removed and activities are undertaken, the opportunity for invasive plant species within the perimeter of the site will increase and will be problematic if not adequately removed or managed. Alien vegetation is normally removed mechanically or chemically. Using harmful chemicals would kill all pest and alien vegetation but also affect other insects and mammals which must be protected. Mechanical removal or removal of alien vegetation by hand is therefore preferred above the chemical treatment thereof.

Recent research findings show that natural pest control using bats could save the South African farming industry millions of Rands. Studies have shown that crop damage is increased when birds and bats are excluded from orchards. Efforts to retain bat populations through using safe pesticides or retaining natural vegetation corridors and bat houses, is therefore encouraged. Biological pest control is therefore also preferred above chemical pest control.

The impact of alien vegetation and the control thereof is therefore of medium significance prior to the implementation of mitigation measures.

Loss of habitat for fauna:

Although the vegetation on the project site has already been removed and had an impact on the fauna as natural habitats have been lost and fragmented, this impact can to some extent be mitigated by encouraging biological pest control by using bats and birds and retaining natural vegetation corridors.

According to the Department of Forestry, Fisheries and Environment (DFFE), the plant and animal species sensitivity within the affected footprint, is of medium to high sensitivity. However, it must be noted that the larger area was cleared previously in 2010, and used for agricultural purposes by the previous owner. Taking the above into consideration, the impact associated with the loss of fauna is of medium significance prior to the implementation of mitigation measures.

TABLE 7: SIGNIFICANCE OF BIODIVERSITY IMPACT

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Alien Invasive Species and use of pesticides and herbicides [NEGATIVE]	Medium	Site specific	Long term	Probable	Medium	Low
Loss of habitat for fauna [NEGATIVE]	Medium	Site specific	Long term	Definite	Medium	Low

Assessing the no-go alternative, implies that the agricultural activities are not approved, and the project area is rehabilitated. It is noted that the project area is classified as “Other Natural Area” in accordance with the MBSP, 2014, and therefore the impact on the affected area is not so severe that rehabilitation of the site would be recommended.

Mitigation measures

- Movement of machinery and equipment must be restricted to current access roads which have already been cleared;
- An Invasive Species Management Programme must be compiled and complied with during the operational phase of the project;

- Retain all natural vegetation corridors;
- Biological pest control must receive preference over chemical pest control. Attracting bats and birds by introducing fragrant flowers, herbs and night blooming plants;
- Stipulations of the Environmental Management Program (EMPr) should be adhered to during the establishment and operational phases of the project.

6.1.2 Generation of dust

Description of the potential impact

Due to the clearance of vegetation, some areas are found where soil is exposed and windy conditions as well as other agricultural activities will generate dust which could affect adjacent owners and road users.

Significance of the impact

Some of the adjacent owners are located approximately 150 – 200m from the current agricultural activities and could therefore be affected by the generation of dust caused by some agricultural activities. The possibility of this impact occurring is however low and of short duration during some activities and for this reason the impact is regarded to be of low significance prior to the implementation of mitigation measures.

TABLE 9: DUST GENERATION

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Dust generation [NEGATIVE]	Low	Site specific	Short term	Probable	Low	Very Low

Should the project not be approved, and it is recommended that the area be rehabilitated, no dust would be generated after the area is rehabilitated. However, the significance of dust being generated during the operational phase of the agricultural activities are of very low significance and therefore the no-go alternative need not be considered for this aspect of the assessment.

Mitigation measures

As the impact is of very low significance, no mitigation measures are proposed.

6.1.3 Impact on soil

Description of the potential impact

The areas where agricultural activities are taking place are relatively flat and therefore the possibility of erosion occurring on site is low. Mitigation measures to further minimise the possibility of erosion is however recommended.

During operation, some pesticides and herbicides are applied to agricultural land to control pests that disrupt crop production. Soil become contaminated when pesticides persist and accumulate in soils, which can alter microbial processes and are toxic to soil organisms.

Significance of the impact

During operation, soil could be impacted by the following:

- Erosion; and
- Contamination by means of the use of pesticides.

Due to the topography of the project area, the magnitude of erosion is low, while the impact would be site specific and of medium duration if the impact is not addressed immediately. For this reason, the impact is classified to be of low significance prior to the implementation of mitigation measures.

Another factor impacting soil would be the use of pesticides and herbicides which could accumulate in soil, altering the microbial process. This impact is however of medium magnitude, local extent and long duration and for this reason the impact is of medium significance prior to the implementation of mitigation measures.

TABLE 10: IMPACT ON SOIL

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Soil Erosion [NEGATIVE]	Low	Site specific	Medium term	Unlikely	Low	Very Low
Soil Pollution [NEGATIVE]	Medium	Site specific	Long term	Probable	Medium	Low

Should the project not be approved, and the area is successfully rehabilitated, the site would not be impacted by erosion. However, if the site is not successfully rehabilitated, and not managed, the impact of erosion would be significant.

Mitigation measures

- Permanent measures must be taken on areas prone to erosion. These measures can include gabions or revegetation with indigenous plant species.

- It is recommended that alternatives for the management of pests are investigated. Only approved and environmentally friendly pesticides and herbicides may be used for the management of pests.

6.1.4 Impact on Surface and Groundwater

Description of the potential impact

A drainage line separates the two agricultural areas. A small water pond is located approximately 50m south-east of the agricultural activities and drains towards a larger irrigation pond located near the Crocodile River. The Crocodile River is located 2.5km south of the project area.

Water for irrigation of the crops is abstracted from a borehole located on the property.

In terms of the area’s freshwater ecological classification, the proposed project area falls within an Ecological Support Area (ESA). Ecological Support Areas are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas (CBA).

Water resources could be impacted by the following:

- Excessive water use (lowering the water table); and
- Pollution of water resources if excessive use of pesticides accumulates on soil and enters the watercourse.

Significance of the impacts

Excessive water use from the groundwater resource for the purpose of irrigation can lower the groundwater table and also have an indirect impact on the quantity of water within connecting watercourses. Groundwater depletion could also lead to the deterioration of water quality. The applicant does however have sufficient water for the agricultural activities and in fact, with the areas which will no longer be cultivated, less water will be required.

The drainage lines separate the existing agricultural areas and therefore agricultural activities could possibly impact the quality of the watercourse downstream if not protected. The impact is therefore of medium significance prior to the implementation of mitigation measures.

TABLE 11: IMPACT ON SURFACE AND GROUNDWATER

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Excessive water use [NEGATIVE]	High	Site specific	Medium term	Probable	Medium	Low

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Water Pollution [NEGATIVE]	High	Site specific	Medium term	Probable	Medium	Low

If the project is not approved, then no water would be required for irrigation and the underground water would not be utilised or affected. However, should water abstraction be limited to what is required, the impact can be mitigated.

Mitigation measures

- Water use must be monitored and used sparingly;
- The use of pesticides and herbicides must be managed to prevent any substances from entering the watercourse.

6.1.5 Employment opportunities

Description of the potential impact

Although the agricultural activities will not have a significant socio-economic impact on the local community, the agricultural activities will however provide 13 permanent job opportunities for previously disadvantaged individuals and seasonally, the farming activities will be providing even more job opportunities on a temporary basis.

Significance of the impacts

Based on the methodology detailed in **Section 5**, the following ratings have been assigned to the 'employment opportunities' impact before and after mitigation.

TABLE 12: SIGNIFICANT IMPACT OF THE 'EMPLOYMENT OPPORTUNITIES' IMPACT

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Job Opportunities [POSITIVE]	High	Local	Long term	Definite	Neutral	High (+)

Mitigation measures

Creating jobs and business opportunities for the local community will have a positive impact. No mitigation measures would be required to further enhance this impact; however, the applicant must ensure that local residents receive preference for job opportunities.

6.2 Environmental Impact Statement

The table below summarises the impacts identified and assessed for the operational phases of the project:

TABLE 13: ENVIRONMENTAL IMPACT STATEMENT

IMPACT	SIGNIFICANCE BEFORE MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION MEASURES
Operational Impacts		
Alien Invasive Species and use of pesticides and herbicides	Medium	Low
Loss of habitat for fauna	Medium	Low
Generation of dust	Low	Very Low
Erosion	Low	Very Low
Soil Pollution	Medium	Low
Excessive Water Use	Medium	Low
Water Pollution	Medium	Low
Socio-economic impact	Neutral	High (+)

7. CONCLUSION AND WAY FORWARD

7.1 Assumptions and Limitations

In undertaking this investigation and compiling the Section 24G Report, the following has been assumed:

- The information provided by the proponent is accurate and unbiased, and that no information that could change the outcome of the Environmental Authorisation process has been withheld.
- As the area has already been cleared and impacted, no specialist investigation was conducted.
- The scope of this investigation is limited to assessing the environmental impacts associated with the operational phases of the project.
- The conclusion and recommendations proposed are based solely on the information, scope of works as agreed with the proponent.

7.2 Conclusion

The essence of all environmental assessment processes is aimed at ensuring informed decision-making and environmental accountability. Furthermore, it assists in achieving environmentally sound and sustainable development. The impact assessment for this project has been undertaken in line with the requirements prescribed in the NEMA regulations.

It is also noted that a large portion of the project area was previously used for agricultural purposes and that the project area is classified in accordance with the MBSP, 2014, as: "Other Natural Areas". According to these classifications, agricultural activities is permitted but activities must be managed in a biodiversity-sensitive manner, aiming to maximize ecological functionality.

Although the project area has already been cleared and cultivated, it is believed that the farming practices can be undertaken in an environmentally friendly manner by strict adherence to the Environmental Management Plan (EMP) attached as Appendix D.

The impact assessment concluded that most of the impacts could be mitigated to be of low significance.

Various recommendations and measures have been made to address the identified impacts and these recommendations were included within Section 6 above and also the Draft Environmental Management Plan. The significance of the potential environmental (biophysical and social) impacts associated with the proposed project are discussed in detail under Section 6.

Taken all of the above into consideration, it is the opinion of the EAP that the EA for this project should be granted, and the proposed mitigation measures be included as conditions of the authorisation.

7.2 Way Forward

The next steps of the Section 24G process will be to distributed the Draft Section 24G Report to Stakeholders and I&AP's for a review and comment period of 30 days. All comments received will subsequently be incorporated into the Final Section 24G Report which will be submitted to the MDARDLEA for decision making.

8. REFERENCES

National Environmental Management Act 107 of 1998 (NEMA 107, 1998)

General Notice Regulation 982, 983, 984 and 985 of 2014 (as amended in 2017)

Mpumalanga Biodiversity Conservation Plan, 2014

Mpumalanga Conservation Biodiversity Handbook (MCBH) (Tony A, Ferrar and Mervyn C. Lotter).

City of Mbombela Spatial Development Framework, 2018 – 2022