

S 24 G APPLICATION

MANINI HOLDINGS

JANUARY 2023

SCHERP ARABIE 743 KS, PTN, 18 AND R/E OF PTN 19

EPHRAIM MOGALE LOCAL MUNICIPALITY
SEKHUKHUNE DISTRICT

REF #: 12/1/9/S24G-GS37

DRAFT EMPr



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1. Background Information

1.1 Document Title

Draft Environmental Management Programme compiled for the citrus development on Portion 18 and the remaining extent of Portion 19 of the farm Scherp Arabie 743 LS in the Ephraim Mogale Local Municipality, Sekhukhune District.

1.2 Document Prepared For

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1.3 Content of the Environmental Management Programme

This document was compiled in terms of the information required in Annexure 4 of the 2014 EIA Regulations, as amended. In terms of these Regulations an EMPr must comply with section 24N of the Act and should include the content as summarized below.

Required Content	Included
(a) details of- <i>(i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;</i>	Page 6
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description	Page 6
(c) a map at an appropriate scale which superimpose the proposed activity, its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;	Page 9
(d) a description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including- <i>(i) planning and design (ii) pre-construction activities (iii) construction activities (iv) rehabilitation of the environment after construction and where applicable post closure; and (v) where relevant, operation activities</i>	Page 7 & 17
(e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);;	Page 22-31

Table 1: Required content of an environmental impact assessment report as per NEMA Regulations.

Required Content (Continue)	Included
(f) a description of the proposed impact management actions; identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to- (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation (ii) comply with any prescribed environmental management standards or practices (iii) comply with any applicable provisions of the Act regarding closure where applicable; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable.	Page 22-31
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f)	Page 17-19
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f)	Page 22-31
(i) an indication of the persons who will be responsible for the implementation of the impact management actions.	Page 22-31
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented	Page 22-31
(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f)	Page 17-19
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Page 17-19
(m) an environmental awareness plan describing the manner in which- (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or degradation of the environment; and	Page 20
(n) any specific information that may be required by the competent authority	NA

Table 2: Required content of an environmental impact assessment report as per NEMA Regulations.

1. Activity

Reference #: 12/1/9/S24G-GS37.

Applicant: Manini Holdings (Pty) Ltd.

Location: Portion 18 and R/E of Portion 19 of Scherp Arabie 743 LS.

2. Acronyms

CARA	-	Conservation of Agricultural Resources Act
CBA	-	Critical Biodiversity Area
DAFF	-	Department of Agriculture, Forestry and Fisheries
DWS	-	Department of Water and Sanitation
EA	-	Environmental Authorization
ECO	-	Environmental Control Officer
EMPr	-	Environmental Management Programme
EIA	-	Environmental Impact Assessment
EIR	-	Environmental Impact Report
ESA	-	Ecological Support Area
I & AP	-	Interested and Affected Party
KIB	-	Klaserie Irrigation Board
LEDET	-	Limpopo Department of Economic Development, Environment & Tourism
LIHRA	-	Limpopo Provincial Heritage Resources Authority
SABS	-	South African Bureau of Standards
SAHRA	-	South African Heritage Resources Agency

Definitions

Alien Plants:

All undesirable, invasive vegetation as defined in (but not limited to) CARA (Act 43 of 1983).

Applicant:

Any person who applies for authorization to undertake an activity as contemplated in the National Environmental Management Act (Act No. 107 of 1998), and the Environmental Impact Assessment Regulations, of 2014.

Buffer Zone:

A protective zone between two areas (usually between the proposed development area and a sensitive area) to either provide a protective layer to filter out potential negative environmental impacts and to protect the integrity of a sensitive area or to provide land needed for required ecological processes e.g., suitable habitat for species. Buffer zones relevant to this project include the recommended buffer along the riparian vegetation of the drainage line.

Contractor:

The person and/or company appointed to carry out the development work. Contractors was employed for the construction phase i.e., the clearance of vegetation in preparation of the establishment of the citrus orchards and the construction of the off-stream coffer dam.

Development activity/phase:

In the context of this document development will refer to any and all activities relating to the clearing, ploughing of virgin soil and the establishment of crops.

Environment:

All the physical, chemical, and biological attributes that may influence an object or organism.

Environmental Control Officer:

A person appointed by the project manager, the developer, engineer, or contractor to oversee compliance to the EMP. This person can be an internal appointment or an external consultant/specialist depending on the authorities' requirements and the qualifications/skills of the ECO. It is imperative that the appointed ECO is knowledgeable in all fields that have been addressed in this EMP and the EBD Report to successfully implement mitigation measures and biodiversity offset processes.

Environmental Impact:

Refers to any impact, whether positive or negative, that is a direct or indirect result of the development

Environmental Management Programme:

The Environmental Management Programme contains mitigation measures of both environmental and socio-economic value to mitigate potential negative environmental impacts and in the context of this investigation, it is considered part of the stipulations of the Environmental Authorization or operational activity of the project.

Hazardous material, substance or waste:

Any substance that contains an element of risk that may have a detrimental effect on the environment.

Interested and Affected Party:

Any person or organization interested in or affected by the proposed activity contemplated in this application or any organ of state that may have jurisdiction over any aspect of the activity/application.

Mitigation:

The implementation of practical measures to reduce the envisaged impacts that are associated with the proposed development.

Plants of Interest:

In terms of this document plants of interest refers to individual plant specimens that are regarded as unique, although it may not be listed as a protected species in terms of the relevant legislation.

Project Manager/Engineer:

The designated project manager/engineer for the development, i.e., the preparation of natural land for the establishment of citrus orchards, including associated infrastructure such as the construction of an off-stream coffer dam.

Proponent/Client /Developer:

The person or company who submitted the application for authorization to undertake an activity as listed in NEMA (107 of 1998) and the EIA Regulations of 2014, as amended in April 2017.

Public Participation:

The legislative process in terms of Chapter 6 of the Environmental Impact Regulations of 2014 in which all potential interested and affected parties are informed of the proposed activity/development and afforded the opportunity to give inputs and comments.

3. Environmental Assessment Practitioner

This EMPr was prepared by Ms. E. Osmers with the required specialist inputs as described in the Assessment Report. Ms. Osmers has obtained a National Diploma in Nature Conservation in 1992 and is registered with EAPASA as an Environmental Assessment Practitioner (Registration Number 2019/1752) other professional affiliations include SACNASP - is registered as a Certificated Natural Scientist (Ecological Science) – registration number 117860. A condensed version of the EAP's CV is attached under Appendix F.

4. Project Description

The Scherp Arabie farm is owned by Manini Holdings (Pty) Ltd. The land was acquired with the purpose to expand the agricultural activities and to establish citrus orchards to produce citrus fruit for the export market. The Applicant commenced with the development phase without the required Environmental Authorization and is now submitting a S24 G Application to the authorities to rectify the activities associated with the unlawful development.

The Applicant cleared 107 hectares of vegetation for the establishment of the citrus orchards and, additionally, cleared 2 ha of vegetation for the construction of an 50 000 m³ off-stream coffer dam for the storage of water. This coffer dam is constructed in the southern parts of the Scherp Arabie farm close to extant boreholes and the Elands River. Of note is that the footprint of this dam partially falls in the DWS servitude area.

The activities associated with the development of a citrus orchard can be divided into 3 phases namely a pre-development phase, a development phase, and an operational phase. The pre-development phase entails the planning/design of the orchards and usually also includes the required environmental impact assessment studies to obtain authorization prior to a development. In this case the process was not followed, hence the submission of the Section 24G application.

Generally, the development phase of a citrus development is associated with the preparation of land and the planting of the citrus saplings. Although they land was already cleared, this phase is included in this Environmental Management Programme, as a large part of the cleared area has not been planted at the time of the site visits.

The operational phase entails the management of the orchard to prepare the citrus fruit for the export market. Activities associated with these phases are outlined below.

4.1 Pre-Development Phase

The pre-construction phase is the planning phase preceding the developmental or construction phase of the proposed development. In summary, the pre-construction phase should entail:

- Orchard design.
- The growing of the saplings. Saplings are prepared by a registered Nursery (Du Roi) according to GLOBAL G.A.P. requirements and standards.

- Preliminary irrigation design.
- Appointment of a suitably qualified Environmental Control Officer to implement recommendations of the EMPr. Pertaining to this project the activity commenced before authorization and an ECO was not appointed prior to the development phase.

4.2 Development Phase

The development phase of the project refers to the clearing of vegetation and the preparation of the area to plant citrus saplings. Furthermore, it will entail the construction of the associated infrastructure such as the off-stream coffer dam. More specifically the development phase of the proposed citrus development entailed:

- The clearing of vegetation.
- Site preparation and orchard landscaping.
- Construction of unpaved roads to access orchards.
- The installation of a suitable irrigation system.
- The planting of the citrus saplings. All the landscaping activities were not completed and saplings planted at the time of the site visits.
- Construction of the coffer dam.

4.3 Operational Phase

The operational phase of this projects entails the management of the citrus orchard to prepare the fruit for the export market which also includes the reticulation of water from the Elands River and the abstraction of groundwater as per authorized water-use licence. The existing legal water-use (30.25 ha) allocated to the property by the Trans Elands Water Users Association will contribute to the irrigation requirements of the activity. Suitable earth moving equipment was/will be used for preparation of the remainder of the site, additional work will be done by hand. Once suitably prepared, the planting of the saplings will be done by hand.

The development's footprints are illustrated on the maps below.

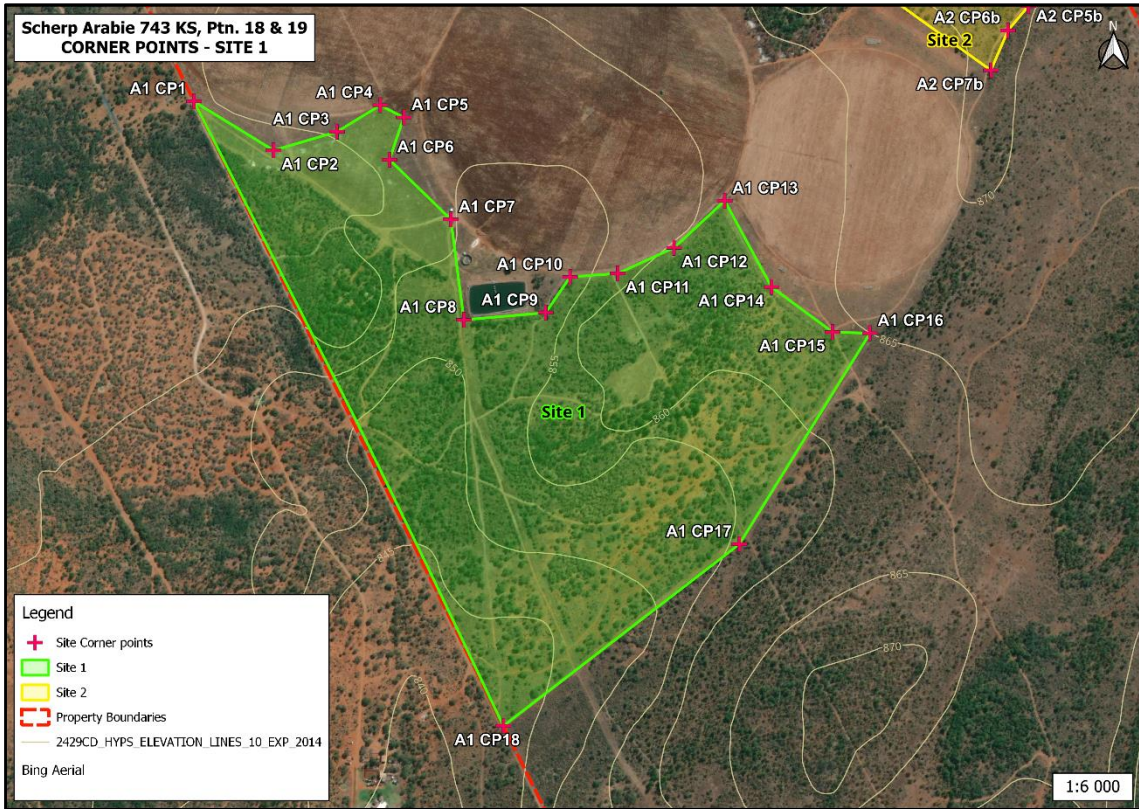


Figure 1: Illustrating the footprint of Site 1, GPS coordinates are provided.

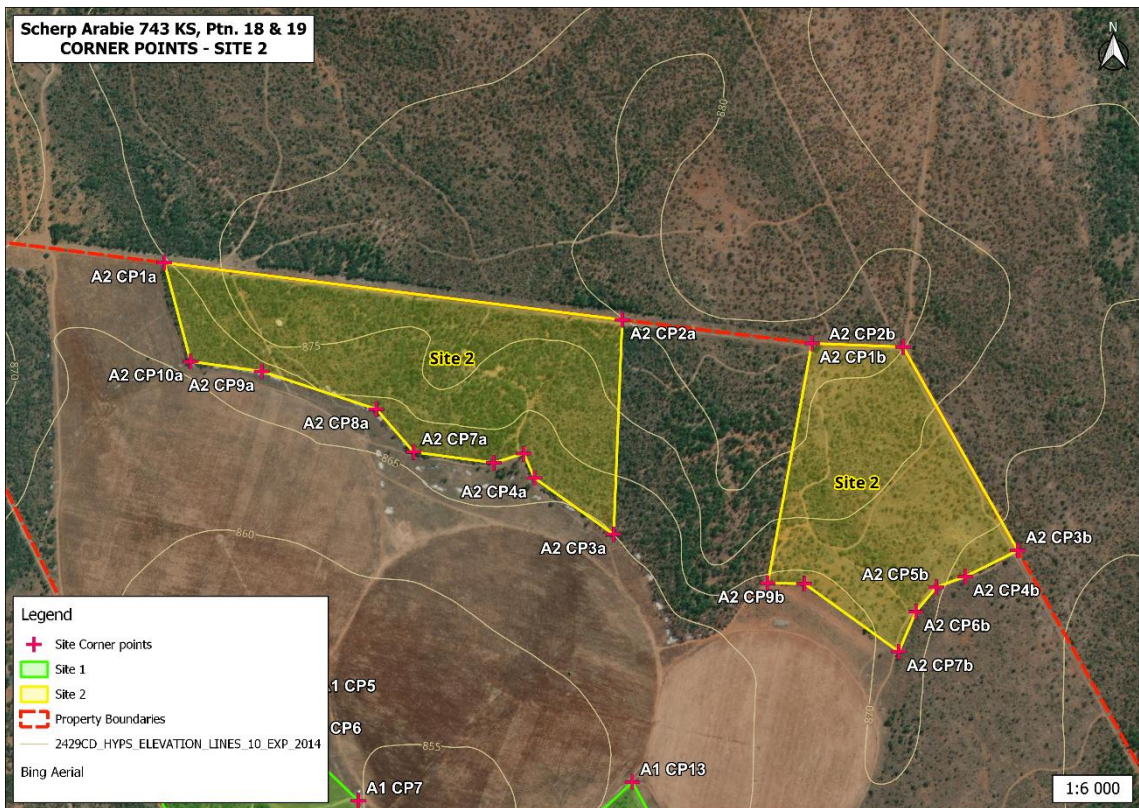


Figure 2: Illustrating the footprint of Site 2, GPS coordinates are provided.

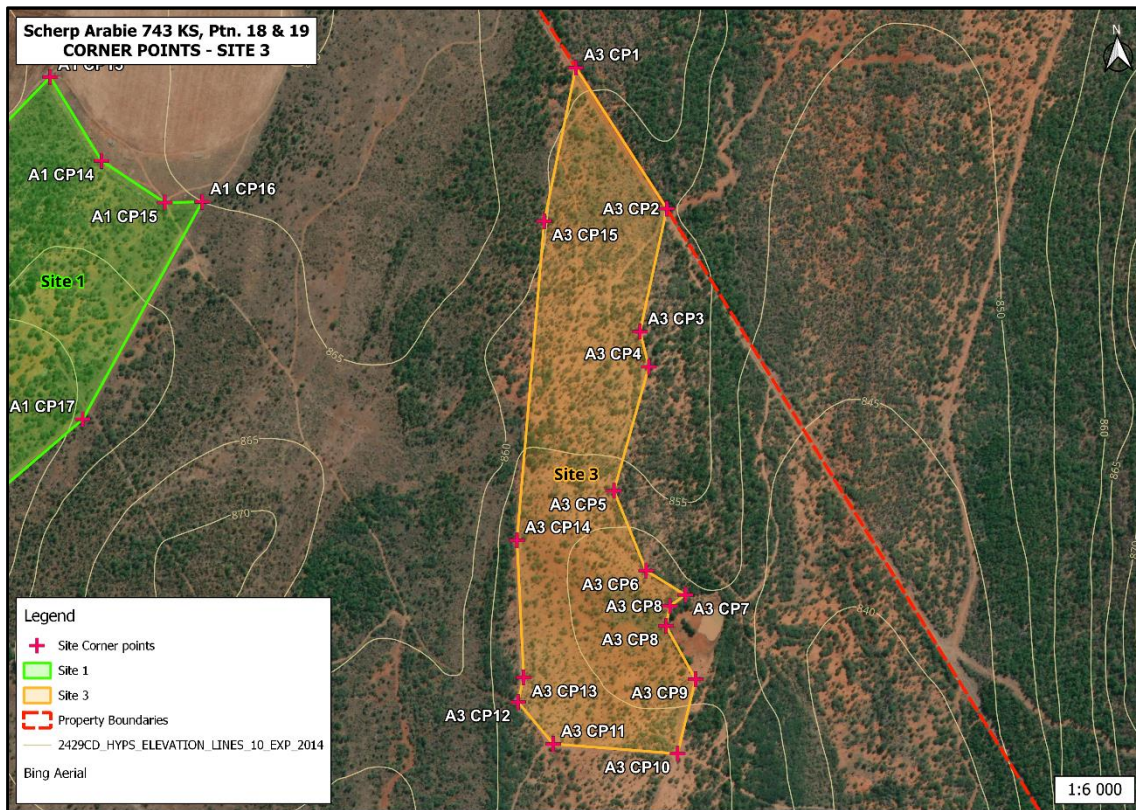


Figure 3: Illustrating the footprint of Site 3, GPS coordinates are provided.

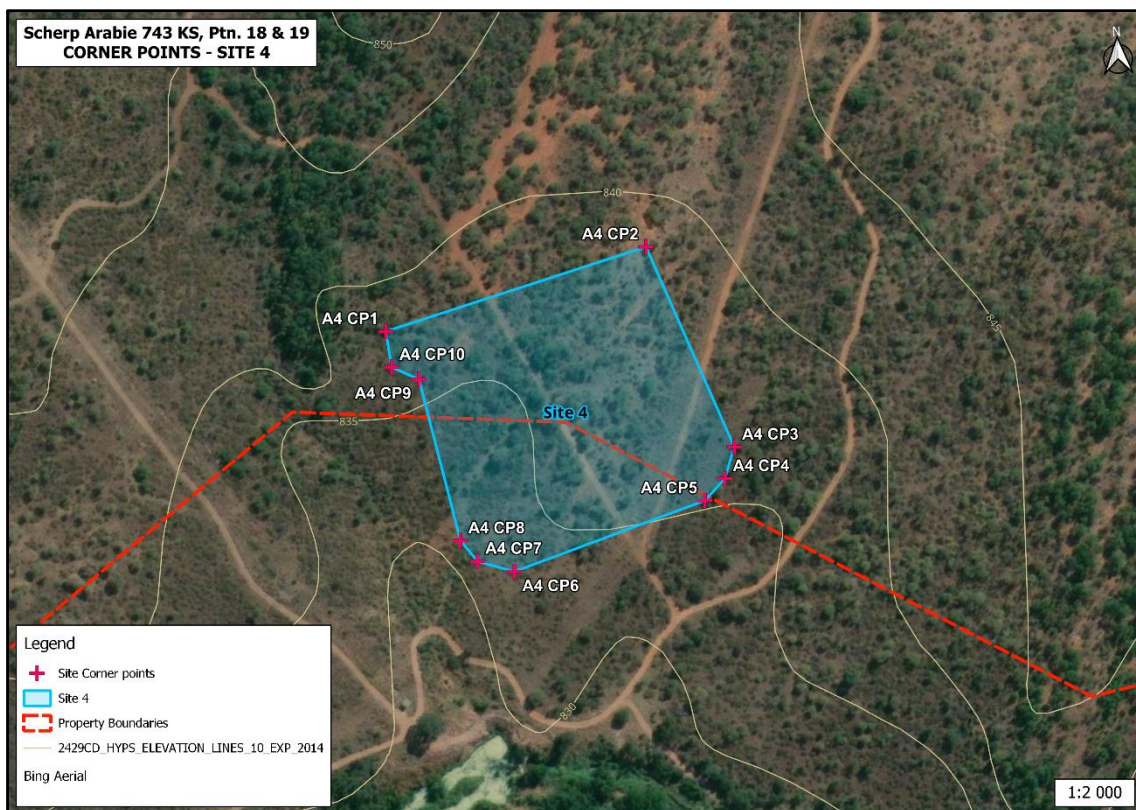


Figure 4: Illustrating the footprint of Site 4, GPS coordinates are provided.

5. Location of the Property

The development is located on the Portion 18 and R/E of the farm Scherb Arabie 743 KS, situated in the Ephraim Mogale Local Municipality of the Sekhukhune District of the Limpopo Province. According to the General Evaluation Roll (2017-2022) of Ephraim Mogale Local Municipality, the subject property is zoned as Agriculture. The development lies north of the Elands River. The Surveyor general code allocated to the properties are T0KS0000000074300018 (Portion 18) and T0KS0000000074300019 (Portion 19). Figure 1 below illustrates the location of the property.

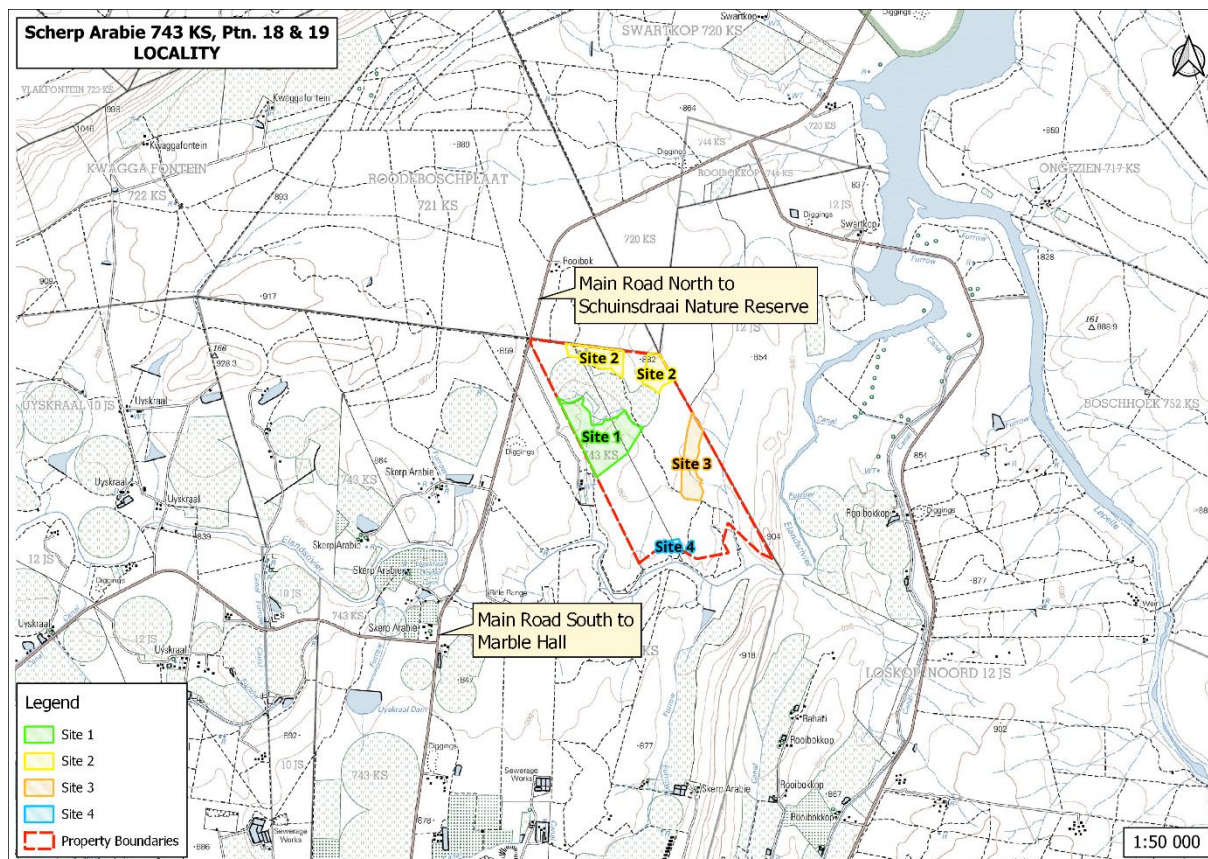


Figure 5: The location of the Scherp Arabie farm..

6. Legislation, Standards & Statutory Requirements

Although the National Environmental Management Act is considered to be the primary environmental legislation in terms of the environmental impact assessment process, other legislative frameworks and policies are also relevant. Legislation which may be relevant to the proposed development is listed below and pertinent sections considered in this evaluation, are highlighted.

National Legislation

The Constitution of the RSA (Act 108 of 1996)

The Constitution is the supreme law of South Africa and provides a legal foundation for the existence of the republic and protecting the human rights of its citizens. It also provides the legal framework for the legislation that regulates environmental management in general. In terms of Section 24 of the Constitution everyone has the right:

- a) *to an environment that is not harmful to their health or well-being; and*
- b) *to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that:*
 - (i) prevent pollution and ecological degradation;*
 - (ii) promote conservation; and*
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

Relevance to the project:

In terms of the constitution the landowner has the right to the utilization of the natural resources on his property within the legal framework and should achieve this in an ecologically sustainable manner. The project must adhere to basic constitutional rights and whether this application is successful or not, the property must be managed in such a way to prevent pollution and ecological degradation and promote conservation. Therefore, if authorization for continuation of the project is not granted, the disturbed areas on the property should be rehabilitated. The project should be ecologically sustainable which implies that the available natural resources must be used sustainably whilst justifiable economic and social development should be promoted.

National Environmental Management Act (Act 107 of 1998)

Being the primary environmental legislation of South Africa, the purpose of the National Environmental Management Act is to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment. The Act also promotes cooperative governance and procedures for coordinating environmental functions and makes provision for the enforcement of other environmental management laws. When an activity listed in terms of the applicable Environmental Impact Regulations commenced without the mandatory legislative process, Section 24G of the National Environmental Management Act (Act 107 of 1998) makes provision for any person to apply to the relevant MEC/Minister to rectify such

unlawful activity. If the application is successful, it will enable that person to lawfully continue with the listed activity. The application will not affect any criminal liability for the applicant.

Relevance to the proposed project:

The activity commenced without the required legislative process and a Section 24G application is now submitted to rectify the unlawful development to enable the applicant to lawfully continue with the activities that are listed in terms of the Environmental Impact Regulations. The competent authority is the Provincial Department of Economic Development, Environment and Tourism. The purpose of this report is to inform the process and governing principles of NEMA and the requirements of the NEMA EIA Regulations, 2014 (as amended). As per the requirements for good governance prescribed by the Act, this assessment report is informed by the most up to date and relevant information available to support the decision-making process. Activities relevant to this application include Activity 13 of Listing Notice 1, Activity 15 of Listing Notice 2 and Activity 12 of Listing Notice 3.

NEMBA (Act 10 of 2004)

The purpose of the National Environmental Management Biodiversity Act (Act 10 of 2004) is to provide for the protection of listed endangered ecosystems and restricts activities according to the classification of the area and it promotes the application of appropriate environmental management tools to protect biodiversity. Chapter 3 of the Act allows for the publication of bioregional plans whilst Chapter 5 refers to the control of alien invasive species. The Threatened or Protected Species (TOPS) Regulations were promulgated in terms of Section 97 of the Act which requires an authorization/permitting process to be followed for listed species.

The Alien Invasive Species Regulations are promulgated in terms of the National Environmental Management Biodiversity Act (10 of 2004).

Relevance to the proposed project:

In terms of the Sekhukhune District's Bioregional Plan, the development site falls mostly within Critical Biodiversity Area 2 (CBA 2). These biodiversity planning frameworks must be consulted to inform decision making as it provides land-use guidelines for the affected areas. Land-use guidelines for CBA 2 areas indicate that the intensification of land-use should be avoided and, where possible, these areas should be maintained in a natural state with limited or no biodiversity loss.

Degraded areas should be rehabilitated, and arable agriculture is regarded as an incompatible land-use. However, the LCP also make provision for the continuation of current agricultural practices, including arable agriculture, as long as these are managed in a way to ensure populations of threatened species are maintained and the ecological processes which support them are not impacted on. Although the expansion of extant intensive agricultural production operations does not form part of the land use management objectives for CBA 2 areas, the LCP makes provision for the expansion of such activities, subject to a detailed impact assessment.

A number of undesirable alien plant species were noted at the cleared sites. All the alien species that were observed are tabled below.

Alien plants noted at the sites			
SPECIES	COMMON NAME	CATEGORY	PREVALENCE
<i>Argemone mexicana</i>	Mexican Poppy	1b	Localized
<i>Bidens pilosa</i>	Blackjack	-	Localized
<i>Cereus jamacaru</i>	Queen-of-the-night	1b	Localized
<i>Opuntia ficus-indica</i>	Sweet Prickly-pear	1b	Widespread
<i>Opuntia stricta</i>	Sour Prickly-pear	1b	Widespread
<i>Datura stramonium</i>	Bone apple	1b	Localized
<i>Zinnia peruviana</i>	Wildejakopregop	-	-

Table 3: Alien plant species identified at the cleared sites – EBD Report.

National Forests Act (Act 84 of 1998)

The National Forest (Act 84 of 1998) allows for the protection of tree species listed under this legislation. In terms of Sections (5) 1 and 62 (2) (c) of the National Forest Act (Act 84 of 1998), a license is required to remove, cut, disturb, damage or destroy any of the listed protected trees. The most recent list of protected tree species was published in March 2022. The Department of Agriculture, Forestry and Fisheries (DAFF) is authorized to issue permits for any removal, cutting, disturbance, damage to or destruction of any of these listed protected trees.

Relevance to the proposed project:

Tree species listed as protected under the National Forest Act (Act 84 of 1998) were identified in the adjacent areas where the protected tree species surveys were done. These species include, *Boscia albitrunca*, *Sclerocarya birrea* and *Spirostachys africana*. *Boscia albitrunca* and *Sclerocarya birrea* specimens were removed without the required permit from the Department of Agriculture, Forestry and Fisheries.

CARA (Act 43 of 1983):

The purpose of the Conservation of Agricultural Resources Act is to prevent over utilization of natural agricultural resources, to promote the conservation thereof, to prevent erosion and to combat weeds and invader plant species.

CARA also includes regulations relevant to alien invasive plants. According to the amended regulations (GN R280 of March 2001), declared weeds and invader plants are divided into three categories:

- Category 1 may not be grown and must be eradicated and controlled,
- Category 2 may only be grown in an area demarcated for commercial cultivation purposes and for which a permit has been issued, and must be controlled, and
- Category 3 plants may no longer be planted; however, existing plants may remain as long as the spreading thereof is prevented. Not applicable to flood lines of watercourses and wetlands.

It is the legal duty of the landowner or the land user to control invasive alien plants occurring on the property/land under their control.

Relevance to the proposed project:

During the ecological assessment of the proposed development site, seven alien invasive plant species were identified of which some are regulated in terms of CARA. The three cactus species Queen-of-the-night (*Cereus jamacaru*), Sweet Prickly Pear (*Opuntia ficus-indica*) and Sour Prickly Pear (*Opuntia stricta*) are classified as Category 1 weeds and of environmental and legal concern.

National Water Act (Act 36 of 1998)

The National Water Act deals with the management, equitable allocation, and conservation of the water resources in South Africa. It controls and manages water use in terms of water abstraction, water storage, wastewater discharge, impact on watercourses, alteration of watercourse flow and the determination of the reserve. General principles in terms of water-use are addressed under Section 21 of the Act.

Relevance to the proposed project:

The property has an existing legal allocation (30.25 ha) from the Trans Elands Water Users Association. However, the allocation did not meet the water-use requirements of the development and an application for the abstraction of groundwater was submitted to DWS. The abstraction of groundwater for the irrigation of 120 ha of citrus was authorized by DWS. Please refer to Appendix F.

National Heritage Resources Act (Act 25 of 1999)

The purpose of the National Heritage Resources Act (Act 25 of 1999) is to provide a framework for the management of national heritage resources which include both landscapes and natural features of cultural significance. The protection of archaeological and paleontological resources is the responsibility of a provincial heritage resources authority/agency, and all archaeological objects, paleontological material and meteorites are the property of the State.

In terms of Section 38 (1) subject to the provisions of Subsections (7), (8) and (9), of the Act, a heritage assessment is required if any person intends to undertake a development categorized as:

- a) the construction of a road, wall, power line, pipeline, canal or other similar forms of linear development or barrier exceeding 300 m in length.
- b) the construction of a bridge or similar structure exceeding 50 m in length.
- c) any development or other activity which will change the character of the site –
 - (i) exceeding 5000 m² in extent,

Relevance to the proposed project:

The South African Heritage Resources Agency is responsible for the identification, conservation, and management of heritage resources. The development footprint exceeded 500 m², therefore a Phase 1 Heritage Impact Assessment (HIA) regarding archaeological and other cultural heritage resources was conducted. Results are included in the attached HIA Report.

To comply with the South African Heritage Resources Agency (SAHRA) in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA), a desktop Palaeontological Impact Assessment (PIA) was required before development.

National Environmental Management Protected Areas Act (Act 57 of 2003)

The purpose of the National Environmental Management Protected Areas Act is to provide for the protection and conservation of ecologically viable areas which is representative of South Africa's biological diversity and its natural landscapes and to manage these protected areas in accordance with national norms and standards.

Relevance to the proposed project:

Portion 19 of the farm Scherp Arabie 743 KS is registered as part of the P.R. De Jager PNR. Agriculture is not regarded a compatible land-use and an application for de-registration was supposed to be obtained prior to development.

National Environmental Management Waste Act (Act 59 of 2008)

The purpose of the Act is to regulate waste management to protect the environment and general health by providing reasonable measures to prevent ecological degradation and pollution.

Relevance to the proposed project:

The proposed development will produce solid waste during both the development and operational phases. Waste should be disposed of as per legislative requirements. A Waste Management Plan is included in the EMPr.

Provincial Legislation

Limpopo Environmental Management Act (Act 7 of 2003)

The Limpopo Environmental Management Act deals with the conservation of natural resources and the protection of wildlife. A permit must be obtained from the Wildlife Trade and Regulation Division if any plants or animals listed in the Act had to be removed.

Relevance to the proposed project:

Spirostachys africana specimens, listed as protected in terms of this legislation, were uprooted during the clearing activity. Refer to Figure 10. A number of reptile species were noted at the sites, also protected under LEMA.

Policies and Guidelines

The policies and plans that have been considered in the compilation of this impact assessment report and EMPr are listed below.

- Bioregional Plan for Sekhukhune District.
- Limpopo Conservation Plan.
- Limpopo Provincial Growth and Development Plan.
- Ephraim Mogale Integrated Development Plan.
- Ephraim Mogale Spatial Development Framework.

- Spatial Planning and Land-use Management By-Law, 2016
- South African National Development Plan, 2030.

7. Approach

The Environmental Management Programme (EMPr) is defined as a procedure for the management of negative environmental impacts that occurred during the clearing process, may occur as a result of the clearing process or could take place as a result of the operational phase of the citrus development. The purpose of the EMPr is to provide a framework for the management of the environmental impacts associated with the development and should be used as a management tool to mitigate potential environmental degradation. The EMPr is structured to address identified impacts and to identify areas where detailed management plans and monitoring programmes should be developed to mitigate potential risks, especially during the operational phase of the project. The tasks listed below is essential to ensure that environmental damage is mitigated.

- Identify the significant issues that needs to be addressed in the management programme.
- Describe suitable mitigation measures to address these impacts.
- Describe specific guidelines or terms of reference for the management programme.
- Outline the statutory, legal, and other requirements that must be adhered to.
- Prepare a framework to monitor the effectiveness of the recommended mitigation measures.

8. Objectives of the Environmental Management Programme

The objective of the EMPr is to provide an opportunity for the professional team to lay down environmental standards for the developer to avoid unnecessary environmental damage and where damage will occur, to mitigate the impact thereof to an acceptable level. This can be achieved by focussing on environmentally acceptable practices during both the construction and operational phases of the proposed development, should the continuation thereof be authorized. Furthermore, the EMPr will facilitate an efficient monitoring process to prevent adverse negative environmental impacts and subsequently costly delays, which could arise where monitoring does not take place.

9. Background and Terms of Reference

According to the Valuation Roll of the Ephraim Mogale Local Municipality, the Scherp Arabie farm is currently zoned agriculture. At the time of purchase, a 70-ha portion of the property was under citrus production whilst the remainder of the property was used for private game farming and

associated activities such as eco-tourism (hunting). The farm was purchased with the intend to establish a citrus farm to produce citrus fruit for the export market. In terms of the SDF of the Ephraim Mogale Local Municipality, the farm lies in an area allocated to crop farming.

According to the Limpopo Conservation Plan, the Scherp Arabie farm is within a CBA 2 area. The R/E of Portion 19 of Scherp Arabie 743 KS is currently registered as a private nature reserve and an application should be submitted to the authorities for the deregistration thereof, as the land-use is no longer compatible with the land management objectives for a private nature reserve.

During July 2018 the United States Department of Agriculture published a report on the World Market and Trade for citrus and predicted that South Africa's citrus production will rise by 8% due to current demand. The EMPr for the development entails the establishment of environmental requirements, guidelines and standards necessary for the successful mitigation of current impacts as well as impacts that will be associated with the future operational phase of this development, if authorized.

As part of the process, this environmental management programme has been compiled whereby changes in the environment may be monitored at specific intervals in order to determine detrimental impacts on the environment.

The Environmental Management Programme serves the purpose to ensure that the facility is operated in an environmentally responsible manner and that potential negative impacts associated with this activity is adequately mitigated.

10. Site Description

Please refer to the Impact Report and the Ecological Baseline Data Report for a detailed description of the unlawfully cleared sites. These reports include a description of the affected environment and a photographic record containing a series of photos to give a visual representation of these sites is included under Appendix B. Therefore, a detailed site description is not repeated in this document. Refer to Figures 1-4.

11. Supporting Documents

This EMPr should be used in conjunction with the Environmental Impact Report, the Specialist Reports and the applicable appendixes as compiled for the proposed development.

12. Objectives

The objective of the proposed project is to produce citrus fruits for the export market to ensure future economic sustainability of the property and to contribute to the future economy of the region. An area of approximately 107 hectares were cleared and citrus saplings were planted on a portion thereof. The applicant was advised to stop all activities, and, if authorized by the competent authority, the remainder of the cleared area will be suitably prepared to plant citrus saplings. Preparation activities will include the installation of a suitable irrigation system, planting of saplings and the management of the orchards during the operational phase of the activity.

13. Action

Approximately 107 hectares of vegetation was cleared on the farm Scherp Arabie 743 KS, with the intent to establish citrus orchards. The Activity is listed in terms of the EIA Regulations of 2014, as amended, and commenced without the required Environmental Authorization. Therefore, an application is now submitted to LEDET to apply for the continuation of the activity.

14. Type of Application

When an activity listed in terms of the applicable Environmental Impact Regulations commenced without the mandatory legislative process, Section 24G of the National Environmental Management Act (Act 107 of 1998) makes provision for any person to apply to the relevant MEC/Minister to rectify such unlawful activity. If the application is successful, it will enable that person to lawfully continue with the listed activity, however, the application will not affect any criminal liability of the applicant. The following activities listed under Listing Notices 1, 2 and 3 of the 2014 EIA Regulations (as amended on 7 April 2017) is pertinent to the activity.

Listing Notice 1, Activity 13	Description
<i>The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.</i>	A 50 000m ³ off-stream coffer dam was constructed in the southern section of the Scherp Arabie farm in close proximity to extant boreholes and the Elands River. However, it should be noted that this dam was partially constructed on a DWS servitude.
Listing Notice 2, Activity 15	Description
<i>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for-</i> <i>(i) the undertaking of a linear activity; or</i> <i>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</i>	Approximately 107 hectares of vegetation was removed in the preparation of the land for the establishment of the citrus orchards.

Table 4: Summary of the listed activities applicable to the project.

Listing Notice 3, Activity 12	Description
<i>The clearance of an area of 300 square metres or more of indigenous vegetation within critical biodiversity areas identified in bioregional plans.</i>	The Scherp Arabie farm is situated outside an urban area in the Limpopo Province in an area classified as a Critical Biodiversity Area.

Table 5: Summary of the listed activities applicable to the project (continued).

15. Summary of Environmental Objectives

A set of environmental objectives were identified for the project to ensure that current as well as potential impacts associated with the operational phase of this development are curtailed. These objectives are listed below.

- From this point forward, ensure compliance to all relevant legal and statutory requirements.
- Apply the best practice principle throughout the lifespan of the project.
- Adhere to good agricultural practices as per GLOBAL G.A.P. certification.
- Ensure that environmental mitigation and control measures are implemented.
- Monitor environmental performance.

16. Commitment to the EMPr

The Environmental Management Programme (EMPr) is intended to deal with the procedures that need to be followed to ensure compliance to the relevant environmental legislation, as stipulated in the impact report.

All persons involved with the citrus farming activities on the Scherp Arabie farm must be made aware of the environmental goals and should be encouraged to develop a commitment to comply with the environmental legislation. Although all individuals involved in the operational phase of the citrus development should comply with the EMPr, it will be the responsibility of the appointed Environmental Control Officer (ECO) to oversee compliance of all parties.

17. Roles and Responsibilities of the Developer

Manini Holdings (Pty) Ltd (the developer) is accountable for the project and therefore responsible to ensure that the development is implemented according to the requirements of the EMPr. Although the developer appoints specific role players to perform functions on his behalf, the developer must ensure that the conditions of the Environmental Authorization (if authorized) and the mitigation measures as recommended in the impact report are communicated to the delegation. Furthermore, the developer is responsible for ensuring that sufficient resources (time, finances, manpower and equipment) are available to the other role players such as the Environmental Control Officer and the contractor to efficiently perform their tasks in terms of the EMPr. The responsibility of restoring the

environment in the event of any negligence, which leads to damage of the environment, also falls to the developer.

In terms of the EMPr, the developer will:

- Review any method statement that may be required for any maintenance activity.
- Ensure that all workers in the employ of the developer comply with the specifications of the EMPr.
- Ensure that all personnel involved in the operation of this project receive the necessary training before commencing with the project. Training will include occupational health and safety training.
- Review and approve any management plan that may be required for the operation of the activity.
- Arrange regular site meetings with the ECO and report on progress or hindrances in terms of the EMPr.
- Review monitoring programmes and report non-compliance to the EMPr to the ECO at relevant meetings.
- Ensure that suitable records are kept, and that appropriate documentation is available to the ECO.
- Ensure that all employees have a sense of environmental awareness.
- Prepare and submit a written method statement, if remedial work and procedures deviate from those originally scheduled in the EMPr.
- Ensure that any required audits are undertaken on a timely basis and that the results of the audits are communicated to all operation personnel.

18. Roles and Responsibilities of the Operational Manager

All the responsibilities of the developer in terms of the EMPr will apply to the operational manager. It is the responsibility of the developer to inform the operational manager of these obligations. The operational manager, with the consent of the developer, shall nominate and train one of the permanent operational staff members as the internal Environmental Officer to coordinate the environmental management activities during the operational phase.

The Operational Manager, together with the nominated internal Environmental Officer, is responsible for communicating the requirements of the EMPr to the staff (both permanent and seasonal) to ensure that the objectives of the EMPr are achieved.

The main responsibilities of the Operational Manager are outlined below:

- Ensure the effective implementation of the EMPr.
- Attending the meetings scheduled by the Environmental Control Officer.

- Inform all staff members of the requirements and conditions of the EMPr.
- Implement corrective actions recommended by the Environmental Control Officer, if required.

19. Roles and Responsibilities of the Environmental Control Officer

The Environmental Control Officer (ECO) is appointed by the developer as an independent monitor of the implementation of the EMPr. He/she must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. The main responsibility of the ECO will be to ensure compliance to the specifications of the EMPr. In addition, the ECO will be responsible for on-site environmental monitoring and sampling during the first year of operation. It is important that the ECO is suitably qualified to undertake the management and monitoring of environmental issues related to the proposed development, which will include the identification of protected trees and trees of interest and the implementation of suitable procedures in the handling of different environmental impacts that may occur during the process.

The ECO is responsible for informing the developer and staff members of any decisions that are taken concerning environmental management during the operational phase. This would also include informing them of the necessary corrective action to be taken to mitigate any impact.

The ECO has the right to enter the site and undertake monitoring and auditing at any time, subject to compliance with health and safety requirements applicable to the agricultural development.

The ECO will be responsible for liaising with the Department of Economic Development, Environment and Tourism (LEDET) – Limpopo. The ECO must submit environmental audit reports to the authorities. These audit reports must contain information on the developer's level of compliance with the EMPr. During the construction phase these reports should be submitted bi-weekly and during the first year of the operational phase, monthly submissions will be required.

The audit reports must also include a description of the general state of the agricultural development, with specific reference to non-compliance. The ECO is to suggest corrective action measures to eliminate the occurrence of the non-compliance incidents. In order to keep a record of any impacts, an Environmental Log Sheet should be updated continuously.

The main responsibilities of the ECO are outlined below:

- Undertake regular site visits to monitor compliance to the specifications of the EMPr.
- Maintain a record keeping system that will include all relevant information pertaining to the proposed development.
- Attend regular meetings to discuss progress, non-compliance and other relevant issues. The ECO will ensure that proper minutes are kept of such meetings.
- Keep a record of all communication with external interested and affected parties.
- Monitor the appearance of invasive alien species on a monthly basis. If such species are observed, he/she should instruct the developer to remove them by the most effective mechanical or chemical method recommended in the relevant literature.
- Liaise with the officer responsible for the implementation of the GLOBAL G.A.P. regulations, as many of the environmental issues addressed in the EMPr are relevant to the GLOBAL G.A.P. requirements.

Failure by an employee of the developer to show consideration for the environmental, operational, or other aspects of the EMPr will be considered cause for the Environmental Control Officer (ECO) to recommend that the employee be suspended from working on-site. The suspension will be enforced until such time as the offending party/parties, procedure or equipment is corrected. All costs incurred with these delays will be the responsibility of the developer.

20. Responsibility of the Authorities

The Authorities are responsible for the processing and issuing of the required permits (DAFF) and authorisations (LEDET) for the operation of the citrus development on the Scherp Arabie farm. The Department of Economic Development, Environment and Tourism will ensure that the developer complies with the terms stipulated within the Section 24G Environmental Authorisation, if issued. If required, both Departments will assist the developer in implementing the specified requirements and may perform random controls to ensure compliance with the stipulated conditions. In such cases, the developer will assist the Authorities in every possible way to facilitate compliance monitoring. In case of long-term non-compliance, the developer will be required to provide an Action Plan with corrective measures for approval by the authorities.

21. Environmental Awareness Plan

21.1 Introductory Programme

All temporary and permanent staff members appointed during either the construction phase (if saplings are planted on the remainder of the cleared area) or operational phase of the project will be expected to attend an introductory session where relevant identified environmental issues pertinent to the development will be discussed. Content of the programme may include:

- Outline of the processes that may have an influence on the environment.
- General environmental awareness.
- Discuss the environmental impacts identified in terms of the EMPr and the application of suitable mitigation measures.
- Procedures of Incident Reporting.

21.2 General Skills Development

In terms of the Skills Development Act (97 of 1998) Manini Holdings (Pty) Ltd will have to take responsibility for skills development in their workforce. AgriSETA accredited training is recommended to promote skills development in the different fields of the agricultural industry.

As per GLOBAL G.A.P requirements records will be kept of all training activities. These records will include the topic covered, the trainer, the date of training and a list of the attendees.

All workers handling plant protection products and other hazardous substances will have evidence of competence i.e., a certificate of training and proof of attendance.

The skills development programme will be applicable to the unlawful development.

21.3 Investigation of Incidents

During the introductory programme employees will learn which protocol to follow in the event of the occurrence of an incident. Actions associated with the investigation of an incident include:

- Identification of the cause of the incident.
- Defining the nature of the impact.
- Recommended mitigation protocol and rehabilitation.
- Implementation of preventative measures to avoid similar incidents in future.
- Reporting of the incident to ECO and relevant authorities, if required.

22. Development Phase

The development phase of the project will only apply if activities ceased, and the sites were left laying fallow. However, at the time of the site visits in April and May 2022, development activities continued, even after the application was submitted and the applicant indicated that all activities would stop. As the 107-hectare footprint was already cleared prior to this application, actions will include the preparation of the land (ripping/levelling and landscaping of the area for water run off control), the installation of a suitable irrigation systems and the planting of the citrus saplings. Environmental impacts as well as appropriate mitigation measures associated with the construction phase have been identified as per assessment and specialist input. These impacts and mitigations are tabled below.

23. Impacts and Mitigation during the Pre-Construction Phase

The pre-construction phase of the development is the planning phase which include:

- Planning – the design of the orchard, the irrigation system and the orchard fences.
- Protection of flora – demarcation of “no-go” zones, protected trees and trees of interest that should be protected. It is usually recommended that succulent or bulbous species be removed prior to the clearing activity and used in rehabilitation of disturbed areas, however, clearing activities unlawfully commenced and this mitigation measure could not be implemented.

Most of the activities associated with the pre-construction phase is not relevant to this application as the 107-hectare footprint is already affected by the clearing activity. However, it is recommended that an Environmental Control Officer be appointed from this point forward to ensure environmental compliance.

24. Impacts and Mitigation during the Construction Phase

Although 107 hectares of vegetation was already cleared and a part of the cleared area developed, the construction phase is included in this EMPr as the remainder of the cleared area needs to be prepared for orchard landscaping and planting of the citrus saplings.

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Site Accessibility – Construction of Roads	<ul style="list-style-type: none"> The Scherp Arabie farm is access off the provincial road between Marble Hall and the Flag Boshielo Dam. Service roads are extant on the farm. 	<ul style="list-style-type: none"> Not Applicable - Extant 	<ul style="list-style-type: none"> Not Applicable - Extant
	<ul style="list-style-type: none"> Construct mitre drains on unpaved roads on the property to manage storm water run-off and to prevent degradation of these roads. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase
Protection of Flora	<ul style="list-style-type: none"> All the vegetation on the 107-hectare footprint was cleared. The removal of the vegetation encroached into the seasonal drainage line, as the riparian vegetation was also destructed. 	Vegetation removed prior to application.	
	<ul style="list-style-type: none"> Remove any bulbous or succulent plant species to identified safe areas 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Avoid development in the indicated “no go” areas along the seasonal drainage-line. Allow re-establishment of vegetation. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> The coppicing of other protected species was identified in the cleared area. These species can be re-established to mitigate the impact. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> Plant replacement trees in areas outside designated orchard areas as part of a biodiversity offset programme. This will also be in line with DAFF’s policy. To plant three trees for every protected tree removed. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Continuous

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Protection of Flora	<ul style="list-style-type: none"> Maintain the herbaceous layer between the landscaped orchard rows to preserve both fauna and flora species still present. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Monitor the cleared area as well as adjacent habitats for the presence of alien plant species and implement an eradication programme if required. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> Rehabilitate disturbed areas post development phase to prevent habitat degradation. Succulent and bulbous plants identified for relocation can be used for this purpose. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> Comply with relevant CARA (Conservation of Agricultural Resources Act – (43 of 1983) legislation. 	<ul style="list-style-type: none"> Landowner Manager ECO 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> Comply with GLOBAL G.A.P. regulations. 	<ul style="list-style-type: none"> Landowner Manager ECO 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> Submit an audit report during the clearing process. Not applicable as area is already cleared. 	<ul style="list-style-type: none"> ECO 	<ul style="list-style-type: none"> Development Phase
Protection of Fauna	<ul style="list-style-type: none"> Where possible, preserve termitaria structures. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> The area earmarked for the development of the orchard is fenced off. The available natural area on the remainder of the Scherp Arabie farm can provide habitat for affected small and larger fauna species. 	<ul style="list-style-type: none"> ECO Specialists Manager 	<ul style="list-style-type: none"> Development Phase Continuous

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Protection of Fauna	<ul style="list-style-type: none"> Utilise unearthed rocks to create a rock-pile that can be used as a refuge for fauna species. 	<ul style="list-style-type: none"> EO Manager 	<ul style="list-style-type: none"> Development Phase
Preserve Ecosystems	<ul style="list-style-type: none"> Implement measures to rehabilitate remnants of functioning ecosystems to create additional habitats and connectivity for fauna. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Maintain a good herbaceous layer between the landscaped orchard rows to support the invertebrate and fossorial species. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Where possible, preserve termitaria. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Provide staff awareness training to sensitize them to the continued preservation of the rehabilitated habitats described above. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase
Prevent ground water contamination and manage storm water	<ul style="list-style-type: none"> Maintain service roads to drain storm water into existing drainage channels. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase Continuous
Erosion Protection	<ul style="list-style-type: none"> Rehabilitate eroded areas which may resulted from the clearing of vegetation. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Re-establishment of grass layer between citrus rows. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Make use of mulch to prevent soil erosion and to reduce water use. 	<ul style="list-style-type: none"> ECO Manager 	<ul style="list-style-type: none"> Development Phase

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Protect Aquatic Systems	<ul style="list-style-type: none"> Implement an erosion control programme. 	<ul style="list-style-type: none"> Manager EO 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> Establish and maintain a buffer zone along the drainage line and Elands River. 	<ul style="list-style-type: none"> Manager EO 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> According to GLOBAL G.A.P. requirements, storage is regarded as a high-level compliance criterion. The minimum requirement in terms of GLOBAL G.A.P. is bunded areas, which shall be impervious and be able to contain at least 110% (165% for environmentally sensitive areas) of the largest tank stored within it. 	<ul style="list-style-type: none"> Manager EO 	<ul style="list-style-type: none"> Development Phase Continuous
	<ul style="list-style-type: none"> Storage facilities should have a concrete floor to allow clearance of any accidental spillage or leakage. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase Continuous
Social-Economic Impact Health and Safety Risk	<ul style="list-style-type: none"> Control access to site. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Vehicles must keep to appropriate speed limits. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> A first aid facility and a trained first aider must be on site. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Development Phase
	<ul style="list-style-type: none"> Temporary labour should commute to the property. 	<ul style="list-style-type: none"> H&S Officer 	
Social-economic Impact Job Opportunities	<ul style="list-style-type: none"> Job opportunities will be available on site during the construction phase of this project. Source local labour to maximise the economic benefits of the Mashishimale community. 	<ul style="list-style-type: none"> Landowner Manager HR Officer 	<ul style="list-style-type: none"> Development Phase

25. Operational Phase

During the operational phase the proposed site will be under cultivation. In terms of the proposed project the operational phase refers to the pre-production and production phase of the citrus orchards and the management thereof including harvesting of the orchards (April – August). Environmental impacts as well as appropriate mitigation measures associated with the operational phase have been identified as per assessment and specialist input. These impacts and mitigations are tabled below.

26. Impacts and Mitigation during the Operational Phase

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Protection of Aquatic Systems	<ul style="list-style-type: none"> Implement an erosion control programme. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous
	<ul style="list-style-type: none"> Maintain a buffer zone along the drainage-line. Allow re-establishment of vegetation to mitigate impact. 		
	<ul style="list-style-type: none"> Optimize the irrigation programme to prevent excessive use of water that can lead to leaching. 		
	<ul style="list-style-type: none"> Use bio-degradable herbicides and pesticides such as pyrethroid chemicals to reduce potential effects on the environment. These chemicals break down within hours after application, dissolve poorly in water and are known to bind tightly to soil and organic matter; therefore, it does not penetrate soil effectively. Adhere to GLOBAL G.A.P. requirements. Do not apply herbicides or pesticides under excessive windy conditions. 		

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Protection of Aquatic Systems (Continued)	<ul style="list-style-type: none"> According to GLOBAL G.A.P. requirements, storage is regarded as a high-level compliance criterion. The minimum requirement in terms of GLOBAL G.A.P. is bunded areas, which shall be impervious and be able to contain at least 110% (165% for environmentally sensitive areas) of the largest tank stored within it. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous
	<ul style="list-style-type: none"> Mixing of chemicals and re-fuelling of vehicles must be done in a bunded area according to GLOBAL G.A.P. prescripts. Wastewater will evaporate from the bunded area, and the residue will remain in the gravel. Biodegradable chemicals will then break down without contaminating the environment. In the case of spillage, the gravel can be removed by an accredited service provider and suitably disposed of. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous
	<ul style="list-style-type: none"> In the case of an accidental spill in the orchard, remove contaminated or polluted soil immediately. 		
	<ul style="list-style-type: none"> Where possible, apply Integrated Pest Management Systems. 		
	<ul style="list-style-type: none"> The person responsible for the mixing and application of fertilizers, herbicides and pesticides must have the technical competence and the required qualification in terms of GLOBAL G.A.P requirements. 		
Protection of Water Resources	<ul style="list-style-type: none"> Implement a water-use monitoring system and record dam levels on a monthly basis. Update records of water quantities used and submit to DWS as per WUL requirements. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous
	<ul style="list-style-type: none"> Ensure that the irrigation system is installed according to SANS standards. Monitor the pipeline daily to ensure that there are no leakages as a result of wildlife or other damage. 		
	<ul style="list-style-type: none"> Implement an irrigation schedule to conserve water. 		

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Protection of Water Resources (continued)	<ul style="list-style-type: none"> Implement a monitoring protocol to ensure the responsible use of water resources. Monitor pipeline network and repair leakages immediately. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous
	<ul style="list-style-type: none"> Adhere to water restrictions if implemented by the Irrigation Board 		
Manage Stormwater and Prevent Groundwater Contamination	<ul style="list-style-type: none"> Implement an irrigation schedule that will conserve water and enhance drainage. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous
	<ul style="list-style-type: none"> Drain stormwater into existing drainage points. 		
	<ul style="list-style-type: none"> Use bio-degradable herbicides and pesticides such as pyrethroid chemicals to reduce potential groundwater contamination. 		
	<ul style="list-style-type: none"> Mixing of chemicals and re-fuelling of vehicles must be done in a bunded area according to GLOBAL G.A.P. prescripts. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous
	<ul style="list-style-type: none"> Ensure that responsible employees have proper training in the handling and application of chemicals. 		
	<ul style="list-style-type: none"> Contain accidental spills immediately to prevent leaching into surrounding areas and remove as per prescribed legislation. 		
	<ul style="list-style-type: none"> Apply fertilizers at the right time and required quantities. The responsible person must have technical competence and the required qualification in terms of GLOBAL G.A.P requirements. 		
<ul style="list-style-type: none"> Keep records of all fertilizer applications. Records should include the exact dates of application, the trade name of the fertilizer and the quantities of fertilizer applied in terms of the area. Records should also include the method of application and the name of the operator. 			

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Manage Stormwater and Prevent Groundwater Contamination (Continued)	<ul style="list-style-type: none"> Consult a specialist in agricultural chemicals for guidance on the best available products and thereby reduce associated risks. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
	<ul style="list-style-type: none"> Conform with GLOBAL G.A.P. and adhere to all specification of good agricultural practices. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Storage of Chemicals	<ul style="list-style-type: none"> The storage facility must be suitable to protect all fertilizers and plant protection products from high temperatures, sunlight, and rain. Fertilizers and plant protection products should be stored separately to prevent cross-contamination. These products may be stored in the same storage facility but must be separated by a barrier. Storage facilities should be free from waste and rodent activities and should have a concrete floor to clear away any accidental spillage or leakage. Storage is regarded as a high-level compliance criterion. The minimum requirement in terms of GLOBAL G.A.P. is bunded areas, which shall be impervious and be able to contain at least 110% (165% for environmentally sensitive areas) of the largest tank stored within it. Appropriate fire emergency provisions should be in close proximity. 	<ul style="list-style-type: none"> Store Manager 	<ul style="list-style-type: none"> Operational Phase
Erosion Protection	<ul style="list-style-type: none"> Construct mitre drains for on-site management roads to reduce runoff. 	<ul style="list-style-type: none"> Manager 	<ul style="list-style-type: none"> Operational Phase Continuous through the lifespan of the project
	<ul style="list-style-type: none"> Monitor possible erosion and rehabilitate erosion sites immediately. Re-establish herbaceous layer between citrus trees to stabilize the soil. 		

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Waste Management	<ul style="list-style-type: none"> • Waste generated on-site should be disposed of in suitable containers with sealable lids. • Abate generated waste by implementing a re-using / re-cycling programme. (e.g., plastic bags of citrus saplings can be donated to local nurseries or community projects). • Generated waste should be stored in purpose containers such as the skip provided by the Local Municipality and must feed into the municipal waste stream. • Ensure that waste disposal containers cannot be accessed by wildlife such as baboons, monkeys or honey badgers. • Store recyclable waste in purpose containers until enough waste is collected to send to a recycling centre. • Biodegradable waste such as spoilt fruit should be removed from the orchards. • Develop and implement a waste management plan according to GLOBAL G.A.P. requirements. 	<ul style="list-style-type: none"> • ECO • Manager 	<ul style="list-style-type: none"> • Operational Phase • Continuous
Protection of important Biodiversity Areas	<ul style="list-style-type: none"> • Preserve the integrity of the adjacent natural habitat and the riparian zone of the seasonal drainage line to provide refuge for faunal species. 	<ul style="list-style-type: none"> • ECO • Manager 	<ul style="list-style-type: none"> • Operational Phase • Continuous

Impact/Objective	Mitigation (Action or control)	Responsible	Time Frame
Potential Human-Wildlife Conflict	<ul style="list-style-type: none"> The boundary of the property is suitably fenced. Guards must be appointed especially during the fruiting season to deter species such as baboon and vervet monkeys. 	<ul style="list-style-type: none"> Landowner Manager 	<ul style="list-style-type: none"> Operational Phase Continuous, depending on the fruiting season (Feb - Sept)
Energy Saving Methods	<ul style="list-style-type: none"> Existing power supply will be utilized. 	<ul style="list-style-type: none"> Not Applicable 	<ul style="list-style-type: none"> Operational phase Continuous
Social-economic Impact Job Opportunities	<ul style="list-style-type: none"> Source local labour from the local community thereby contributing to the economy of the region. 	<ul style="list-style-type: none"> Landowner Manager 	<ul style="list-style-type: none"> Operational phase Continuous

27. Impacts and Mitigation during the Decommissioning Phase

If authorized to continue, it is unlikely that the agricultural activity will ever be decommissioned. However, should the proposed development no longer be cultivated and the land left fallow, the land will eventually revert to its natural state, albeit over centuries. The establishment of alien vegetation and soil erosion will be potential impacts that should be mitigated. The legal requirements, applicable at that time, should then be adhered to.

28. Public Relations

It is advisable that an open relationship be maintained with neighbours. It is recommended that, where reasonable and possible, the developer will implement additional mitigation measures to limit any negative impact that the proposed development may impose on their neighbours and the receiving environment.

29. Fire Control

The National Veld and Forest Fire Act (Act 101 of 1998), as amended was promulgated to prevent and combat veld, forest, and mountain fires throughout South Africa. The Act has stipulations and guidelines in terms of the management of fire. Failure to comply with the Act may result in a fine or imprisonment or both. The Applicant/Manager shall take adequate precautions to ensure minimum fire hazard during the operational phase of the proposed activity. The general fire management plan may include the following basic principles:

- Establish and maintain a fire break around the perimeter of the property as well as the citrus orchards.
- Keep basic fire-fighting equipment on site at the shed.
- Provide fire-fighting training for on-site personnel.
- Solid waste should be disposed of as per waste management plan, do not incinerate waste on site.
- Inform all neighbouring landowners in the event of a fire.

30. Stormwater Management

The development and implementation of a stormwater management plan (preferably by a qualified professional) will be essential to prevent erosion. Some of the basic preventative measures that may be considered are listed below:

- Construct mitre drains on all access and management roads to reduce water speed.
- Avoid canalizing surface- or stormwater run-off that can accelerate erosion.
- Re-establish an herbaceous layer between landscaped orchard rows.
- Where possible, direct rainwater run-off to natural areas along contour lines to promote infiltration of stormwater.
- Buffer areas along the riparian zone of the seasonal drainage line will act as a protective buffer to trap sediments and possible contaminants, therefore, the applicant has to ensure that buffer zones as recommended in the EMPr are implemented.
- Implement a development plan to avoid prolonged denuded areas.
- Construct erosion control infrastructure (e.g., gabions) if required to prevent potential erosion.
- If erosion damage occurs, repair damage at the onset thereof.
- Monitor rehabilitated areas and implement adaptive remedial actions if required.

31. Emergency Procedures

- Emergency procedures to deal with accidental fires and other incidents shall be in place.
- All employees should be aware of emergency procedures.
- Telephone numbers of emergency services should be visibly posted.

32. Security

The proposed development may pose an additional security risk to neighbouring properties during both phases of the proposed development due to the increase in number of contractors, and staff. The following protocol can be implemented to mitigate potential risk:

- Employ people from the local community with proper references.
- Control access to the property.
- A transport service to the nearest community is extant. Staff members can travel to work on a daily basis and need not overnight on property.

33. Employment

The employment of local workers/contractors where feasible is recommended, thus contributing to local economic development. All skilled and unskilled employees should undergo training to promote task-specific skills and non-task-specific skill development in areas such as environmental awareness, emergency procedures and health and safety issues.

Instilling and reinforcing a sense of environmental awareness and environmental consideration in all employees is vital to the overall success of any environmental management programme. The ECO and the EO will be responsible to inform the workforce about relevant environmental awareness issues. Outcomes should include environmentally sound practises and environmental protection measures.

The developer shall firstly ensure that all supervisory, operational and maintenance staff have been trained and are competent to undertake the task(s) for which they have been appointed. Secondly, ensure that they are educated in terms of environmentally sound practices and that the necessary environmental protection measures are in place.

34. Final Closure Report

After completion of the development phase, the ECO will be responsible to compile a report for submission to the Department of Economic Development, Environment & Tourism. This report will contain the following relevant information:

- Description of the development performance in relation to the EMPr.
- Specific issues around non-compliance, as well as appropriate mitigation measures applied.
- A statement certifying the final state of the site.

34. Waste Management Plan

The purpose of a waste management plan is to develop a protocol for the appropriate handling and management of the waste that will be generated by the proposed development during both the development and the operational phases to prevent any negative impact on the surrounding environment.

The main objectives of the waste management plan are to adhere to all legislative requirements in terms of the National Environmental Management: Waste Act (59 of 2008) and to prevent environmental degradation and pollution through the implementation of proper waste management strategies.

Operational Phase – General Waste

The implementation of a protocol to ensure good waste management practices during the development phase will prevent pollution and potential environmental degradation.

- All personnel should be aware of the waste management requirements on site.
- Provide purpose containers on site for the disposal of waste. These containers can be emptied on a daily basis at the central waste collection point to prevent scavenging and pollution.
- The construction waste (other than the natural material of uprooted trees and rocks) will be disposed of as stipulated in the Ephraim Mogale Municipality's draft by-law on waste management.
- Provide clearly marked recycling containers at the central waste collection point.

- Daily maintenance of the working areas and storage sites will be required to keep it litter free.
- Waste will be collected as per written agreement.
- Do not burn any waste on site.
- Ensure that an adequate record keeping system is implemented to keep track of all waste materials removed from site.

35. Chemical Spill Response Procedure

- Assess the situation.
- Stop the source of the spill or leak.
- Identify the type of chemical spilled.
- Identify the extent of the spill and notify authorities, if required.
- Use appropriate personal protective equipment.
- Stop the spill from spreading.
- Use appropriate sorbents and equipment to clean up the spill.
- Dispose of contaminated material according to legal prescripts.

36. Chance Find Protocol

The Chance Find Protocol, as recommended by Prof. Marion Bamford is included as per legislative requirements.

1. The following procedure is only required if fossils are seen on the surface and when further tilling occurs.
2. When tiling begins the rocks must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (plants, insects, bone, coal) should be put aside in a suitably protected place. This way the project activities will not be interrupted.
3. Photographs of similar fossil plants must be provided to the developer to assist in recognizing the fossil plants in the shales and mudstones. This information will be built into the EMP's training and awareness plan and procedures.

4. Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment.
5. If there is any possible fossil material found by the developer, then the qualified palaeontologist sub-contracted for this project, should visit the site to inspect the selected material and check the dumps where feasible.
6. Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site a SAHRA permit must be obtained. Annual reports must be submitted to SAHRA as required by the relevant permits.
7. If no good fossil material is recovered, then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to SAHRA once the project has been completed and only if there are fossils.

37. Conclusion and Recommendation

This EMPr aims to provide guidelines for the prevention of pollution in all forms and to limit the impact of the development on the natural environment. The mitigation measures should be adhered to at all times, and should deviations occur the developer should prepare an action plan to be put in place to avoid a reoccurrence of such incidents.

The applicant should appoint an Environmental Control Officer to ensure that the EMPr is being complied with. The site Environmental Officer needs to conduct monthly audits and these audits should be submitted to the Department.

A complaints register should be kept on site to record all complaints received.

The applicant is responsible for compliance with the provisions for Duty of Care and Remediation of Environmental Damage contained in Section 28 of the National Environmental Management Act (Act 107 of 1998).

38. References

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