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CONSULTING FIRM

ENVIRONMENTAL MANAGEMENT PROGRAMME FOR ACCESS TRACKS AND WATER COURSE CROSSINGS ASSOCIATED WITH THE PROPOSED 66KV OVERHEAD POWERLINE FOR THE ATHOURISED MSENGE EMOYENI WIND ENERGY FACILITY, EASTERN CAPE PROVINCE

JUNE 2022

DOCUMENT DETAILS

Applicant	:	Msenge Emoyeni Wind Farm (Pty) Ltd
Title	:	Environmental Management Programme for access tracks and water course crossings associated with the proposed 66kV overhead power line for the authorised Msenge Emoyeni Wind Energy Facility, Eastern Cape Province
Authors/EAP	:	Nala Environmental (Pty) Ltd Arlene Singh (SACNASP) Norman Chetsanga (SACNASP) Justin Jacobs
Purpose of Report	:	Environmental Management Programme to be submitted for public participation and to DFFE for approval in the BA process
Date	:	June 2022

DEFINITIONS AND TERMINOLOGY

The following definitions and terminology may be applicable to this project and may occur in the report below:

Alien species: A species that is not indigenous to the area or out of its natural distribution range.

Alternatives: Alternatives are different means of meeting the general purpose and need of a proposed activity. Alternatives may include location or site alternatives, activity alternatives, process or technology alternatives, temporal alternatives or the 'do nothing' alternative.

Ambient sound level: The reading on an integrating impulse sound level meter taken at a measuring point in the absence of any alleged disturbing noise at the end of a total period of at least 10 minutes after such meter was put into operation.

Assessment: The process of collecting, organising, analysing, interpreting and communicating information which is relevant.

Biological diversity: The variables among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes they belong to.

Commence: The start of any physical activity, including site preparation and any other activity on site furtherance of a listed activity or specified activity, but does not include any activity required for the purposes of an investigation or feasibility study as long as such investigation or feasibility study does not constitute a listed activity or specified activity.

Construction: Construction means the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity as per the EIA Regulations. Construction begins with any activity which requires Environmental Authorisation.

Cumulative impacts: The impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Decommissioning: To take out of active service permanently or dismantle partly or wholly, or closure of a facility to the extent that it cannot be readily re-commissioned. This usually occurs at the end of the life of a facility.

Development area: The identified area (located within the study area) where the supporting infrastructure is planned to be located.

Development footprint: The defined area (located within the development area) where the various supporting infrastructure is planned to be constructed. This is the actual footprint of the infrastructure, and the area which would be disturbed.

Direct impacts: Impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity (e.g., noise generated by blasting operations on the site of the activity). These impacts are usually associated with the construction, operation, or maintenance of an activity and are generally obvious and quantifiable.

Disturbing noise: A noise level that exceeds the ambient sound level measured continuously at the same measuring point by 7 dB or more.

'Do nothing' alternative: The 'do nothing' alternative is the option of not undertaking the proposed activity or any of its alternatives. The 'do nothing' alternative also provides the baseline against which the impacts of other alternatives should be compared.

Ecosystem: A dynamic system of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

Endangered species: Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating. Included here are taxa whose numbers of individuals have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction.

Endemic: An "endemic" is a species that grows in a particular area (is endemic to that region) and has a restricted distribution. It is only found in a particular place. Whether something is endemic or not depends on the geographical boundaries of the area in question and the area can be defined at different scales.

Environment: The surroundings within which humans exist and that is made up of:

i. The land, water and atmosphere of the earth;
ii. Micro-organisms, plant and animal life;
iii. Any part or combination of (i) and (ii) and the interrelationships among and between them; and
iv. The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental Authorisation (EA): Means the authorisation issued by a competent authority (Department of Environmental Affairs) of a listed activity or specified activity in terms of the National Environmental Management Act (No 107 of 1998) and the EIA Regulations promulgated under the Act.

Environmental Assessment Practitioner (EAP): An individual responsible for the planning, management and coordinating of environmental management plan or any other appropriate environmental instruments introduced by legislation.

Environmental Control Officer (ECO): An individual appointed by the Owner prior to the commencement of any authorised activities, responsible for monitoring, reviewing and verifying compliance by the EPC Contractor with the environmental specifications of the EMPr and the conditions of the Environmental Authorisation

Environmental impact: An action or series of actions that have an effect on the environment.

Environmental impact assessment: Environmental Impact Assessment, as defined in the NEMA EIA Regulations, is a systematic process of identifying, assessing and reporting environmental impacts associated with an activity.

Environmental management: Ensuring that environmental concerns are included in all stages of development, so that development is sustainable and does not exceed the carrying capacity of the environment.

Environmental Management Programme (EMPr): A plan that organises and co-ordinates mitigation, rehabilitation and monitoring measures in order to guide the implementation of a project or facility and its ongoing maintenance after implementation.

Environmental Officer (EO): The Environmental Officer (EO), employed by the Contractor, is responsible for managing the day-to-day on-site implementation of this EMPr, and for the compilation of regular (usually weekly) Monitoring Reports. The EO must act as liaison and advisor on all environmental and related issues and ensure that any complaints received from the public are duly recorded and forwarded to the Site Manager and Contractor.

Habitat: The place in which a species or ecological community occurs naturally.

Hazardous waste: Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.

Indigenous: All biological organisms that occurred naturally within the study area prior to 1800.

Incident: An unplanned occurrence that has caused, or has the potential to cause, environmental damage.

Indirect impacts: Indirect or induced changes that may occur because of the activity (e.g., the reduction of water in a stream that supply water to a reservoir that supply water to the activity). These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place because of the activity.

Interested and affected party: Individuals or groups concerned with or affected by an activity and its consequences. These include the authorities, local communities, investors, work force, consumers, environmental interest groups, and the public.

Method Statement: A written submission by the Contractor in response to the environmental specification or a request by the Site Manager, setting out the plant, materials, labour and method the Contractor proposes using to conduct an activity, in such detail that the Site Manager is able to assess whether the Contractor's proposal is in accordance with the Specifications and/or will produce results in accordance with the Specifications.

Pre-construction: The period prior to the commencement of construction, which may include activities which do not require Environmental Authorisation (e.g. geotechnical surveys).

Pollution: A change in the environment caused by substances (radio-active or other waves, noise, odours, dust or heat emitted from any activity, including the storage or treatment or waste or substances.

Rare species: Taxa with small world populations that are not at present Endangered or Vulnerable, but are at risk as some unexpected threat could easily cause a critical decline. These taxa are usually localised within restricted geographical areas or habitats or are thinly scattered over a more extensive range. This category was termed Critically Rare by Hall and Veldhuis (1985) to distinguish it from the more generally used word "rare."

Red Data Species: Species listed in terms of the International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species, and/or in terms of the South African Red Data list. In terms of the South African Red Data list, species are classified as being extinct, endangered, vulnerable, rare, indeterminate, insufficiently known or not threatened (see other definitions within this glossary).

Riparian: The area of land adjacent to a stream or river that is influenced by stream-induced or related processes. Riparian areas which are saturated or flooded for prolonged periods would be considered wetlands and could be described as riparian wetlands. However, some riparian areas are not wetlands (e.g. an area where alluvium is periodically deposited by a stream during floods but which is well drained).

Significant impact: An impact that by its magnitude, duration, intensity, or probability of occurrence may have a notable effect on one or more aspects of the environment.

Study area: Remaining Extent of Farm Kop Leegte No. 205, Portion 1 of Farm Normandale No. 206, Portion 3 of Farm Plat House No. 203, Remainder of Farm 242 No. 242, Remainder of Farm 148 No. 148, Portion 3 of Farm 148 No. 148, Remainder of Farm 260 No. 260, Portion 5 of the Farm Van Wyks Kraal No.73, Remainder of Farm Leeuw Fontein No. 221

Vulnerable species: A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future.

Waste: As per the NEM: Waste Amendment Act, 2014 (Act No. 26 of 2014)

(a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3.

(b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the *Gazette,*

but any waste or portion of waste, referred to in paragraph (a) and (b), ceases to be a waste –

(i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered;

(ii) where approval is not required, once a waste is, or has been re-used, recycled or recovered;

(iii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or

(iv) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste.

Watercourse: As per the National Water Act means –

(a) a river or spring;

(b) a natural channel in which water flows regularly or intermittently;

(c) a wetland, lake or dam into which, or fromwhich, water flows; and

(d) any collection of water which the Minister may, by notice in the Gazette, declare

ABBREVIATIONS

The following abbreviations may be applicable to this project and may occur in the report below:

BGIS	Biodiversity Geographic Information System
CDSM	Chief Directorate Surveys and Mapping
CEMP	Construction Environmental Management Plan
DEFF	Department of Environment, Forestry and Fisheries
EC DEDEA	Eastern Cape Department of Economic Development, Environmental Affairs & Tourism
DMRE	Department of Mineral Resources and Energy
EAP	Environmental Assessment Practitioner
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Programme
GPS	Global Positioning System
HIA	Heritage Impact Assessment
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
IFC	International Finance Corporation
IPP	Independent Power Producer
KOP	Key Observation Point
kV	Kilo Volt
LLRC	Low Level River Crossing
LUDS	Land Use Decision Support
LUPO	Land Use Planning Ordinance
MW	Mega Watt
NEMA	National Environmental Management Act
NEMAA	National Environmental Management Amendment Act
NEMBA	National Environmental Management: Biodiversity Act
NERSA	National Energy Regulator of South Africa
NHRA	National Heritage Resources Act
NSBA	National Spatial Biodiversity Assessment
NWA	National Water Act
PIA	Paleontological Impact Assessment
PM	Post Meridiem; "Afternoon"
SACAA	South African Civil Aviation Authority
SAHRA	South African National Heritage Resources Agency
SANBI	South Africa National Biodiversity Institute
SANS	South Africa National Standards
SDF	Spatial Development Framework
SMME	Small, Medium and Micro Enterprise
SAPD	South Africa Police Department

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SECTION 1: INTRODUCTION AND BACKGROUND TO THE ENVIRONMENTAL AUTHORISATION

1.1 Introduction

Msenge Emoyeni Wind Farm (Pty) Ltd, obtained the Environmental Authorisation, from the National Department of Environmental Affairs (DEA), (now Department of Forestry, Fisheries and the Environment, DFFE) for the Msenge Emoyeni Wind Energy Facility (previously known as Amakhala Emoyeni Phase 2 Wind Energy Facility) on 28 August 2012 (DFFE Ref: 12/12/20/1754/2). The WEF is authorised for a capacity of 140MW. Several amendments have been undertaken for the Msenge WEF with the latest amendment undertaken on 02 June 2021. The validity period of the Environmental Authorised ends on the 28 August 2022. The project has been selected as a preferred bidder via private offtake for development in the third quarter of this year. Following liaison with Eskom it was determined that in order to provide suitable setbacks to the existing Amakhala and Nojoli turbines and to follow the existing Albany-Poseidon 132kV powerline as closely as possible, while reducing/optimizing crossing points, the authorised 132kV powerline routing would need to be deviated from the authorised routing which falls outside of the previously assessed and authorised 20-30m wide servitude.

A proposed 66kV overhead single circuit powerline route with a corridor of approximately 300m (150m on either side of the centre line) selected to evacuate power from the authorised Msenge Emoyeni WEF is informed by the most feasible grid connection point into the national grid by providing suitable setbacks to the operational Amakhala and Nojoli wind farms' turbines and to follow the existing Albany-Poseidon 132kV powerline as closely as possible, while reducing/optimizing crossing points. The placement of the grid connection corridor also provides an opportunity for the consolidation of linear electrical infrastructure within the area, inclusive of the impacts that are bundled together at this location, this can be seen as an advantage to the development of the grid connection infrastructure from a social and environmental impact perspective.

The authorised Msenge Emoyeni WEF is located approximately 20km south of the town of Bedford in the Eastern Cape Province. The grid connection infrastructure related to the authorised wind energy facility is located within the Cookhouse REDZ and Eastern Power Corridor.
The proposed development will entail the following:

- 66kV overhead single circuit powerline approximately 22.7km long in a 300m wide assessment corridor (150m on either side), from the authorised Msenge Emoyeni WEF onsite substation to the Poseidon Main Transmission Substation (MTS). (A separate EMPr has been compiled for this activity)
- **Access tracks** of up to 7m in width following the powerline route from the authorised Msenge Emoyeni WEF onsite substation to the Poseidon Main Transmission Substation (MTS) to enable construction and maintenance activities.
- **Water course crossings** along the powerline route from the authorised Msenge Emoyeni WEF onsite substation to the Poseidon Main Transmission Substation (MTS).
- 33kV/132kV on-site substation with a footprint occupying an area of 250m x 200m, within a 300m radius to allow movement where possible.

The following properties have been identified for the development of the new 66kV powerline corridor and associated infrastructure for the associated Msenge Emoyeni Wind Energy Facility:

- Remainder of Farm Leeuw Fontein No. 221
- Portion 1 of Farm Normandale No. 206
- Portion 3 of Farm Plat House No. 203
- Remaining Extent of Farm Kop Leegte No. 205
- Remainder of Farm 260 No. 260
- Remainder of Farm 242 No. 242
- Remainder of Farm 148 No. 148
- Portion 3 of Farm 148 No. 148
- Portion 5 of the Farm Van Wyks Kraal No.73

The following **twelve (12) water course crossings** are proposed to be constructed in support of the deviation of the authorised 132kv Powerline for the authorised Msenge Emoyeni WEF.

Water Crossing Co-ordinates

	Latitude	**Longitude**
Water Crossing 1	32° 53.368'S	26° 5.004'E
Water Crossing 2	32°52'48.75"S	26° 4'42.37"E
Water Crossing 3	32°52'24.84"S	26° 4'38.64"E
Water Crossing 4	32°51'47.73"S	26° 4'0.27"E
Water Crossing 5	32°50'56.34"S	26° 2'14.18"E
Water Crossing 6	32°50'41.88"S	26° 1'49.39"E
Water Crossing 7	32°49'40.33"S	26° 0'22.86"E
Water Crossing 8	32°49'8.86"S	25°59'50.32"E
Water Crossing 9	32°48'49.13"S	25°59'28.26"E
Water Crossing 10	32°45'45.38"S	25°56'47.60"E
Water Crossing 11	32°44'52.00"S	25°55'42.98"E
Water Crossing 12	32°44'48.83"S	25°55'32.48"E

Below are also the access track coordinates:

Powerline and Access Track Corridor Centre Line Co-ordinates:

	Latitude	**Longitude**
Start (on-site substation)	32°53'16.10"S	26° 4'45.89"E
Point 2	32°52'5.23"S	26° 4'35.86"E
Point 3	32°51'58.38"S	26° 4'30.00"E
Point 4	32°51'24.96"S	26° 2'57.29"E
Point 5	32°51'19.82"S	26° 2'52.60"E
Point 6	32°50'22.15"S	26° 1'16.41"E
Point 7	32°49'59.89"S	26° 0'51.66"E
Point 8	32°49'58.71"S	26° 0'42.46"E
Point 9	32°48'25.43"S	25°59'2.79"E
Point 10	32°48'10.54"S	25°58'28.64"E
Point 11	32°47'31.39"S	25°58'16.22"E
Point 12	32°45'3.66"S	25°56'12.66"E
Point 13	32°44'57.93"S	25°56'2.68"E
Point 14	32°44'47.51"S	25°55'27.60"E
End	32°44'41.44"S	25°55'30.18"E

This EMPr considers all the aspects of the access tracks and water course crossings to be adopted during the life cycle of the environmental authorisation of the proposed 66kV overhead power line associated with the Authorised Msenge Emoyeni Wind Energy Facility. These proposed access tracks and water course crossings will be located within the authorised Msenge Emoyeni Wind Energy Facility and largely run along the 300m corridor proposed powerline. A separate generic EMPr will cover the aspects associated with the proposed powerline deviation. No site alternatives were

assessed for the access roads and water course crossings as their development is required to support the powerline route development activity for access and maintenance activities.

This EMPr also seeks to adopt all the mitigation measures and recommendations made by the various specialists after their assessments on the project area. This Environmental Management Programme will be submitted for public review and comment prior to being submitted along with the basic assessment report as part of the Basic Assessment process to the Department of Forestry, Fisheries and the Environment (DFFE).

SECTION 2: PROJECT INFRASTRUCTURE AND ACTIVITIES

The project life-cycle activities can generally be divided into five phases (see below) and can be outlined as follows:

- Pre-construction;
- Construction;
- Operation (including maintenance and repair);
- Rehabilitation and
- Decommissioning.

A description of each phase and the associated activities is provided below.

Pre-Construction

This EMPr will allow an opportunity to document environmental mitigation measures that will allow for the sustainable development of the access roads and water course crossings. The initial roads and water course crossings layout may undergo minor adjustments based on geotechnical constraints onsite and input from preconstruction monitoring, however any adjustments will be within the acceptable areas as defined by the BA process.

Construction

The duration of the construction and commissioning phase of the project is estimated to be approximately 24 months to complete. Construction activities will include: Site preparation, including subcontractor mobilisation, erection of fencing or suitable barriers, where required to protect sensitive habitat and archaeological sites, construction of site compound and lay down areas;

- Upgrading and construction of external and internal roads, water crossings, including laying of cables;
- Site clearance;
- Completion of powerline electrical connections;
- Commissioning.

Operation

Once the powerline construction is completed and it becomes operational, it is expected that the facility will have a minimum life span of 20 years. Regular maintenance of the powerline and its associated access roads and water course crossings will be required to ensure these are kept in optimal working order. The powerline and its associated access roads and water course crossings can operate in parallel with any daily farming activities due to the relatively small footprint of the activities.

Rehabilitation

All activities that are relevant for rehabilitation of disturbed areas or land will commence from the operation phase and in some cases while Operation phase is in progress. The Rehabilitation will continue right up to the Decommissioning phase.

Decommissioning

The decommissioning of the proposed activities (access tracks and water course crossings) is unlikely to be decommissioned even after the economic life of the Msenge Emoyeni wind farm or powerline associated with Msenge WEF. They may still be useful for the landowners in the area. However, if these activities are to cease and require decommissioning, the applicant is required to undertake all required actions as prescribed by the prevailing legislation and to comply with all relevant legal requirements in liaison with the applicable competent authority.

The components proposed to form part of the Msenge Emoyeni proposed powerline and access tracks and water course crossings activities are detailed in Table 2.1 below.

Table 2.1: Project details for the proposed Deviation of the Msenge Powerline

<table>
<tr><td></td><td colspan="2">General</td></tr>
<tr><td>Closest town/s:</td><td colspan="2">Bedford, Cookhouse</td></tr>
<tr><td>Local Municipality:</td><td colspan="2">Blue Crane Route Local Municipality</td></tr>
<tr><td>District Municipality</td><td colspan="2">Sarah Baartman District Municipality</td></tr>
<tr><td>Province</td><td colspan="2">Eastern Cape Province</td></tr>
<tr><td></td><td colspan="2">Project specific information</td></tr>
<tr><td>Msenge Powerline Deviation</td><td colspan="2">o Remainder of Farm Leeuw Fontein No. 221
o Remaining Extent of Farm Kop Leegte No. 205
o Portion 1 of Farm Normandale No. 206
o Portion 3 of Farm Plat House No. 203
o Remainder of Farm 242 No. 242
o Remainder of Farm 148 No. 148
o Portion 3 of Farm 148 No. 148
o Remainder of Farm 260 No. 260
o Portion 5 of the Farm Van Wyks Kraal No. 73</td></tr>
<tr><td>Proposed infrastructure</td><td colspan="2"><table>
<tr><td>Component</td><td>Description/Demission</td></tr>
<tr><td>Powerline.</td><td>A 66kV overhead power line approximately 22.7km long will be developed from the proposed 33/132kV substation to evacuate generated power into the Poseidon Main Transmission Substation.</td></tr>
<tr><td>Corridor</td><td>300m corridor (150m on either side of the centre line)</td></tr>
<tr><td>Access Tracks</td><td>A gravel road (access tracks) along the powerline routing will be developed to a width of up to 7m wide to allow for construction and maintenance activities</td></tr>
<tr><td>Water course crossings</td><td>The development of the new water crossings that will encroach onto watercourses and will be located within 32m of watercourses</td></tr>
<tr><td>On site substation</td><td>33kV/132kV on-site substation with a footprint occupying an area of 250m x 200m, within a 300m radius to allow movement where possible.</td></tr>
</table></td></tr>
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SECTION 3: PURPOSE AND OBJECTIVES OF THE EMPr

3.1 APPROACH TO PREPARING THE EMPr

3.1.1 Compliance of this EMPr with the NEMA and EIA Regulations

This EMPr satisfies the requirements of Section 24N of the National Environmental Management Act (NEMA) (Act 107 of 1998) as well as Appendix 4 of the 2014 NEMA Environmental Impact Assessment (EIA) Regulations (GN R326), as amended in 2017. An overview of where these requirements are met in this EMPr is presented in Table 3.1 below:

Table 3.1: Requirements of an EMPr as defined in terms of NEMA (Act 107 of 1998) and Appendix 4 of the 2014 EIA Regulations (GN R326).

Appendix 4 of the EIA Regulations	Requirements for a EMPr in terms of Appendix 4 of the 2014 NEMA EIA Regulations (GN R982)	Location in this EMPr
(1) (a)	Details of – (3) the EAP who prepared the EMPr; and (ii) the expertise of the EAP to prepare an EMPr, including a curriculum vitae;	Appendix A Section 3.13
(1) (b)	a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description	Section 2
(1) I	a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;	Section 3.1.6
(1) (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 (3) development includini) planning and design; (ii) pre-construction activities; (3) (iii) construction activities, rehabilitation of the environment after construction and where applicable post closure; and (v) where relevant, operation activities;	Section 3, Section 6
(1) (e)	a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Section 6

(I) (f)	a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) (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 (3) (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	Section 6
(I) (g)	the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 6
(I) (h)	the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 6
(I) (i)	an indication of the persons who will be responsible for the implementation of the impact management actions;	Section 6
(I) (j)	the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 6
(I) (k)	the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 6
(I) (l)	a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 6
(I) (m)	an environmental awareness plan describing the manner in which- (3) (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 the degradation of the environment; and	Section 6, Section 3,6

(1) (n)	any specific information that may be required by the competent authority.	Section 3, Section 7

3.1.2 Compliance to the requirements of the relevant Environmental Authorisations

The EA, dated on 28 August 2012 (DFFE Ref: 12/12/20/1754/2), indicated in Condition 3 that the applicable management plans must be included within the proposed Msenge Emoyeni WEF EMPr. This is also applied to the powerline and its associated access roads and water course crossings The table below details the requirement as contained within the EA as well as a cross reference to where this is included within this EMPr.

Table 3.2: Content requirements of the EMPr as contained in the EA and subsequent amendments.

Condition	Requirements for a the EMPr as per the conditions of the EA, 2011	Location in this EMPr
3.1	The Environmental Management Plan (EMP) must be submitted to the department for written approval prior to commencement of the activity.	Noted, this EMPr will be submitted to the Department as part of the BA process.
3.1.1	The EMP must include comprehensive rescue and storage in a suitable constructed nursery and storage area of plants deemed to be requiring either rescue for replanting and plants that will be useful during rehabilitation.	Section 6, Appendix D
3.1.2	Include detailed revegetation and rehabilitation plan to be conducted during construction and operation;	Section 6, Appendix E
3.1.3	A Rehabilitation plan must be established to minimise adverse environmental impacts whilst maximising the future utilisation of the property;	Section 6, Appendix E
3.1.4	An Open Space Management Plan must be incorporated in the EMP.	Section 6, Appendix C

3.1.3 Goals for environmental management

The overall goal for environmental management for the development of the supporting infrastructure (access tracks and water course crossings) to the Msenge Emoyeni WEF is to construct and operate the project in a manner that achieves the goals presented in Figure 3.1

Figure 3.1: Environmental management goals for the proposed project

3.1.4 Mitigation hierarchy

This EMPr strives to recommend avoidance, management, mitigation and monitoring actions towards enhancing positive impacts, and avoiding damage or loss of ecosystems and services that they provide, and where they cannot be avoided, to reduce and mitigate potential impact. Offsets to compensate for loss of habitat are regarded as a last resort, after all efforts have been made to avoid, reduce and mitigate. The mitigation hierarchy is described in Figure 3.2.

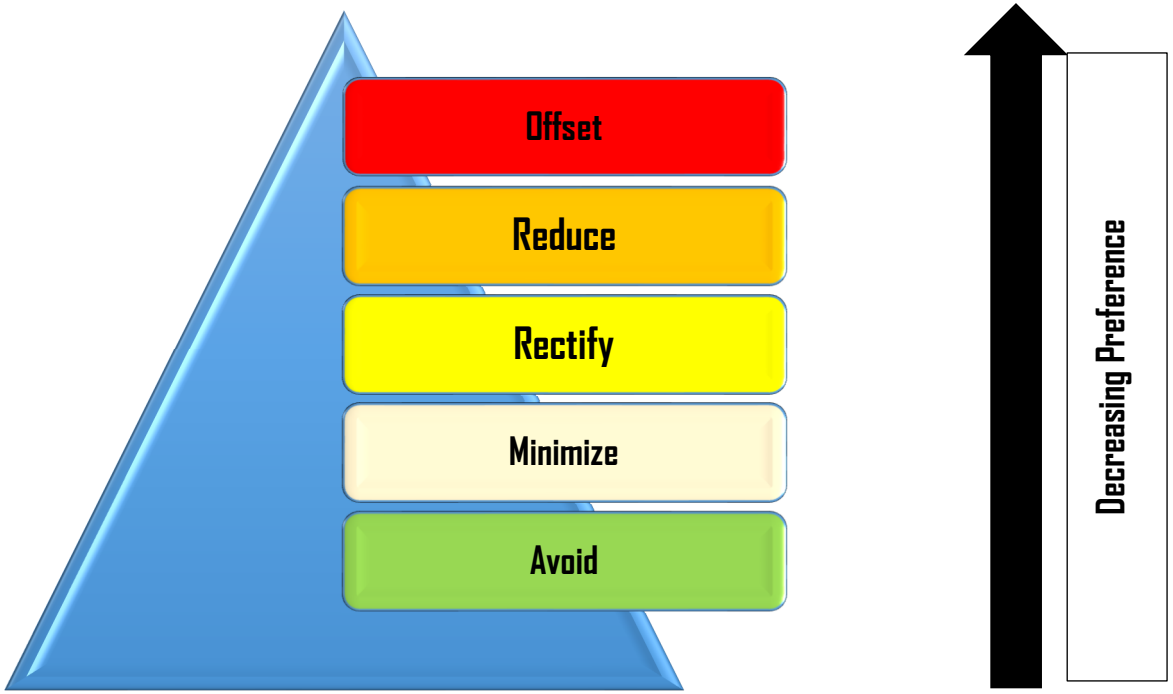


Figure 3.2: Mitigation Hierarchy for the proposed project

3.1.5 Contents of the EMPr

Where applicable, this EMPr addresses the five phases of the project cycle: (1) Project Design phase; (2) Construction phase; (3) Operational phase; and (4) Rehabilitation phase (5) Decommissioning phase.

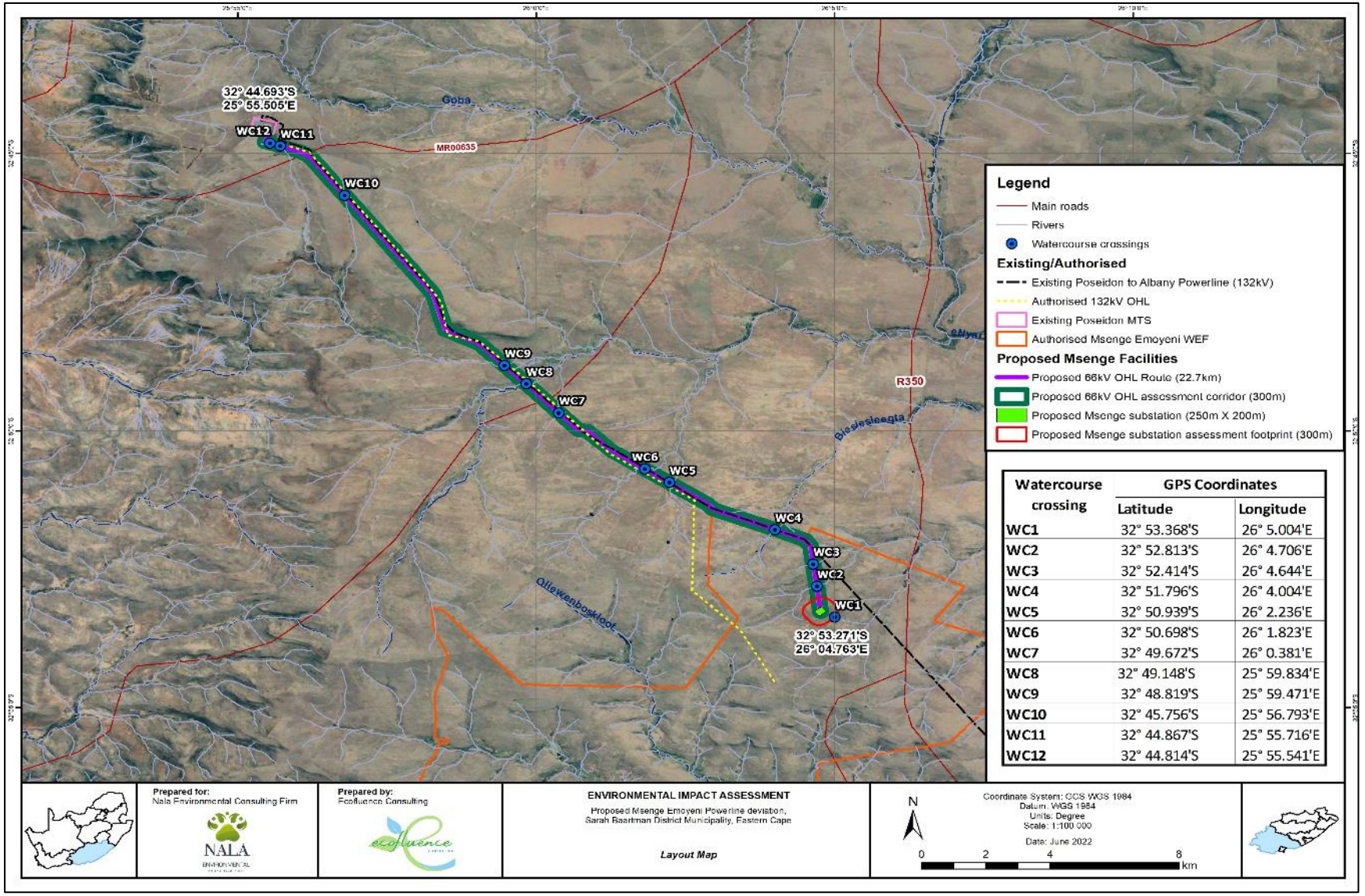
The draft EMPr follows an approach of identifying an over-arching goal and objectives, accompanied by management actions that are aimed at achieving these objectives. The management actions are presented in a table format in order to show the links between the goal and associated objectives, actions, responsibilities, monitoring requirements and targets. The management plans for the design, construction, operational and decommissioning phases consist of the following components:

- **Impact**: The potential positive or negative impact of the development that needs to be enhanced, mitigated or eliminated;
- **Mitigation/Management action**: The actions needed to achieve the objectives of enhancing, mitigating or eliminating impacts;
- **Monitoring:** The key monitoring actions required to check whether the objectives are being achieved, taking into consideration methodology, frequency and responsibility.

This Environmental Management Programme (EMPr) is prepared for the supporting infrastructure (access tracks and water course crossings) for the deviation of the authorised 132kV Msenge Emoyeni powerline as part of the requirements of the 2017 EIA Regulations (as amended) promulgated under the National Environmental Management Act (NEMA, Act 107 of 1998). The project team involved in preparing this EMPr for approval is listed in Table 3.3 below. This team includes a number of specialists which have provided input throughout the BA process being undertaken for the proposed deviation of the authorised 132kV Msenge Emoyeni powerline.

3.1.6 Environmental sensitivities and preferred layout

Based on the assessments undertaken as mentioned above and the findings thereof, an environmental sensitivity map has been produced (Figure 3.4) to show all the environmental features and their respective buffers (where applicable) also taking into consideration all sensitivities that were identified by the various specialists to inform layout for the access tracks and water course crossings.



Watercourse crossing	GPS Coordinates	
	Latitude	Longitude
WC1	32° 53.368'S	26° 5.004'E
WC2	32° 52.813'S	26° 4.706'E
WC3	32° 52.414'S	26° 4.644'E
WC4	32° 51.796'S	26° 4.004'E
WC5	32° 50.939'S	26° 2.236'E
WC6	32° 50.698'S	26° 1.823'E
WC7	32° 49.672'S	26° 0.381'E
WC8	32° 49.148'S	25° 59.834'E
WC9	32° 48.819'S	25° 59.471'E
WC10	32° 45.756'S	25° 56.793'E
WC11	32° 44.867'S	25° 55.716'E
WC12	32° 44.814'S	25° 55.541'E

Figure 3.3: Layout Map of the access tracks and water course crossings associated with the deviation of the authorised 132kV powerline for the Msenge Emoyeni WEF.

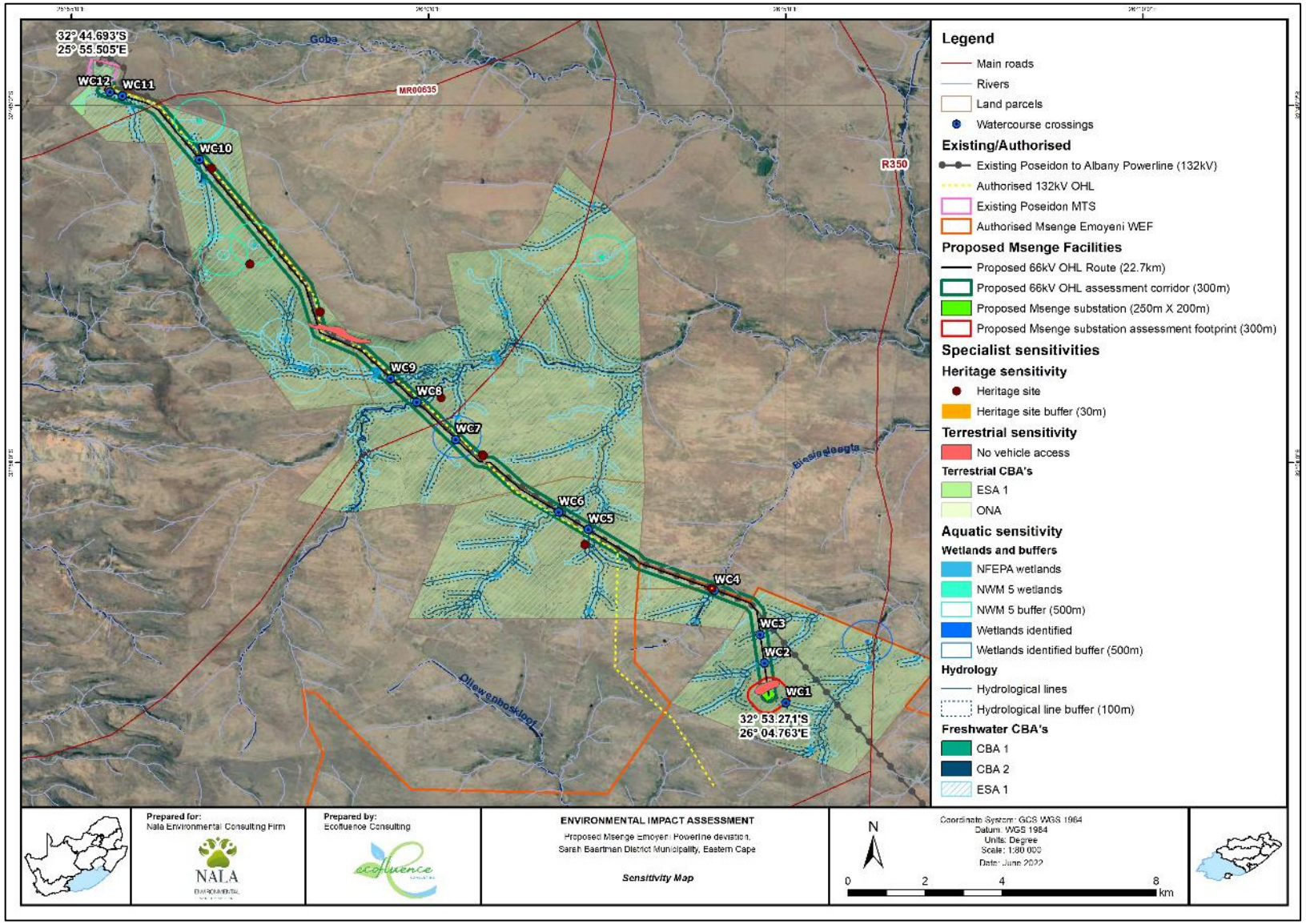


Figure 3.4: Environmental Sensitivity map depicting environmental features and their respective buffers (where applicable) that were identified by the various specialists

3.2 EMPr ADMINISTRATION

Copies of this EMPr shall be kept at the site office(s) during the operation phase. All senior personnel shall be required to familiarise themselves with the contents of this document. Any revisions to the EMPr document must be approved by DFFE before the revised EMPr is implemented. The Operations Manager shall be responsible for the implementation and distribution of any "approved" revisions to the EMPr during the operation phase.

3.3 INFORMATION BOARDS

The Contractor shall be responsible for erecting a general information board during the construction phase. The general information board shall, as a minimum, provide the name and contact number of the Environmental Officer (EO) on site, to ensure that the public has access to the EO to request information and / or to lodge any complaints.

3.4 STAKEHOLDER ENGAGEMENT

The applicant should continue to engage with stakeholders throughout project construction and operation. Communication with local communities and other local stakeholders will be a key part of this engagement process and is one where Msenge Emoyeni Wind Farm (Pty) Ltd and the contractor will need to work closely together during the construction period.

The objectives of communication and liaison with local communities are the following:

1. To provide residents in the vicinity (e.g. Bedford and neighbouring towns) and other interested stakeholders, with regular information on the progress of work and its implications.
2. To monitor implementation of mitigation measures and the impact of construction on communities via direct monitoring and feedback from those affected in order to ensure that mitigation measures are implemented, and the mitigation objectives achieved.
3. To manage any disputes between Msenge Emoyeni Wind Farm (Pty) Ltd , the contractors, and local people.

3.5 METHOD STATEMENTS (MS)

The Contractor shall submit written MS to the Principal Agent and ECO for all environmentally sensitive aspects of the work during the construction phase. An MS Control Sheet, signed by the Contractor, must accompany each MS mention of Control an MS shall cover applicable details with regard to:

- Construction procedures.
- Materials and equipment to be used.
- Getting equipment to and from site.
- How the equipment / material will be moved while on site.
- How and where material will be stored.
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur.
- Timing and location of activities.
- Compliance / non-compliance with the Specifications.
- Any other information deemed necessary by the Proponent / ECO.

An MS shall be submitted to the Principal Agent and ECO at least five (5) days prior to the commencement of the construction activities for which the MS is required. It should be noted that an MS must contain sufficient information and detail to enable the Principal Agent and ECO to apply their minds to the potential impacts of the works on the environment. The Contractor will also need to thoroughly understand what is required of them in order to undertake the works.

Work shall not commence until the MS have been approved by the Principal Agent. Failure to submit an MS may cause the Principal Agent to order the Contractor to suspend part or all of the works concerned until an MS has been submitted and approved. Failure to submit an MS at least five days prior to commencing the relevant activity may result in a fine (see Section 3.10). Any damage caused to the surrounding environment by work done without prior approval shall be rehabilitated at the Contractor's cost.

As a minimum the following MSs are required:

- MS for indicating the location, preparation and layout of the construction camps and laydown areas.
- MS for the containment, handling, storage, and disposal of hazardous substances.
- MS for management of hazardous waste.
- MS for management of general waste.
- MS for management of wastewater.
- MS for dust control.
- MS for erosion and sedimentation control.
- MS for traffic accommodation and diversions.
- MS for site rehabilitation.

The Principal Agent and / or the ECO shall specify any additional MS that may be required. Where relevant the MSs indicated above can be combined on agreement with the Principal Agent / ECO.

3.6 ENVIRONVENTAL AWARENESS TRAINING

Environmental awareness is defined as 'the growth and development of awareness, understanding and consciousness toward the biophysical environment and its problems, including human interactions and effect'. It is further stated that it is 'the educational process that deals with the human interrelationships with the environment and that utilizes an interdisciplinary problem-solving approach with value clarification'.

As part of continual improvement in environmental management performance, environmental as well as health and safety awareness training should be provided to all employees in order to promote the effective implementation of the EMPr actions.

Prior to the commencement of any work on site, the Contractor's site management staff shall attend an environmental awareness training course presented by the ECO. The Contractor shall liaise with the ECO prior to the commencement of construction to fix a date and venue for the course. The Contractor shall provide a suitable venue with facilities and ensure that the specified employees attend the course.

The information presented at the course shall be communicated by the Contractor to the rest of his employees on the site, to any new employees coming onto site after the initial training course and to his / her suppliers as appropriate. The presentation shall be conducted, as far as is possible, in the employees' language of choice.

As a minimum, training shall include:

- Explanation of the importance of complying with the EMPr.
- Discussion of the potential environmental impacts of construction activities.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out their activities.
- Explanation of the specifics of this EMPr and its specification (no-go areas, etc.).
- Discussion of waste awareness and provision of training to ensure proper waste management is implemented when carrying out their activities.
- Explanation of the management structure of individuals responsible for matters pertaining to the EMPr.

The Contractor shall keep records of all environmental training sessions, including names of attendees, dates of their attendance and the information presented to them.

3.7 MEETINGS

The ECO shall meet with the Principal Agent on a monthly basis, or more frequently as required during the initial stages of the project. The ECO shall attend scheduled construction site meetings on a monthly basis throughout the contract period.

3.8 INSPECTION PROCEDURES

The day-to-day monitoring and verification that the EMPr is being adhered to shall be undertaken by the ED. The ECO shall visit and inspect the site at least on a fortnightly basis to ensure that correct procedures are being implemented and that the Contractor is complying with the environmental specifications in the EMPr. Additional site inspections by the ECO may be needed during the initial stages of the project. The ECO shall address any queries to the Proponent. If the queries cannot be resolved at this level, they shall be referred to the Principal Agent and, if necessary, to DFFE.

3.9 RECORD OF ACTIVITIES

The ED shall keep a record of activities on site, including but not limited to meetings attended, MSs received and approved, issues arising on site, cases of non-compliance with the EMPr, penalties / fines issued, and corrective action taken to solve problems that arise, and any complaints received and how they were addressed.

The ED shall undertake photographic monitoring for the duration of the construction phase. This shall include a photographic record of all areas that will be impacted by the construction activities prior to construction activities commencing. The ED shall monitor all sensitive work environments which may also include photographic monitoring.

3.10 FINES

A system of fines shall be implemented to ensure compliance with the EMPr Where the Contractor inflicts non-repairable damage upon the environment or fails to comply with any of the environmental specifications of the EMPr this would constitute a breach of contract for which the Contractor may be liable to pay a fine. The Contractor is deemed not to have complied with the EMPr if, amongst others:

- There is evidence of contravention of the EMPr specifications, including any non-compliance with an approved MS.
- Construction activities take place outside the defined boundaries of the site.
- Environmental damage ensues due to negligence.
- The Contractor fails to comply with corrective or other instructions issued by the Principal Agent within a specific time period.
- The Contractor fails to respond adequately to complaints from the public.

If excessive infringement with regard to any of the above is registered, then the Principal Agent reserves the right to fine the Contractor, or in the extreme event terminate the Contractor's contract. The system of fines shall be implemented in the following way:

- Fines shall be issued per incident at the discretion of the Principal Agent.
- Fines shall be issued in addition to any remedial costs incurred as a result of non-compliance with the environmental specifications.
- The Principal Agent shall inform the Contractor of the contravention and the amount of the fine and will deduct the amount from the Contractor's monthly Payment Certificates.
- Fines, shall be imposed by the Principal Agent on the Contractor, his staff and / or the Sub-contractors' staff for contravention of the environmental specifications. Where there are ranges, the amount shall depend on the severity and extent of the damage done to the environment.

Should a fine be issued, the Principal Agent shall, in conjunction with the ECO, identify an appropriate environmental-focussed non-profit organisation

in the area to which to donate the money.

Failure by any employee of the Contractor or their sub-contractors to show adequate consideration to the environmental aspects of the contract shall be considered sufficient cause for the Principal Agent to have that employee removed from the site. The ECO may, through the Principal Agent, also order the removal of equipment that is causing continual environmental damage.

3.11 INTERNAL REVIEW AND AUDITING

The Contractor shall establish an internal review procedure to monitor the progress and implementation of the EMPr during the construction phase.

Where necessary, and upon the recommendation of the Principal Agent and / or the ECO, procedures that require modification will be changed to improve the efficiency of the EMPr. All modifications to the EMPr shall be approved by DFFE before, if possible, any changes or adjustments to the EMPr are implemented. Any changes or adjustments to the EMPr shall be registered in the daily records of the Principal Agent. Adjustment and update of the original EMPr document is not required when these ad hoc changes are made.

At the conclusion of the construction phase an environmental audit report shall be compiled and submitted to DFFE. This report shall be compiled by the ECO, in collaboration with the Principal Agent and the EO. It shall, as a minimum, outline the implementation of the EMPr during the construction phase, and highlight any problems and issues that arose during the construction period to report, on a formal basis, the lessons learned from this project.

3.12 EXTERNAL REVIEW AND AUDITING

The Proponent must, for the period during which the EA and EMPr remain valid, ensure compliance with the conditions of the EA and EMPr is audited. The environmental audit report must be prepared by an independent person, with the relevant environmental auditing expertise and be submitted to DFFE upon completion or within six months of completion of the construction phase. The environmental audit report must contain all the information required as presented in Appendix 7 of the EIA Regulations, 2014 (as amended).

The Proponent, within seven days of the submission of the environmental audit report to DFFE, must notify all interested and affected parties of the submission and make the report available to anyone on request and on a publicly accessible website (if applicable).

Access to the site must be granted and the environmental audit reports, ECO reports and other relevant documentation must be produced to any authorised official representing the Competent Authority who requests to see it for the purposes of assessing and / or monitoring compliance with the conditions contained therein.

3.13. EXPERTISE OF ENVIRONMENTAL ASSESSMENT PRACTITIONERS

This EMPr was compiled by Nala Environmental (Pty) Ltd. Nala Environmental is an environmental consultancy firm established in December 2020. The main line of business is the compilation of environmental impact assessments for a variety of industries. The Nala Environmental management team has a broad client base from both the private and government sectors which has developed over the past 10 years. Nala Environmental is experience in undertaking environmental impact assessments spans across South Africa, with significant experience in the Northern Cape, Western Cape, Eastern Cape, Mpumalanga and Kwa-Zulu Natal Provinces. The Environmental Assessment Practitioners (EAP) for this project are Arlene Singh who is registered with the Environmental Assessment Practitioner's Association of South Africa (EAPASA) and the South African Council for Natural Scientific Professions (SACNASP), Norman Chetsanga who is registered with the South African Council for Natural Scientific Professions (SACNASP) and Justin Jacobs. Refer to Appendix A for a Company Profile and condensed Curriculum Vitae of the EAP.

Table 3.3: The team consisting of Environmental Assessment Practitioners, and various specialists to provide technical expertise.

Name	Organisation	Role/Specialist Study
Environmental Assessment Practitioners		
Arlene Singh	Nala Environmental (Pty) Ltd	Environmental Assessment Practitioner (SACNASP) (EAPASA)
Norman Chetsanga	Nala Environmental (Pty) Ltd	Environmental Assessment Practitioner (SACNASP)
Specialists	**Organisation**	**Role/Specialist Study**
Dr. Patsy Scherman	Scherman Environmental cc.	Ecological (Aquatic and Terrestrial) Impact Assessments
Mr Peter Velcich	NuLeaf Planning and Environmental (Pty) Ltd	Visual Impact Assessment
Ms. Mariné Pienaar	Terra Africa	Soil and Agricultural Impact Assessment
Ms. Jenna Lavin	CTS Heritage	Heritage (Archaeological and Palaeontological) Impact Assessment
Mr. Chris van Rooyen	Chris van Rooyen Consulting	Avifaunal Impact Assessment

SECTION 4: LEGISLATIVE OVERVIEW

4.1 GENERAL

The construction phase activities included as part of the EMPr are in respect of any future construction, upgrades, or expansions at the site. Construction and operation shall be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor and operator as to their duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMPr are legally binding in terms of this contract.

4.2 STATUTORY AND OTHER APPLICABLE LEGISLATION

The contractor and operator are deemed to have made themselves conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract. Major environmental legislation, as amended from time to time, includes but is not limited to the following:

4.2.1 The Constitution (No. 6 of 1996)

The Constitution states that everyone has the right to an environment that is not harmful to their health or well-being, and to have the environment protected through reasonable legislative and other measures to prevent pollution and ecological degradation; promote conservation and ensure ecologically sustainable development and use of natural resources.

4.2.2 Conservation of Agricultural Resources Act (No. 43 of 1983) (CARA)

This act provides for control over the utilisation of the natural agricultural resources of South Africa in order to promote the conservation of soil, water sources and vegetation, as well as combating weeds and invader plants.

4.2.3 Mineral and Petroleum Resources Development Act (No. 28 of 2002)

This act makes provision for equitable access to, and sustainable development of, minerals and petroleum resources.

4.2.4 National Environmental Management Act (NEMA), (No. 107 of 1998)

This act supports the Bill of Rights within the Constitution and highlights principles of sustainable development including preservation of ecosystems and biological diversity and avoidance, minimisation and remediation of pollution and environmental degradation. It also sets the stage for the control of listed activities and the procedural requirements for authorisation thereof through the Environmental Impact Assessment Regulations, 2014. Environmental authorisation must be obtained prior to the commencement of any activities listed in the EIA Regulation Listing Notices, 2014.

4.2.5 National Environmental Management: Air Quality Act (No. 39 of 2004)

This act provides reasonable measures for the prevention of pollution and ecological degradation from activities with emissions to atmosphere; and provides for specific air quality measures; for national norms and standards regulating air quality monitoring, management, and control by all spheres of government.

4.2.6 National Environmental Management: Biodiversity Act (No. 10 of 2004) (NEMBA)

This act makes provisions to accomplish the objectives of the United Nations' Convention on Biological Diversity. COM may be required to apply for permits to conduct certain listed activities which, together with the listed threatened or protected species, may be identified by the Minister. Section 73 (3) of this act empowers a competent authority to direct a person to take steps to remedy any harm to biodiversity resulting from the actions of that person or as a result of occurrence of listed invasive species occurring on land on which that person is the owner.

4.2.7 National Environmental Management: Protected Areas Act (No. 57 of 2003)

This act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity, natural landscapes, and seascapes.

4.2.8 National Environmental Management: Waste Act (No. 59 of 2008)

This act aims to regulate waste management practices through provision of national norms and standards, specific waste measures, licensing and control of waste activities, remediation of contaminated land as well as providing for compliance and law enforcement. It sets the stage for the control of listed waste management activities and the procedural requirements for authorisation thereof through the Environmental Impact Assessment Regulations, 2014.

4.2.9 National Forests Act (No. 84 of 1998)

This act makes provision for promoting the sustainable management and development of forests, and for the protection of certain forests and trees for environmental, economic, educational, recreational, cultural, health and spiritual purposes.

4.2.10 National Heritage Resources Act No. 25 of 1999)

This act provides for an integrated and interactive system for identification, assessment, and management of South Africa's heritage resources, and empowers civil society to nurture and conserve their heritage resources. It provides for the control of specific activities that could impact heritage resources and for the procedural requirements for authorisation thereof from the heritage authority. Importantly, the Provincial Heritage Authority, Western Cape Heritage Resources Agency, must be notified immediately if any items of cultural heritage importance are noted during construction activities.

4.2.11 National Water Act (Act No. 36 of 1998)

This act makes provision for the protection of surface water and groundwater and their sustainable management for the prevention and remediation of the effects of pollution, as well as for the management of emergency situations. Authorisation is required for any activity which may compromise the water resource quality objectives.

SECTION 5: ROLES AND RESPOPNSIBILITIES

To achieve the goals set out in this EMPr there are responsibilities that need to be defined for the following key roles (Table 4.1):

- Project Developer;
- Environmental Control Officer (ECO); and
- Lead Contractor.

Table 4.1: Roles and responsibilities associated with the construction, operation and decommissioning of the proposed development of the supporting infrastructure in line with this EMPr.

Role	Responsibilities
Authority	Department of Forestry, Fisheries and the Environment (DFFE) is the designated authority responsible for authorising this EMPr. DFFE has overall responsibility for ensuring that the Project Developer complies with the conditions of its Environmental Authorisation (EA) as well as this EMPr. DFFE shall also be responsible for approving any amendments that may be required to the EMPr. In terms of Section 30 of NEMA, DFFE is to be notified immediately should there be an incident on site where the release of a hazardous substance was unexpected, sudden, and uncontrolled, including from a major emission, fire, or explosion, that causes, has caused, or may cause significant harm to the environment, human life, or property.
Project Developer (Msenge Emoyeni Wind Farm (Pty) Ltd)	The Project Developer is the 'owner' of the project and, as such, has the following responsibilities: • Be familiar with the recommendations and mitigation measures of this EMPr; • Ensure that the conditions of the Environmental Authorisation issued in terms of NEMA are fully adhered to; • Ensure that other necessary permits or licenses are obtained and complied with; • Appoint the ECO and the Lead Contractor. It is proposed that Msenge Emoyeni Wind Farm (Pty) Ltd will implement the Self-Build Option for the supporting electrical infrastructure to be constructed.
Principal Agent	For the purposes of this document the "Principal Agent" refers to any person (such as the architect, engineer, or project manager) authorised by Msenge Emoyeni Wind Farm (Pty) Ltd to oversee the planning, design, and construction phases of the project. Any on-site decisions regarding environmental management are ultimately the responsibility of the Principal Agent, who will report to the Proponent. The responsibilities of the Principal Agent are to: • Ensure that the requirements as set out in this EMPr and by the relevant Authorities are adhered to and implemented. • Assist the ECO in ensuring that the conditions of the EMPr are being adhered to and promptly issuing instructions requested by the ECO, to the Contractor. All site instructions pertaining to environmental matters issued by the Principal Agent are to be copied to the ECO. • Ordering the removal of person(s) and/or equipment not complying with the specifications or issuing a stop works order (as required by the ECO or otherwise). • Issuing of penalties for transgressions of environmental site specifications. • Providing input into the ECO's ongoing internal review of the EMPr. • Training of contractors on environmental matters • Management of the contractors in terms of the EMP. • Review of contractor method statements.

Contractor	The Contractor and its sub-constructors are responsible for overall execution of the activities envisioned in the construction phase, including implementation and compliance with the recommendations and conditions specified in this EMPr. Furthermore, the Contractor's responsibilities are to: • Ensure that all appointed contractors and sub-contractors are aware of this EMPr and their responsibilities in relation to the plan; • Meet on-site with the Project Developer's ECO prior to the commencement of construction activities to confirm the construction procedure and designated activity zones; • Ensure that each subcontractor employ an ECO (or have a designated ECO function) to monitor and report on the daily activities on-site during the construction period; • Implement the overall construction programme, project delivery and quality control for the construction of the grid project; • Oversee compliance with the Health, Safety and Environmental Responsibilities specific to the project management related to project construction; • Promote total job safety and environmental awareness by employees, contractors and sub-contractors and stress to all employees and contractors and sub-contractors the importance that the project proponent attaches to safety and the environment; • Ensure that safe, environmentally acceptable working methods and practices are implemented and that sufficient plant and equipment is made available properly operated and maintained, to facilitate proper access and enable any operational to be carried out safely; Ensure that all appointed contractors and sub-contractors repair, at their own cost, any environmental damage as a result of a contravention of the specifications contained in the EMPr, to the satisfaction of the Project Developer's ECO.
ECO	Responsibilities of the ECO are to: • Oversee the implementation of the EMPr during the construction and operational phases, monitoring environmental impacts; • Record-keeping and monitoring of compliance with conditions of the Environmental Authorisation; • Ensure compliance to the plans included in the EMPr following approval of the Final EMPr. The lead contractor and sub-contractors may have their own ECOs, or designate ECO functions to certain personnel.

SECTION 6: EMPr FOR THE PROPOSED ACCESS TRACKS AND WATER COURSE CROSSINGS ASSOCIATED WITH DEVIATION OF THE AUTHORISED MSENGE EMOYENI POWERLINE (PLANNING & DESIGN, CONSTRUCTION, OPERATIONAL PHASE, DECOMMISSIONING PHASE)

6.1 PLANNING AND DESIGN PHASE

1. Site Establishment						
Impact Management Outcome: Impacts on the environment are minimised during site establishment and the development footprint are kept to demarcated development area.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ A method statement must be provided by the contractor prior to any onsite activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management;	Contractor	Development a method statement	Pre-Construction	ECO dEO	Once, prior to construction	Method statement which complies with the minimum requirements listed

▪ Location of construction camps must be within approved area to ensure that the site does not impact on sensitive areas identified in the environmental assessment or site walk through;	DPM	Place construction camps outside of sensitive areas	Pre-Construction	ECO dEO	Once, prior to construction	Layout and sensitivity map indicating avoidance of sensitive areas
▪ Sites must be located where possible on previously disturbed areas	DPM	Place sites within previously disturbed areas where possible	Pre-Construction	ECO dEO	Once, prior to construction	Layout and sensitivity map indicating avoidance of sensitive areas
▪ The main contractor's camp layout must make provision for (where applicable): ▪ Access off the road network and visitor / staff parking facilities. ▪ Site office facilities and a structure to shelter security staff. ▪ Ablution facilities and a potable water source . ▪ Designated cooking or eating areas. ▪ Hazardous material / chemical storage and fuel storage. ▪ Equipment cleaning areas. ▪ Waste storage and wastewater management infrastructure. ▪ Plant parking facilities and a vehicle refuelling/maintenance area/s. ▪ Emergency equipment storage areas including fire extinguishers and first aid kits. ▪ Laydown areas, batching plant and materials storage.	DPM	Provide layout of construction camp with designated areas	Pre-Construction	ECO dEO	Once, prior to construction	Layout map indicating designated areas

▪ The camp must be fenced in accordance with Section 6.1: **Fencing and gate installation (Planning and design phase) of the Generic EMPr;**	DPM	Fencing as per the requirements of Section 6.1. Fencing and gate installation of this EMPr	Pre-Construction	ECO dEO	Once, prior to construction	Camp is fenced in accordance with Section 6.1: Fencing and gate installation of the Generic EMPr
▪ The use of existing accommodation for contractor staff, where possible, is encouraged.	Not applicable – the development of new accommodation is not proposed.	Development a method statement	Pre-Construction	ECO dEO	Once, prior to construction	Method statement which complies with the minimum accommodation requirements listed
▪ All workers will agree to the Code of Conduct and be aware that contravention of the Code could lead to dismissal ▪ All directly affected and neighbouring farmers will be able to lodge grievances with Msenge Emoyeni Wind Farm (Pty) Ltd using the Grievance Procedure.	Project Developer DPM Contractor	Development of a grievance mechanism procedure and Code of Conduct.	Pre-Construction and Construction	Contractor	Prior to commencement of construction and on-going during construction	Signed of Code of Conduct by employees. Grievance mechanism procedure document.

2. Access roads						
Impact Management Outcome: Minimise impact to the environment through the planned and restricted movement of vehicles on site.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Access to the powerline servitude must be negotiated with the relevant landowner and must fall within the assessed and authorised area;	DPM	Negotiations for access to the with landowners affected by the grid connection corridor	Pre-construction Construction Operation	dEO	Continuous	Written and signed agreements
▪ An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities;	DPM Contractor	Access agreements with the affected landowners.	Pre-construction	dEO /ECO	Once, prior to construction	Written and signed agreements
▪ The access roads must be signposted after access has been negotiated and before the commencement of the activities;	Contractor	Signs to indicate access for the project	Pre-construction	cEO / ECO	Once, prior to construction	Photographic record of signposted access roads

▪ All contractors must be made aware of all the access routes.	Contractor	Provide a map showing all access routes associated with the project	Pre-construction Construction Operation	ECO	Construction	Access routes map available
▪ Maximum use of both existing servitudes and existing roads must be made to minimise further disturbance through the development of new roads;	Contractor	Existing access routes to be used must be specified and the development of new roads must be avoided	Pre-construction Construction Operation	cEO / ECO	Continuous	Implement approved layout
▪ Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands;	DPM Contractor	Design access roads to follow fence lines and avoid vegetated areas	Pre-construction	ECO	Once, prior to construction	Implement approved layout
▪ Access roads must only be developed on pre-planned and approved roads.	Contractor	Construction of access roads only on pre- planned and approved roads	Construction	ECO dEO	Once, prior to construction	Implement approved layout

3. Fencing and Gate installation						
Impact Management Outcome: Minimise impact to the environment and ensure safe and controlled access to the site through the erection of fencing and gates where required.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Use existing gates provided to gain access to all parts of the area authorised for development, where possible;	Contractor	Identify and inform all relevant staff of the existing gates to be used	Pre-construction & Construction	dEO	Monthly	Existing gates are utilised on a frequent basis and only limited new access gates are developed

4. Protection of watercourses						
Impact Management Outcome: Pollution and contamination of the watercourse environment and or estuary erosion are prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Existing crossing points must be favoured over the creation of new crossings (including temporary access)	DPM, cEO	Develop a management plan or process for implementation should a spill take place within a watercourse and ensure continually monitoring	Pre- construction and construction	ECO, dEO	During the construction phase of the project.	Existing crossing points utilised as opposed to new ones created and no incidents reported of spillage of pollutants into watercourses
▪ When working in or near any watercourse, the following environmental controls and consideration must be taken: a) Water levels during the period of construction; No altering of the bed, banks, course or characteristics of a watercourse b) During the execution of the works, appropriate measures to prevent pollution and contamination of the riparian environment must be implemented e.g. including ensuring that construction equipment is well maintained; c) Where earthwork is being undertaken in close proximity to any watercourse, slopes must be stabilised using suitable materials, i.e. sandbags or geotextile fabric, to prevent sand and rock from	Contractor	Activities undertaken near watercourses must be in-line with and consider the specified environmental controls	Pre- construction and construction	ECO	Monthly, and as and when required	No degradation of the watercourses and no incidents of destruction reported

entering the channel; and d) Appropriate rehabilitation and re-vegetation measures for the watercourse banks must be implemented timeously. In this regard, the banks should be appropriately and incrementally stabilised as soon as development allows.						
▪ Sensitivity maps have been developed for the study area, indicating the freshwater environments, their relevant buffer zones and regulatory zones in accordance with the National Environmental Management Act (Act 107 of 1998). It is recommended that these sensitivity maps be considered during all phases of the development and with special mention of the planning of infrastructure layout, to aid in the conservation of the freshwater habitats and environmental resources within the study area; ▪ Sensitive laydown such as chemical toilets must be placed in low sensitivity areas. ▪ The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas; ▪ Prohibit workers from moving outside of the buffer zones, even when on break, to reduce foot traffic which homogenises the landscape and functions as a vector for invasive floral species. ▪ Planning of temporary roads and access routes should take the site. All areas of increased ecological sensitivity should be marked as such and be off limits to all unauthorised construction and maintenance vehicles and personnel; ▪ The applicant must apply to the Department of Water and Sanitation for a Water Use License (WUL) or General Authorisation should any development occur within the 500 m regulated area from the boundary of a wetland; ▪ The applicant must apply for a WUL should development falls within 100 m from a water course or 1:100 year floodline.	Relevant specialist in consultation with the Project Developer	Final layout finalised in consultation with aquatic specialist	Pre-construction	Project Developer	Once-Off prior to commencement of construction	Final layout indicating sensitivities of the site, buffers zones and no-go areas. Relevant WUL or GA on file.

▪ Develop and adhere to a waste and chemical management protocol to ensure the by products of construction are not exported into the natural system. Take extra precaution when close to drainage lines and	Contractor	Final layout finalised in consultation with aquatic specialist	Pre-construction	Contractor/ECO	Once-Off prior to commencement of construction and on-going	Evidence of waste and chemical management being audited
▪ Develop and adhere to an alien species management plan.	Contractor	Develop an alien invasive species management plan to be implemented	Construction	ECO	Monthly	Photographic evidence of alien vegetation clearing on a monthly basis and as per the ECO monitoring reports.
Impact Management Outcome: Destruction of freshwater resources.						
▪ Avoid loss of the integrity of freshwater features through use of developed sensitivity maps and do not plan for construction in the buffer region of the freshwater resources	Relevant specialist in consultation with the Project Developer	Final layout finalised in consultation with aquatic specialist	Pre-construction	Project Developer	Once-Off prior to commencement of construction	Final layout indicating sensitivities of the site, buffers zones and buffer zones

5. Vegetation clearing						
Impact Management Outcome: Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Search, rescue and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing;	Relevant specialist in consultation with the Contractor	Develop and implement a Plant Search and Rescue Plan	Pre-construction & Construction	ECO	Weekly, and as and when required	Implementation of the Plant Search and Rescue Plan and photographic evidence and notes of the implementation of the plan
▪ Permits for removal must be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF) prior to the cutting or clearing of the affected species, and they must be filed;	DPM	Undertake the permitting process in order to obtain he relevant permits for the removal of protected species. Permits kept on file	Pre-construction	ECO	Once, prior to the commencement of the construction phase and removal of the protected species	DAFF permits on file

6. Protection of fauna						
Impact Management Outcome: Minimise disturbance to fauna.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present;	dEO / cEO Contractor	Develop a procedure for dealing with livestock within the affected properties	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and as and when required during the construction phase	Written consent provided by the landowner and proof of representation of the landowner during interference
▪ No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without appropriate authorisations/permits.	DPM in consultation with the dEO	Undertake a permitting process to obtain the required permits	Pre-construction	Project Developer	Once, prior to the commencement of construction and as and when required	Permits for removal and/relocation must be kept on file

7. Protection of heritage resources						
Impact Management Outcome: Minimise impact to heritage resources.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Identify, demarcate and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in Section 6.2: **Access restricted areas (Construction phase) of the Generic EMPr**;	DPM and a suitably qualified specialist dEO / cEO in consultation with the Contractor and ECO	Undertake a Heritage Impact assessment to Spatially identify and demarcate areas of heritage significance and as per the requirements of Section 6.2: Access restricted areas (construction phase)	Pre-construction	ECO	Once, prior to the commencement of construction	Proof of avoidance of sensitive heritage features through details of avoidance and photographic records
▪ On-going Construction Phase monitoring for fossils of surface clearance and excavations by ECO / ESO.	Project Developer	Qualified Archaeologist and/or Palaeontologist to be appointed to provide training to ECO to identify potential fossil finds.	Prior to commencement of construction.	ECO	Once-off prior to construction and weekly during construction.	Archaeologist and/or palaeontologist appointed, report compiled and submitted to SAHRA. Fossil finds to be recorded and reported in in audit reports and proof of communication with SAHRA or specialist.

▪ The recommendations of the VIA must be implemented.	Project Manager/ dEO	Implement the VIA recommendation	Design phase and during construction.	ECO / Visual Impact Specialist	Monthly	Adherence to all the VIA recommendations
▪ A no-go 30m buffer must be implemented around Site 87039 to ensure that no impact takes place. The OHL can pass over the kraal if necessary.	Project Manager/ dEO	Fence the site 87039 according to the 30m buffer distance prescribed	Design phase and during construction.	ECO	Monthly	Buffer created and buffered site are not disturbed or impacted
▪ The pylon footings of the proposed OHL are not located within any kloofs or river valleys to mitigate the likelihood of impact to significant archaeological heritage	Project Manager/ dEO	Keep pylon footings from any kloofs or river valleys to mitigate the likelihood of impact to significant archaeological heritage	Design phase and during construction.	ECO	Monthly	No kloofs or river valleys disturbed by pylons

8. Safety of the public						
Impact Management Outcome: All precautions are taken to minimise the risk of injury, harm or complaints.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels etc.;	cEO in consultation with the Contractor	Develop an Emergency Preparedness, Response and Fire Management Plan specific to the project	Pre-construction Construction	ECO	Once, prior to the commencement of construction and weekly during the construction phase	Compliance with the Emergency Preparedness, Response and Fire Management Plan

9. Sanitation						
Impact Management Outcome: Clean and well-maintained toilet facilities are available to all staff in an effort to minimise the risk of disease and impact to the environment						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ The use of ablution facilities and or mobile toilets must be practised at all times and no indiscriminate use of the veld for the purposes of ablutions must be permitted under any circumstances;	Contractor in consultation with the cEO	All site staff must be informed of this requirement during the Environmental Awareness Training and the consequences of not adhering to the requirement	Pe-construction & Construction	ECO	Monthly, and as and when required	No evidence of non-compliance identified

10. Prevention of disease						
Impact Management Outcome: All necessary precautions linked to the spread of disease are taken.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV/ AIDS, COVID 19;	cEO / Contractor in consultation with the ECO	The effects of sexually transmitted diseases and HIV/ AIDS and COVID 19 must be covered in the Environmental Awareness Training	Pre-construction & Construction	ECO	Once, prior to the commencement t of construction and monthly during construction	Environmental awareness training material requirements checklist
▪ Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable;	cEO / Contractor in consultation with the ECO	Information and education of sexually transmitted diseases must be covered in the Environmental Awareness Training.	Pre-construction & Construction	ECO	Monthly	Environmental awareness training material requirements checklist

11. Emergency procedures						
Impact Management Outcome: All necessary precautions linked to the spread of disease are taken.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project	Contractor	Develop an Emergency Preparedness, Response and Fire Management Plan specific to the project	Pre-construction	ECO	Once, prior to the commencement of construction	Emergency Preparedness, Response and Fire Management Plan compiled
▪ The Emergency Response Action Plan (ERAP) must deal with accidents, potential spillages and fires in line with relevant legislation;	Contractor	Develop an Emergency Preparedness, Response and Fire Management Plan specific to the project which covers accidents, potential spillages and fires	Pre-construction	ECO	Once, prior to the commencement of construction	Emergency Preparedness, Response and Fire Management Plan includes required specifications
▪ All staff must be made aware of emergency procedures as part of environmental awareness training;	cEO / dEO in consultation with the ECO	Develop environmental awareness training material which covers the relevant emergency procedures	Pre-construction	ECO	Prior to the commencement of construction	Environmental awareness training material requirements checklist

12. Hazardous substances						
Impact Management Outcome: Emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ The use and storage of hazardous substances to be minimised and non-hazardous and non-toxic alternatives substituted where possible;	cEO in consultation with the Contractor	Develop a strategy of how hazardous substances can be and should be minimised	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Contractor to provide evidence of substances used for proof of compliance
▪ All hazardous substances must be stored in suitable containers as defined in the Method Statement;	Contractor	Develop a Method Statement for the storage of hazardous substances in suitable containers	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Photographic proof that hazardous substances are stored in suitable containers as per the requirements of the relevant Method Statements
▪ Containers must be clearly marked to indicate contents, quantities and safety requirements;	Contractor	Develop a Method Statement for the storage of hazardous substances in suitable containers	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Photographic proof that hazardous substances are stored in suitable containers as per the requirements of the relevant Method Statements

▪ All employees working with Hazardous Chemical Substance (HCS) must be trained in the safe use of the substance and according to the safety data sheet.	cEO / Contractor	Provide training for personnel working with HCS	Pre-construction	ECO	Once, prior to the commencement of construction and as and when required	Record of training provided to personnel working with HCS
▪ Employees handling hazardous substances / materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available;	cEO / Contractor	Develop environmental awareness training material which covers the relevant impacts and safety measures. Provide appropriate training and personal protective equipment for the relevant personnel handling hazardous substances and materials equipment for the relevant personnel handling hazardous substances and materials	Pre-construction & Construction	ECO	Prior to the commencement of the environmental awareness training and monthly during the construction phase for personal protective equipment	Environmental awareness training material requirements checklist and all relevant personnel have undergone appropriate training and have access to personal protective equipment
▪ The responsible operator must have the required training to make use of the spill kit in emergency situations;	cEO and Contractor	Provide training on the use of spill kits to the relevant employees	Pre-construction	ECO	Once, prior to the commencement of construction	Proof of training to be provided by the contractor

13. Noise						
Impact Management Outcome: Unnecessary noise is prevented by ensuring that noise from construction activities is mitigated.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Develop a Code of Conduct for the construction phase in terms of behaviour of construction staff. Operating hours as determined by the environmental authorisation are adhered to during the development phase. Where not defined, it must be ensured that development activities must still meet the impact management outcome related to noise management.	cEO and Contractor in consultation with the ECO	Compile a Code of Conduct for staff. Appropriate operating hours must be identified for the project.	Pre-construction and Construction	ECO	Once, prior to the commencement of construction	No complaints registered in this regard.

14. Fire prevention						
Impact Management Outcome: Prevention of uncontrollable fires.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Designate smoking areas where the fire hazard could be regarded as insignificant;	cEO / Contractor	Identify and demarcate through signage designated smoking areas	Pre-construction & Construction	ECO	Monthly	Photographic record of designated smoking area
▪ No fires to be lit on the site	cEO / Contractor	Inform through awareness training	Pre-construction & Construction	ECO	Monthly	Proof of awareness training
▪ The local Fire Protection Agency (FPA) must be informed of construction activities;	cEO in consultation with the ECO	Undertake formal consultation to inform the local FPA of the associated construction activities	Pre-construction	ECO	Once, during the commencement of the Construction Phase	Proof of consultation with the FPA

▪ Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site;	dEO / cEO / Contractor in consultation with the ECO	Develop environmental awareness training material which covers the contact numbers for the FPA and emergency services. Place the contact numbers for the FPA and emergency services at a visible and central location	Pre-construction & Construction	ECO	Prior to the commencement of the environmental awareness training and once during the construction phase	Environmental awareness training material requirements checklist and photographic record of contact numbers on display
▪ Two-way swop of contact details between ECO and FPA.	ECO	Consultation between the ECO and FPA in order to exchange contact details	Pre-construction	Not Applicable		

15. Stockpiling and stockpile areas						
Impact Management Outcome: Erosion and sedimentation as a result of stockpiling are reduced.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order to minimise impacts to watercourses, watercourses and water bodies;	Contractor	Identify and demarcate an appropriate location for the storage of excavated materials	Pre-construction & Construction	ECO	Monthly	Excavated material is not stored within sensitive environmental areas

16. Visual						
Impact Management Outcome: Socio-economic development is enhanced.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Construction camps will be clearly defined and limited in size to that which is essential and located as per the approved layout in accordance with the impact management actions included in Section 6.1; Site Establishment development (Planning and design phase) of the Generic EMPr. ▪ Commercial messages, symbols and/logos are not permitted on structures. ▪ Keeping infrastructure at minimum heights. ▪ Visually break up large bulky buildings into smaller, subtler, less prominent shapes and planes. ▪ Plan ancillary infrastructure in such a way and in such a location that clearing of vegetation is minimised.	Contractor	Development a method statement	Pre-Construction	ECO dEO	Once, prior to construction	Method statement which complies with the minimum requirements listed
▪ Servitudes to be maintained along the length of the proposed access roads along the powerlines.	Contractor	Maintain the width of the access roads as planned including the number of water course crossings.	Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Evidence of well maintained access track lengths.

▪ Use existing roads wherever possible. Where new roads are required, these should be planned carefully, taking due cognisance of the local topography. All efforts should be employed to try and align roads along the landscape contours wherever possible.	Contractor	Construction of roads should be undertaken properly, with adequate drainage structures in place to forego potential erosion problems	Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	No evidence of unnecessary creation of new access roads.
▪ Maintain the general appearance of the site as a whole. ▪ Respond to the natural environment during the planning of buildings and infrastructure. ▪ Consolidate development and make use of already disturbed sites rather than pristine areas. ▪ Retain / re-establish and maintain natural vegetation in all areas outside of the development footprint. ▪ Retain / re-establish and maintain large trees, natural features and noteworthy natural vegetation in all areas outside of the activity footprint. ▪ Retain / re-establish and maintain natural vegetation in all areas outside of the development footprint. ▪ Plan ancillary infrastructure in such a way and in such a location that clearing of vegetation is minimised. Consolidate existing infrastructure as much as possible, and make use of already disturbed areas rather than pristine sites wherever possible. ▪ Introducing landscaping measures such as vegetating berms	Project Manager/ dEO	Implement the VIA recommendation	Design phase and during construction.	ECO / Visual Impact Specialist	Monthly	Adherence to all the VIA recommendations

▪ Wherever possible, use materials, coatings, or paints that have little or no reflectivity. ▪ Avoid the use of highly reflective material.	Contractor	Ensure all security and outdoor lights are fitted with reflectors and berms are created or vegetation is planted to provided screening where lighting is necessary	Construction	ECO	Monthly	Photographic evidence
▪ Lighting should be kept to a minimum wherever possible. ▪ Install light fixtures that provide precisely directed illumination to reduce light "spillage" beyond the immediate surrounds of the activity – this is especially relevant where the edge of the activity is exposed to residential properties. ▪ Wherever possible, lights should be directed downwards to avoid illuminating the sky. ▪ Avoid high pole top security lighting along the periphery of the site and use only lights that are activated on movement. ▪ Shield the sources of light by physical barriers (walls, vegetation, or the structure itself). ▪ Limit mounting heights of lighting fixtures, or alternatively use foot-lights or bollard level lights. ▪ Make use of minimum lumen or wattage in fixtures. ▪ Make use of down-lighters, or shielded fixtures. ▪ Make use of Low-Pressure Sodium lighting or other types of low impact lighting. ▪ Make use of motion detectors on security lighting. This will allow the site to remain in relative darkness, until lighting is required for security or maintenance purposes.	Contractor	Ensure all security and outdoor lights are fitted with reflectors and berms are created or vegetation is planted to provided screening where lighting is necessary	Construction	ECO	Monthly	Photographic evidence

17. Socio-economic						
Impact Management Outcome: Socio-economic development is enhanced.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Develop and implement communication strategies to facilitate public participation;	dEO / cEO	Identify and implement appropriate strategies for communication with the communities through consideration of the community needs	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction	Communication is undertaken as per the identified strategies and no complaints are submitted regarding communication
▪ Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process;	Contractor	Development and implement a Grievance Mechanism which considers the community needs and provides procedures for conflict resolution	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Conflict resolution is undertaken in line with the requirements of the Grievance Mechanism. No complaints on conflict resolution is submitted by the community

▪ All abutting neighbours (or as required) must be notified of the proposed construction phase activities at least two weeks before they commence.	dEO / cEO	Notify neighbours to inform start date of construction	Pre-construction	ECO	Once, prior to the commencement of construction	Evidence of notifications
▪ Sustain continuous communication and liaison with neighbouring owners and residents	Contractor	Development and implementation and Grievance Mechanism provides procedures for communication / liaison with neighbouring landowners and residents	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Communication / liaison with neighbouring landowners and residents are undertaken in line with the requirements of the Grievance Mechanism. No complaints on communication with neighbouring landowners and residents is submitted

▪ Undertake a 'locals first' policy with regard to construction labour needs and create work and training opportunities for local stakeholders; and	Contractor	Develop and implement a "locals first" policy for the provision of employment opportunities	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	The "locals first" policy is considered in terms of the employment and training opportunities
▪ The Developer will establish a recruitment and procurement policy which sets reasonable targets for the employment of South African and local residents /suppliers (originating from the local municipality) and promote the employment women as a means of ensuring that gender equality is attained. Criteria will be set for prioritising, where possible, local (local municipal)residents/suppliers over regional or national people/suppliers. All contractors will be required to recruit and procure in terms of the developer's recruitment and procurement policy. ▪ The Developer will work closely with relevant local authorities, community representatives and organisations to ensure that the use of local labour and procurement is maximised. ▪ Ensure that the appointed project contractors and suppliers have access to Health, Safety, Environmental and Quality training as required by the project. This will help to ensure that they have future opportunities to provide services to the sector.	Project Developer	Development of a recruitment and procurement policy. Ensure that employment of local people is maximised and procurement of local, regional and national services is maximised Provision of training to workers to facilitate future opportunities in the sector.	Pre-construction & construction	Project Developer	Once, prior to the commencement of construction and monthly during the construction phase	Proof of recruitment and procurement policy documentation. Proof of training undertaken in the form of signed attendance registers.

18. Landscaping and Rehabilitation						
Impact Management Outcome: Minimise the risk of environmental impact during periods of site closure greater than five days.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning & Design Phase						
▪ Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly;	Contractor	Stabilise slopes as per the design specifications	Pre-construction & Rehabilitation	ECO	Weekly	Slopes are stabilised as per the design specifications

19. Soil and Agricultural Potential						
Impact Management Outcome: Prevention of loss of agricultural land						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Planning Phase						
▪ Minimise disruption to agricultural activities and loss of agricultural land. ▪ Vegetation clearance must be restricted to area where the access road needs to be widened.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase.	During the entire construction and operational phases	ECO	Prior to construction and ongoing	Reporting in monthly audit reports.

6.2 CONSTRUCTION PHASE

20. General						
Impact Management Outcome: Compliance with the Environmental Management Programme						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Ensure that the EMP is available at the site during construction of access roads and water course crossings.. ▪ Ensure that equipment is in place to meet EMP requirements. ▪ Signed commitment from subcontractors to compliance with EMP.	Contractor	The approved EMPr is kept on file at the site offices. All equipment storage areas, laydown areas, construction camp, toilets must be located as per the EMPr and final layout. All contractors are required to sign for acknowledgement and commitment to the EMPr.	Construction	Contractor/ ECO	On-going during construction	Evidence of EMPr on site at the construction camp site offices. Placement of infrastructure and compliance as per photographic evidence provided by the ECO's audit reports. Proof of signed commitment to the EMPr to be kept on file at the construction camp site offices for auditing purposes.

21. Health and Safety						
Impact Management Outcome: Ensure the health and safety of subcontractors and site users						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ A health and safety plan must be developed by the contractor prior to the commencement of construction to identify and avoid work related accidents. This plan must be adhered to by the appointed construction contractors and meet Occupational Health and Safety Act (OHSAct), Act 85 of 1993, requirements. ▪ Appropriate PPE must be worn by construction personnel.	Project Developer / Contractor	The Health & Safety Plan must be implemented.	Construction	Contractor /ECO	Continuous	Agreement of appointed contractors acceptance of Health & Safety plan as part of the contract.

22. Environmental Awareness Training						
Impact Management Outcome: All onsite staff are aware and understand the individual responsibilities in terms of this EMPr.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ All staff must receive environmental awareness training prior to commencement of the activities	ECO / cEO / dEO	Environmental awareness training workshops	Construction	ECO / dEO	Monthly and as and when required	Attendance register
▪ Environmental training should be undertaken in English and the second most spoken language of the project area.	ECO / cEO / dEO	An interpreter should be provided as required	Construction	ECO / dEO	Monthly and as and when required	Environmental awareness training material
▪ The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course;	Contractor	Scheduling of sufficient sessions through consultation with the ECO / cEO / dEO	Construction	ECO / dEO	Monthly and as and when required	Attendance register
▪ Refresher environmental awareness training is available as and when required;	ECO / cEO / dEO	Refresher environmental awareness training workshops	Construction	ECO / dEO	Monthly and as and when required	Attendance register
▪ All staff are aware of the conditions and controls linked to the EA and within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr;	ECO / cEO / dEO	Ensure that the EA and EMPr is readily available	Construction	ECO / dEO	Monthly and as and when required	Attendance register

▪ The Contractor must erect and maintain information posters at key locations on site, and the posters must include the following information as a minimum: a) Safety notifications; and b) No littering	Contractor	Place appropriate posters at key locations	Construction	ECO / dEO	Monthly and as and when required	Photographic record
▪ Environmental awareness training must include as a minimum the following: a) Description of significant environmental impacts, actual or potential, related to their work activities; b) Mitigation measures to be implemented when carrying out specific activities; c) Emergency preparedness and response procedures; d) Emergecy procedures; e) Procedures to be followed when working near or within sensitive areas; f) Wastewater management procedures; g) Water usage and conservation; h) Solid waste management procedures; i) Sanitation procedures; j) Fire prevention; and k) Disease prevention.	ECO / cEO / dEO	Environmental awareness training material	Construction	ECO / dEO	Monthly and as and when required	Environmental awareness training material requirements checklist
▪ A record of all environmental awareness training courses undertaken as part of the EMPr must be available;	ECO / cEO / dEO	Filing system including all proof of training	Construction	ECO / dEO	Monthly and as and when required	File with environmental awareness training course material and proof of training

▪ Educate workers on the dangers of open and/or unattended fires;	ECO / cEO / dEO	Environmental awareness training material	Construction	ECO / dEO	Monthly and as and when required	Environmental awareness training material requirements checklist
▪ A staff attendance register of all staff to have received environmental awareness training must be available.	ECO / cEO / dEO	Filing system including all proof of training	Construction	ECO / dEO	Monthly and as and when required	File with proof of training
▪ Course material must be available and presented in appropriate languages that all staff can understand	ECO / cEO / dEO	Environmental awareness training material in the required languages	Construction	ECO / dEO	Monthly and as and when required	File with proof of training in appropriate languages

23. Access Restricted Areas						
Impact Management Outcome: Access to restricted areas prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Identification of access restricted areas is to be informed by the environmental assessment, site walk through and any additional areas identified during development;	ECO / cEO / dEO	Demarcate access restricted areas	Commencement and for the duration of the construction phase	ECO	Continuous	Photographic evidence
▪ Access to the site must be limited and all construction staff and machinery must remain within the demarcated construction area. ▪ The security needs to restrict access to the WEF and powerline corridor with a controlled access point and locked gates along the R350 and other district roads.	ECO / cEO / dEO	Access control must be implemented	Commencement and for the duration of the construction phase	ECO	Continuous	Access control register
▪ Erect, demarcate and maintain a temporary barrier with clear signage around the perimeter of any access restricted area, colour coding could be used if appropriate; and	ECO / cEO / dEO	Erect appropriate temporary barriers around access restricted areas	Commencement and for the duration of the construction phase	ECO	Continuous	Photographic evidence
▪ Unauthorised access and development related activity inside access restricted areas is prohibited	ECO / cEO / dEO	Erect appropriate temporary barriers around access restricted areas	Commencement and for the duration of the construction phase	ECO	Continuous	Photographic evidence

24. Access Roads						
Impact Management Outcome: Minimise impact to the environment through the planned and restricted movement of vehicles on site.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ All private roads used for access to the servitude must be maintained and upon completion of the works, be left in at least the original condition	Contractor	Undertake maintenance activities on private roads used for construction	Construction	cEO / ECO	Continuous	Photographic record of access roads tracking condition
▪ All contractors must be made aware of all the access routes.	Contractor	Provide a map showing all access routes associated with the project	Pre-construction Construction Operation	ECO	Construction	Access routes map available
▪ Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense;	Contractor	All access routes developed that are not in-line with the access route agreements must be closed and re-habilitated	Construction	ECO	Continuous	Photographic record of the closure of access roads and re-vegetation
▪ Maximum use of both existing servitudes and existing roads must be made to minimise further disturbance through the development of new roads; ▪ The minor detouring of service roads to use existing farm tracks, the existing service track for the existing Poseidon-Albany OHL, wise use of contours and avoiding species rich rocky outcrops. Road width and construction material storage needs to be	Contractor	Existing access routes to be used must be specified and the development of new roads must be avoided	Pre-construction Construction Operation	cEO / ECO	Continuous	Implement approved layout

monitored by the ECO. All species that are not listed as SCC but are transplantable (e.g. *aloe ferox, Gasteria bicolor, Crassula* spp. and *Cotyledon* spp.) could be effectively used in the Re-vegetation and Rehabilitation Plan.						
▪ In circumstances where private roads must be used, the condition of the said roads must be recorded. With photographic record; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor;	dEO / cEO	Record the conditions of private roads to be used and agree on the required condition of the roads with the landowner, DPM and contractor	Construction	ECO	Prior to road use	Photographic record of the road conditions
▪ Access roads must only be developed on pre-planned and approved roads. ▪ The width of the road networks needs to be kept to a minimum.	Contractor	Construction of access roads only on pre- planned and approved roads	Construction	ECO / dEO	Once, prior to construction	Implement approved layout

25. Traffic						
Impact Management Outcome: Mitigate traffic impacts						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ The **traffic management plan** will be adhered to including adherence to speed limits and 'rules of the road' ▪ All directly affected and neighbouring farmers and local residents will be able to lodge grievances with the Developer using the Grievance Procedure regarding dangerous driving or other traffic violations that could be linked to the project.	Project Developer/ Contractor	The traffic management plan and grievance mechanism procedure must be implemented	Construction	Contractor / ECO	Continuous	Compliance reporting on the traffic management plan and evidence of incidents reports as per the grievance mechanism.
Impact Management Outcome: To avoid or reduce dust generated by construction traffic						
▪ Dust Suppression of gravel roads during the construction phase, as required. ▪ Regular maintenance of gravel roads by the Contractor during the construction phase.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process.

26. Fencing and Gate Installation						
Impact Management Outcome: Minimise impact to the environment and ensure safe and controlled access to the site through the erection of fencing and gates where required.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Use existing gates provided to gain access to all parts of the area authorised for development, where possible;	Contractor	Identify and inform all relevant staff of the existing gates to be used	Pre-construction & Construction	dEO	Monthly	Existing gates are utilised on a frequent basis and only limited new access gates are developed
▪ Existing and new gates to be recorded and documented in accordance with **Access Roads**: photographic record;	ECO	Existing and new gates will be recorded and documented as per the requirements of **Access Roads**: photographic record;	Construction	ECO	Once, when the construction of all new gates have been completed	Photographic record of the existing and new gates as per the requirements of **Access Roads**: photographic record;
▪ All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner;	Contractor	Ensure all relevant gates are fitted with locks and are always locked	Construction and Operation	ECO	Continuous	All gates are locked

▪ Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided beneath the gate;	Contractor	Implement a reinforced concrete sill beneath gates installed for jackal proofing	Construction	cEO	Once, during the erection of the gates during the construction phase	New gates installed as per the requirement
▪ Original tension must be maintained in the fence wires;	Contractor	Maintain original tension of fences through required activities	Construction	ECO	Monthly	No tension reduction on fence wires
▪ All gates installed in electrified fencing must be re-electrified;	Contractor	Electrify gates installed in electrified fencing	Construction	ECO	Once, during the erection of the gates during the construction phase	Gates installed in electrified fencing is electrified
▪ All demarcation fencing and barriers must be maintained in good working order for the duration of overhead transmission and distribution electricity infrastructure development activities;	Contractor	Undertake maintenance activities on fences and barriers	Construction	ECO	Monthly	Photographic record of fences erected
▪ Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where appropriate and would not cause harm to the sensitive flora;	Contractor	Fence construction camps, batching plants, hazardous storage areas and access restricted areas. Avoid sensitive flora	Construction	ECO	Once during the erection of fencing	Photographic record of fences erected
▪ Fencing (e.g. palisade) must provide appropriate opening for animals to pass through (unless it is a confined area animals must not get into like the substation etc)– bars placed 20cm apart should provide sufficient space for the movement of small animals whilst deterring humans;	Contractor	Ensure installation specified height requirements	Construction	ECO	Once during the erection of fencing	Photographic record of fences erected

▪ If not electrified, the bottom wire of perimeter fence must be at least 15cm from the ground, and above 20cm if electrified.	Contractor	Ensure installation follows specified heigh requirements	Construction	ECO	Once during the erection of fencing	Photographic record of fences erected
▪ The use of razor wire as fencing must be avoided as far as possible;	Contractor	Razor wire must not be sourced or used for the erection of fencing	Construction	ECO	To be monitored as fencing is erected during the construction phase	Fences erected do not make use of razor wire
▪ Fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff is away from site. Site security will be required at all times;	DSS and Contractor	Ensure fenced areas are locked as required through the implementation of a formalised process. Appoint a security company	Construction	cEO	Weekly and as and when required	Fences are locked and no complaints from landowners are received. A security company is appointed
▪ On completion of the development phase all temporary fences are to be removed;	Contractor	Removal of all temporary fences	Construction	ECO dEO	Once, following the completion of the construction phase	No temporary fences associated with the project is present following the completion of the construction phase
▪ The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely.	Contractor	Appropriate removal of all fence uprights	Construction	ECO dEO	Once, following the completion of the construction phase	No fence uprights associated with the project is present following the completion of the construction

27. Terrestrial Ecology						
Impact Management Outcome: To avoid or reduce impact of Potential Impacts on vegetation and listed protected plant species (Construction Phase)						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Construction needs to be limited to the designated footprint. ▪ Construction needs to cease at night to ensure that cryptic nocturnal fauna are not harmed. ▪ All construction routes need to receive a walkthrough to flush any animals out in the immediate vicinity. A suitable specialist must be consulted to remove animals that do not move of their own accord. ▪ Responsibilities of the specialist will include checking burrows, dismantling termite mounds, and flipping rocks and logs. All encountered animals during this process need to be moved clear of the construction site to suitable site in accordance with national and provincial legislation. We must stress the importance of the controlled dismantling of termite mounds as they harbour high diversities of a wide range of small and meso-vertebrates and invertebrates. Animal densities will be higher in termite mounds in the colder months so encounter rates will definitely shift depending on the season of construction. ▪ Any individuals of protected species affected by and observed within the development footprint during construction should be translocated under the supervision of the ECO and/or Contractor's Environmental Officer (EO).	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ ECO to undertalen regular inductions keep record of inductions to new workers. ▪ Demarcation of sensitive areas is to take place following the finalisation of the project layout and a walk through of the site.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process. Proof of training and induction of employees is to be kept on file for auditing purposes.

▪ Pre-construction environmental induction for all construction staff on site to ensure that basic environmental principles are adhered to. This includes awareness to no littering, appropriate handling of pollution and chemical spills, avoiding fire hazards, minimising wildlife interactions, remaining within demarcated construction areas etc. ▪ Demarcate all areas to be cleared with construction tape or similar material where practical. However, caution should be exercised to avoid using material that might entangle fauna. ▪ ECO and/or Contractor's EO to provide supervision and oversight of vegetation clearing activities and other activities which may cause damage to the environment, especially at the initiation of the project, when the majority of vegetation clearing is taking place. ▪ All vehicles to remain on demarcated roads and no unnecessary driving in the veld outside these areas should be allowed. ▪ Regular dust suppression during construction, if deemed necessary. ▪ No plants may be translocated or otherwise uprooted or disturbed for rehabilitation or other purpose without express permission from the ECO and or Contractor's EO. ▪ No fires should be allowed on-site.						
▪ All workers need to undergo an induction prior to entering the site that informs them about the animals in the area and the best practices for avoiding animal mortality and displacement. ▪ All workers need to undergo an induction prior to entering the site that educates them on wildlife that they may encounter in the field with the goal of mitigating fear associated with these animals. Specific attention should be brought to animals that have a substantial amount of stigma associated with them (i.e., snakes, toads, owls).	ECO / cEO / dEO	▪ Environmental awareness training workshops	Construction	ECO / dEO	Monthly and as and when required	Attendance register Induction register for workers and signed

▪ Faunal experts should be approached to produce educational material about the animals associated with the area and where necessary, awareness talks should be given to workers to minimize human-animal conflict (i.e., snake awareness and snakebite talks). ▪ A select cohort of workers should be given specialized snake handling courses to ensure all on-site interactions with potentially dangerous wildlife are appropriately and safely handled.						
▪ Signs need to be erected around the property that stipulate that faunal harvesting is illegal and that legal action will be sought if workers are caught harvesting or poaching wildlife.	Contractor	-Signage around the property indicating that faunal harvesting is illegal and that legal action will be sought if workers are caught harvesting or poaching wildlife	Construction	ECO	Continuous	Photographic evidence of signage throughout the site being maintained during ECO monitoring reports.

28. Stormwater, Groundwater and waste water management						
Impact Management Outcome: Impacts to the environment caused by stormwater and wastewater discharges during construction are avoided						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
Reduce risk of groundwater contamination via the following: • Septic tanks and mobile toilets, fuel or chemical storage areas must be kept away (100m) from any borehole well head.. • Any stationary plant used anywhere, should make use of a drip tray during re-fuelling or dispensing of liquids. Proper non-drip dispensing equipment and spill kits should also be used. • A designated fuel storage and dispensing areas should have sufficient ground protection to prevent and contain leaks and spills. • Refuelling and servicing of plant and equipment in field should be avoided. • Runoff must go through an oil/grease trap before being discharged, no soaps can be introduced in this system. Refer to Section 6.12: **Hazardous substances (Planning and design phase)** for specifications relating to fuels storage and re-fuelling areas.	Contractor and cEO	Implement measures for the control and management of stormwater and contaminated runoff	Construction	ECO	Continuous	No mismanagement of runoff or contaminated water and stormwater
• Runoff from the cement/concrete batching areas must be strictly controlled, and contaminated water must be collected, stored and either treated or disposed of off-site, at a location approved by the project manager;	Contractor	Implement measures for the control and management of runoff	Construction	ECO	Continuous	No mismanagement of runoff or contaminated water due to the temporary concrete batching plant

▪ All spillage of oil onto concrete surfaces must be controlled by the use of an approved absorbent material and the used absorbent material disposed of at an appropriate waste disposal facility;	Contractor and cECO	Obtain approved absorbent material and make use of licensed waste disposal facilities for disposal of oil	Construction	ECO	Continuous	Availability of approved absorbent material at the construction site and proof of disposal of oil at licensed disposal facilities
▪ Natural stormwater runoff not contaminated during the development and clean water can be discharged directly to watercourses and water bodies, subject to the Project Manager's approval and support by the ECO;	DPM in consultation with the ECO	Consultation between the DPM and the ECO to determine if water can be discharged directly into water bodies (where present). The necessary water quality testing must be undertaken prior to discharge	Construction	ECO	As and when the need arises to discharge natural stormwater runoff and clean water	Proof of consultation between the DPM and ECO and the outcomes thereof to be provided. Proof of water quality testing and the results thereof.
▪ Rehabilitate any areas where erosion occurred and amend the stormwater run-off control measures if required.	Contractor	Implement erosion control measures	Construction	ECO	Monthly	Photographic proof of rehabilitation of areas that were eroded
▪ Washing and cleaning of equipment must be done in designated wash bays, where rinse water is contained in evaporation/sedimentation ponds (to capture oils, grease cement and sediment).	Contractor	Implement measures for the control and management of runoff	Construction	ECO	Continuous	No mismanagement of runoff or contaminated water
▪ Water that has been contaminated with suspended solids, such as soils and silt, may be released into watercourses or water bodies only once all suspended solids have been removed from the water by settling out these solids in settlement ponds. The release of settled water back into the environment must be subject to the Project Manager's approval and support by the ECO.	DPM in consultation with the ECO	Consultation between the DPM and the ECO to determine if water can be discharged directly into water bodies (where present). The necessary	Construction	ECO	As and when the need arises to discharge water	Proof of consultation between the DPM and ECO and the outcomes thereof to be provided. Proof of water quality

		water quality testing must be undertaken prior to discharge				testing and the results thereof.

29. Solid and hazardous waste management						
Impact Management Outcome: Waste is appropriately stored, handled and safely disposed of at a recognised waste facility.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ All measures regarding waste management must be undertaken using an integrated waste management approach; ▪ Develop and adhere to a Waste Management Plan to ensure the waste products produced during the construction process are not exported into the system. Water and chemicals used during the construction process must be adequately managed to ensure that there is no interference with natural aquatic systems, especially near wetlands and drainage lines	Contractor	Develop and implement a waste management plan	Construction	ECO	Monthly	Implementation of the waste management plan and proof of waste management through proof of responsible disposal
▪ Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided;	Contractor	Provision of appropriate waste collection bins strategically placed throughout the site	Construction	ECO	Continuous	Appropriate waste collection bins are available throughout the site
▪ A suitably positioned and clearly demarcated waste collection site must be identified and provided;	DPM and Contractor	Identify an appropriate location for the waste collection site which must be clearly demarcated through signage and temporary fencing	Construction	ECO	Once, prior to the commencement t of construction	A waste collection site is appropriately placed and demarcated

▪ The waste collection site must be maintained in a clean and orderly manner;	Contractor	Regular collection of waste and maintenance of the area must be undertaken as per the waste requirements for the project during construction	Construction	ECO	Continuous	The waste collection site is maintained and clean
▪ Waste must be segregated into separate bins and clearly marked for each waste type for recycling and safe disposal;	Contractor	Provide separate and marked bins for the different waste types associated with the construction phase	Construction	cEO	Continuous	Separate waste bins are available on site and waste generated is separated into the relevant bins
▪ Staff must be trained in waste segregation;	cEO / dEO in consultation with the ECO	Include waste segregation as part of the environmental awareness training material.	Construction	ECO	Monthly, and as and when required	Environmental awareness training material requirements checklist
▪ Bins must be emptied regularly;	Contractor	Bins must be emptied before reaching total capacity and on a regular basis as required for the project	Construction	ECO	Monthly	No mismanagement t of bins.
▪ General waste produced onsite must be disposed of at registered waste disposal sites/ recycling company;	Contractor	Disposal of general waste at licensed waste disposal facilities must be undertaken as per the waste management plan	Construction	ECO	Monthly	Disposal certificates of disposal at licensed facilities to be provided
▪ No burning of solid waste is allowed	Contractor	Disposal of general waste at licensed waste disposal facilities must be undertaken as per the waste management plan	Construction	ECO	Monthly	Disposal certificates of disposal at licensed facilities to be provided

▪ Hazardous waste must be disposed of at a registered waste disposal site;	Contractor	Disposal of hazardous waste at licensed waste disposal facilities must be undertaken as per the waste management plan	Construction	ECO	Monthly	Disposal certificates of disposal at licensed facilities to be provided
▪ Certificates of safe disposal for general, hazardous and recycled waste must be maintained.	Contractor	Obtain certificates for safe disposal of waste	Construction	ECO	Monthly	Disposal certificates of disposal at licensed facilities to be provided and filed as part of the filing system

30. Protection of Watercourses						
Impact Management Outcome: Pollution and contamination of the watercourse environment and or estuary erosion are prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ All watercourses must be protected from direct or indirect spills of pollutants such as solid waste, sewage, cement, oils, fuels, chemicals, aggregate tailings, wash and contaminated water or organic material resulting from the Contractor's activities;	Contractor	Contractor to undertake activities which can cause spills of pollutants outside of watercourses	Construction	ECO	Continuous	No incidents reported of spillage of pollutants into watercourses
▪ In the event of a spill, prompt action must be taken to clear the polluted or affected areas;	Contractor and cEO	Develop a management plan or process for implementation should a spill take place	Construction	ECO	Continuous	Feedback must be provided by the contractor in terms of how the spill was handled and photographic evidence of the feedback must be provided and kept on record
▪ Where possible, no development equipment must traverse any seasonal or permanent wetland ▪ Watercourse crossings should cater for 1:100 year floods.	Contractor and cEO	Develop a Method statement on how to traverse any seasonal or permanent wetland	Construction	ECO	Continuous	Feedback must be provided by the contractor in terms of how the spill was handled and photographic evidence of the

						feedback must be provided and kept on record
▪ Where roads and crossings are upgraded, the following applies: o All pipe culverts must be removed and replaced with suitably sized box culverts, where road levels are raised. o River levels, regardless of the current state of the river / water course must be reinstated thus preventing any impoundments from being formed . o Where large cut and fill areas are required, these must be stabilised and rehabilitated during the construction process, to minimise erosion and sedimentation. o Suitable stormwater management systems must be installed along roads and other areas and monitored during the first few months of use. Any erosion / sedimentation must be resolved by using the appropriate additional interventions (i.e. extension, energy dissipaters, spreaders, etc). o Use crossing designs which will allow minimal change in streamflow.	cEO, Contractor	Ensure that construction methods accommodate all requirements to ensure aquatic continuity	Construction	ECO	Monthly, and as and when required	Free flow of water must be visible and erosion must be observed
▪ There must not be any impact on the long-term morphological dynamics of watercourses;	DPM, cEO	Develop a management plan or process for implementation should a spill take place within a watercourse and ensure continually monitoring	Construction	ECO, dEO	For all phases of the project life cycle (i.e. construction, operation, decommissioning)	No incidents reported of spillage of pollutants into watercourses

▪ Existing crossing points must be favoured over the creation of new crossings (including temporary access) ▪ Reduce the number of crossings as far as practically possible by utilizing existing tracks.	DPM, cEO	Develop a management plan or process for implementation should a spill take place within a watercourse and ensure continually monitoring	Pre- construction and construction	ECO, dEO	During the construction phase of the project.	Existing crossing points utilised as opposed to new ones created and no incidents reported of spillage of pollutants into watercourses
▪ When working in or near any watercourse, the following environmental controls and consideration must be taken: a) Water levels during the period of construction; No altering of the bed, banks, course or characteristics of a watercourse b) During the execution of the works, appropriate measures to prevent pollution and contamination of the riparian environment must be implemented e.g. including ensuring that construction equipment is well maintained; c) Where earthwork is being undertaken in close proximity to any watercourse, slopes must be stabilised using suitable materials, i.e. sandbags or geotextile fabric, to prevent sand and rock from entering the channel; and d) Appropriate rehabilitation and re-vegetation measures for the watercourse banks must be implemented timeously. In this regard, the banks should be appropriately and incrementally stabilised as soon as development allows. ▪ No unnecessary construction-related activities, e.g. stockpiles, within the drainage lines or minimum of 100m buffer on either side of the active channel. ▪ All construction materials must be stored and used so that there in so leaking into the streams.	Contractor	Activities undertaken near watercourses must be in-line with and consider the specified environmental controls	Pre- construction and construction	ECO	Monthly, and as and when required	No degradation of the watercourses and no incidents of destruction reported

▪ Laydown yards, camps and storage areas must be beyond the watercourse areas. ▪ Proper mitigations and management, especially in terms of materials used and management of domestic waste from construction workers on site.						
▪ Monitor and rehabilitate disturbed areas near drainage lines.	cEO and contractor	Monitoring program to be established by freshwater ecologist	Construction and Rehabilitation	ECO Operation and maintenance team	Monthly, and as and when required	Photographic evidence
▪ The stormwater control measures systems must be inspected on an annual basis to ensure these are functional.	cEO and contractor	Monitoring program to be established by engineer	Construction and Operational	ECO Operation and maintenance team	Annually	Photographic evidence
▪ Proper drainage controls such as culverts, cut-off trenches will be used to ensure proper management of surface water runoff to prevent erosion.	cEO and contractor	Ensure that construction methods accommodate all requirements to ensure aquatic continuity	Construction and Operational	ECO Operation and maintenance team	Monthly, and as and when required	Free flow of water must be visible and erosion must be observed
▪ Fuel, oil and used oil storage areas will have appropriate secondary containment (ie bunds).	cEO and contractor	Develop a management plan or process for implementation should a spill take place within a watercourse and ensure continually monitoring	Pre- construction and construction	ECO, dEO	During the construction phase of the project.	Existing crossing points utilised as opposed to new ones created and no incidents reported of spillage of pollutants into watercourses
▪ No surface, ground or storm water may be polluted as a result of any activities on the site.	cEO and contractor	Develop a management plan or process for implementation and ensure continually monitoring to	Construction	ECO, dEO	During the construction phase of the project.	No degradation of the watercourses and no incidents of destruction reported

		determine water quality in line with the WUL/GA requirements				
Impact Management Outcome: To avoid or reduce impact in sedimentation and erosion within the development footprint.						
▪ If possible, undertake construction activities in the dry season, and outside the 100m buffer. ▪ Avoid any traffic along drainage lines or in buffer zones which may cause sediment movement. ▪ Infrastructure footprint and associated area of disturbance should be minimised as far as practically possible ▪ Any storm-water within the site must be handled in a suitable manner, i.e. trap sediments, and reduce flow velocities ▪ Any erosion problems observed to be associated with the project infrastructure should be rectified as soon as possible and monitored thereafter to ensure that they do not re-occur. ▪ All bare areas, as a result of the development, should be revegetated with locally occurring species, to bind the soil and limit erosion potential. ▪ Silt traps must be in place to prevent sedimentation. Silt traps should be used where there is a danger of topsoil or material stockpiles eroding and entering streams and other sensitive areas. ▪ Topsoil should be removed and stored separately and should be re-applied where appropriate as soon as possible in order to encourage and facilitate rapid regeneration of the natural vegetation on cleared areas.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion developing Any waste generated during construction, must be stored into designated containers and removed from the site by the construction teams.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process.

▪ Where practical, phased development and vegetation clearing should be applied so that cleared areas are not left un-vegetated and vulnerable to erosion for extended periods of time. ▪ Construction of gabions and other stabilisation features to prevent erosion, if deemed necessary. ▪ There should be reduced activity at the site after large rainfall events when the soils are wet. No driving off of hardened roads should occur immediately following large rainfall events until soils have dried out and the risk of bogging down has decreased. ▪ Appropriate stormwater management structures should be in place, according to the Stormwater Management Plan						
Impact Management Outcome: Reduce altered wetland hydrology due to interception/impoundment/diversion of flows (Construction Phase).						
▪ If possible, undertake construction activities in the dry season, and outside the 100m buffer. ▪ Limit the extent of the construction servitude to as small an area as possible. ▪ Any storm-water within the site must be handled in a suitable manner, i.e. trap sediments, and reduce flow velocities ▪ The road crossing should be specifically designed not to impede or disrupt the direction and flow of the water where practically possible. ▪ Any bypasses for the development of crossings of streams and drainage lines should not be on the side of the wetland, to minimize disturbance of the wetland systems. ▪ Closure and rehabilitation of the areas around the watercourse crossing and underground power cables servitude should commence as soon as the construction of	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase.	During construction & operational phase	ECO	On-going during construction & operational phase	▪ Undertake inspections and record all findings and document the inspection process.

infrastructure/laying of underground power cables have been completed. ▪ Soils should be landscaped to the natural landscape profile with care taken to ensure that no preferential flow paths or berms remain. ▪ Bedford has Mean Annual Precipitation (MAP) ~500mm pa. It also serves as a catchment area for more xeric areas in the lower catchments (<300mm pa). The compound effect of slight impediments to natural water flow could have significant impacts for the ecology downstream. The region is already stressed with the unregulated harvesting of water runoff for small dams. The best designs for water crossings should be flat, ground-level water crossings and not culverts with pipes that cause restricted flow and water to backup.						

31. Soil and Agricultural Potential						
Impact Management Outcome: Prevention and management of soil erosion.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Limit vegetation clearance to only the areas where the surface infrastructure will be constructed. ▪ Avoid parking of vehicles and equipment outside of designated parking areas.	Project Developer	▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion	During the entire construction and operational phases	ECO	Monthly	No visible signs of soil erosion around the project infrastructure

▪ Plan vegetation clearance activities for dry seasons (late autumn, winter and early spring). ▪ Design and implement a Stormwater Management System where run-off from surfaced areas are expected. ▪ Re-establish vegetation along the access road to reduce the impact of run-off from the road surface.		developing Any waste generated during construction, must be stored into designated containers and removed from the site by the construction teams ▪ When signs of erosion is detected, the areas must be rehabilitated using a combination of geo-textiles and re-vegetation to prevent the eroded area(s) from expanding.				
▪ Land clearance must only be undertaken immediately prior to construction activities and only within the development footprint/servitude; ▪ Unnecessary land clearance must be avoided; ▪ Regularly monitor the site to check for areas where signs of soil erosion may start to appear. ▪ Should any soil erosion be detected, it must be addressed immediately through rehabilitation and surface stabilisation techniques. ▪ Minimise erosion and loss of topsoil ▪ Level any remaining soil removed from excavation pits that remained on the surface instead of allowing small stockpiles of soil to remain on the surface. ▪ Where possible, conduct the construction activities outside of the rainy season	Project Developer	▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion developing Any waste generated during construction, must be stored into designated containers and removed from the site by the construction teams ▪ When signs of erosion is detected, the areas must be rehabilitated using a combination of geo-textiles and re-vegetation	During the entire construction and operational phases	ECO	Monthly	No visible signs of soil erosion around the project infrastructure

		to prevent the eroded area(s) from expanding. ▪ All construction with a potential to remove top soil should be communicated to the ECO before commencement				
Impact Management Outcome: Reduction of land with natural vegetation for livestock grazing						
▪ Vegetation clearance must be restricted to area where the access road needs to be widened. ▪ Removal of obstacles to allow for access of construction vehicles must be kept to only where essential. ▪ Prior arrangements must be made with the landowner and neighbouring landowners to ensure that livestock are moved to areas where they cannot be injured by vehicles traversing the area. ▪ No boundary fence must be opened without the landowner or neighbouring landowners' permission. ▪ No open fires made by the construction teams are allowable during the construction phase.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase.	During the entire construction and operational phases	ECO	Monthly	▪ Reporting in monthly audit reports.
Impact Management Outcome: Reduction of soil pollution						
▪ Maintenance must be undertaken regularly on all vehicles and construction/maintenance machinery to prevent hydrocarbon spills;	Project Developer/Contractor	▪ Regular and scheduled maintenance of construction vehicles ▪ Regular removal of leftover construction	During the entire construction and operational phases	ECO	Ongoing	▪ Proof of regular vehicle maintenance and no

▪ Any waste generated during construction, must be stored into designated containers and removed from the site by the construction teams. ▪ Any left-over construction materials must be removed from site.		material and storage in designated containers				hydrocarbon spills recorded ▪ Proof of proper waste collection and management with disposal certificate ▪ No leftover construction material on site

32. Vegetation Clearing						
Impact Management Outcome: Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Restrict removal of natural vegetation, top soil and soil cover to the development footprint.	cEO and contractor	Demarcate areas of indigenous vegetation to be avoided before clearance is undertaken Prevent unnecessary disturbance and damage to natural vegetation and topsoil loss	Construction and operation (i.e. for maintenance purposes)	ECO Operation and maintenance team	Weekly, and as and when required	No unnecessary clearance of indigenous vegetation is undertaken
▪ Indigenous vegetation which does not interfere with the development must be left undisturbed;	cEO and contractor	Demarcate areas of indigenous vegetation to be avoided before clearance is undertaken	Construction and operation (i.e. for maintenance purposes)	ECO Operation and maintenance team	Weekly, and as and when required	No unnecessary clearance of indigenous vegetation is undertaken
▪ Prior to clearing the ECO must be notified in order to identify and demarcate any indigenous trees or plants, nesting sites or heritage sites that require protection or translocation	cEO and contractor	Notification of ECO	Construction and operation (i.e. for maintenance purposes)	ECO Operation and maintenance team	Weekly, and as and when required	Demarcation of indigenous trees or plants, nesting sites or heritage sites that require protection or translocation

▪ Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species;	Contractor	Demarcate areas containing protected or endangered species to be avoided by construction activities	Construction	ECO	Weekly, and as and when required	No clearance of protected or endangered species other than those permitted to be removed
▪ Search, rescue and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing; ▪ Translocate any species as identified, and according to the methods in the relevant Management Plans	Relevant specialist in consultation with the Contractor	Develop and implement a Plant Search and Rescue Plan	Pre-construction & Construction	ECO	Weekly, and as and when required	Implementation of the Plant Rescue and Protection Plan, Re-vegetation and Rehabilitation Plan and photographic evidence and notes of the implementation of the plans
▪ The Environmental Audit Report must confirm that all identified species have been rescued and replanted and that the location of replanting is compliant with conditions of approvals;	ECO	Ensure that the audit report indicates all species rescued and replanted and provides feedback in terms of compliance with the conditions of permits for replanting	Construction	ECO	Monthly	Proof as per Environmental Audit Report

▪ Trees felled due to construction must be documented and form part of the Environmental Audit Report;	ECO	Ensure that the audit report documents the details of trees felled	Construction	ECO	Monthly	Proof as per Environmental Audit Report
▪ Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris;	Contractor	Felled trees, vegetation cuttings and debris must be disposed of at a licensed waste disposal facility	Construction	ECO	Monthly	No felled trees, vegetation cuttings and debris are dumped in inappropriate locations and disposal certificates as proof of responsible disposal
▪ All protected species e.g Species of Special Concern and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance with section 6.2: **Access Roads**: ▪ The location of key SCC needs to be carefully guarded and documents not freely available to the public. For selected key species such as *E. meloformis*, *Faucaria tuberculosa*, and *Huernia* spp., permits are needed from DEDEAT to collect specimens (in the construction footprint and possibly outside the buffers), for mass propagation and rewilding back to the site to prevent numbers of plants falling below a threshold for a Minimum Viable Population (MVP). The recommendations of the Plant Rescue and Protection Plan need to be implemented. It is also strongly recommended that the developer considers the drafting of a Co-management Agreement for Sustainable Landuse Management. This document should be drafted by a rangeland ecologist with experience in these vegetation types.	Contractor in consultation with the cEO	Spatially demarcate protected species and sensitive vegetation and implement appropriate fencing where required as per section 6.2: **Access Roads**: photographic record;	Construction and Operation	ECO	Continuous	Demarcation and fencing are undertaken in-line with the requirements of section 6.2: **Access Roads**: photographic record;

▪ Remove alien vegetation from disturbed areas ▪ Enforcement of an Alien Management Plan as per NEMBA requirements for all properties	Contractor	Develop an alien invasive species management plan to be implemented	Construction	ECO	Monthly	Photographic evidence of alien vegetation clearing on a monthly basis and as per the ECO monitoring reports.
▪ No vegetation should be collected for fire wood.	Contractor	All employees are to be provided with environmental awareness training informing of the relevant environmental requirements, sensitive and no-area of the site.	Construction	ECO	Continuous	ECO monitoring reports and evidence on any non-compliance and warning issued to employees for non-compliance
▪ Clear demarcation during the construction phase of all undisturbed sensitive areas that are not within the direct footprint of the powerline and its associated access roads and water course crossings to ensure that there is no uncontrolled access by construction vehicles and labourers.	Contractor	High-sensitivity and no -go areas as identified by the specialist and final layout are to be demarcated	Construction	ECO	Continuous	Photographic evidence of demarcated areas throughout the site being maintained during ECO monitoring reports.
Servitude						
▪ Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognised waste disposal facility; ▪ The affected area must be monitored for invasive vegetation and cleared and controlled when necessary. Alien vegetation homogenizes the ecosystem and causes additional indirect losses of habitat and fragmentation.	Contractor	Undertake removal of alien invasive vegetation in accordance with the relevant guideline relevant to the project area and ensure the vegetation is disposed of at a licensed waste disposal facility	Construction and Operation	ECO Operation and maintenance team	Monthly, and as and when required	Proof must be provided that alien invasive vegetation has been cleared in accordance with the relevant guideline and that the vegetation was disposed of at a

						licensed waste disposal facility
▪ Vegetation must be trimmed where it is likely to intrude on the minimum vegetation clearance distance (MVCD) or will intrude on this distance before the next scheduled clearance. MVCD is determined from SANS 10280;	Contractor	Develop a procedure for the trimming of vegetation in terms of the with the listed requirements	Construction and operation	ECO Operation and maintenance team	Monthly, and as and when required	Proof must be provided that vegetation is trimmed in accordance with the listed requirements
▪ Debris resulting from clearing and pruning must be disposed of at a recognised waste disposal facility, unless the landowners wish to retain the cut vegetation	Contractor	Dispose of the debris in accordance with the waste management plan	Construction and operation	ECO Operation and maintenance team	Monthly, and as and when required	Proof must be provided that the debris has been disposed of at a licensed waste disposal facility

33. Protection of fauna						
Impact Management Outcome: Minimise disturbance to fauna and avifauna.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ All vehicles entering the site must adhere to low speed limits for heavy (30km/h) and light vehicles (40km/h).	dEO / cEO Contractor	Ensure speed limit signs are visible and speed is monitored.	Construction and Operation	ECO Operation and maintenance team	Monthly, and as and when required	No incident report relating to speeding.
▪ No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present;	dEO / cEO Contractor	Develop a procedure for dealing with livestock within the affected properties.	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and as and when required during the construction phase	Written consent provided by the landowner and proof of representation of the landowner during interference
▪ No Domestic animals allowed on site.	dEO / cEO Contractor	Remove any domestic animal that may enter on site to nearest animal care facility eg SPCA.	Construction and Operation	ECO Operation and maintenance team	Monthly, and as and when required	No presence of domestic animals on site.
▪ No poaching must be tolerated under any circumstances. All animal dens in close proximity to the works areas must be marked as Access restricted areas;	dEO / cEO in consultation with the Contractor	All site staff must be informed of this requirement during the Environmental Awareness Training and the consequences of not adhering to the requirement.	Construction	ECO	Construction and Operation	ECO Operation and maintenance team

		These areas must be demarcated as Access Restricted Areas				
▪ No deliberate or intentional killing of fauna is allowed;	dEO / cEO in consultation with the Contractor	Implement and maintain snake deterrents on pylons in areas where snakes are abundant	Construction and Operation	ECO Operation and maintenance team	Once, during the construction of the pylons and as and when required. Monthly during operation	Photographic record of the implementation and maintenance of snake deterrents
▪ Maintain a log of fauna-related incidents or mortalities (incl. roadkill, electrocutions etc.). The log should be reviewed annually, and mitigations amended/implemented as data suggests.	dEO / cEO in consultation with the Contractor	Capture all incidents and mortalities of all fauna on site. An investigation of cause to each incident of mortality must be undertaken.	Construction and Operation	ECO Operation and maintenance team	Monthly, and as and when required	Report logging all fauna-related incidents or mortalities together with mitigation measures that are implemented.
▪ If possible, undertake construction activities in the dry season. ▪ Limit the extent of the construction servitude to as small an area as possible. ▪ For the water crossings, the engineering team must provide an effective means to minimise the potential upstream and downstream effects of sedimentation and erosion (erosion protection) as well minimise the loss of wetland vegetation. ▪ All crossings over watercourses should be such that the flow within the channels is not impeded and should be constructed perpendicular to the river channel, ▪ Excavated soils should be stockpiled on the upslope side of the excavated trench so that eroded sediments off the stockpile are washed back into the trench.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion developing Any waste generated during construction, must be stored into designated containers and removed	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process.

▪ During the construction and operational /decommissioning phase, monitor these drainage features to see if erosion issues arise and if any erosion control is required. ▪ Any areas disturbed during the construction phase should be encouraged to rehabilitate as fast and effective as possible. ▪ All alien plant re-growth must be monitored and should it occur these plants should be eradicated. ▪ Mitigation and follow up monitoring of residual impacts (alien vegetation growth and erosion) may be required ▪ Closure and rehabilitation of the areas around the watercourse crossings should commence as soon as the construction of infrastructure have been completed. ▪ Soils should be landscaped to the natural landscape profile with care taken to ensure that no preferential flow paths or berms remain. ▪ No vehicles to refuel within watercourses/ riparian vegetation. ▪ Construction needs to be limited to the designated footprint. ▪ The rocks should be relocated to a suitable habitat away from infrastructure so that they can be recolonized again by wildlife. Rocks should not be placed directly adjacent to the road as this creates ideal habitats which fauna will inhabit, subjecting them to increase mortality from roadkill.		from the site by the construction teams ▪ When signs of erosion is detected, the areas must be rehabilitated using a combination of geo-textiles and re-vegetation to prevent the eroded area(s) from expanding.				
▪ Habitat loss and disturbance can be mitigated during the construction phase by on-site demarcation of 'no-go' areas. These areas should be identified during pre-construction Monitoring.	ECO	Demarcation of no-go areas and implementation of monitoring programmes	Construction	ECO Operation and maintenance team	Once-off prior to commencement of construction and monthly as and when required.	Evidence of demarcation being maintained through photographic records as per the final layout.

▪ Conduct an inspection (avifaunal walk-through) when the final pole positions have been determined to identify priority species that may be breeding within the final footprint. If a SSC nest is occupied, the avifaunal specialist must consult with the contractor to find ways of minimising the potential disturbance to the breeding birds during the construction period. This could include measures such as delaying some of the activities until after the breeding season. ▪ A site-specific CEMPr must be implemented, which gives appropriate and detailed description of how construction activities must be conducted. All contractors are to adhere to the CEMPr and should apply good environmental practice during construction. The CEMPr must specifically include the following: o No off-road driving; o Maximum use of existing roads, where possible; o Measures to control noise and dust according to latest best practice; o Restricted access to the rest of the property; o Strict application of all recommendations in the biodiversity specialist report pertaining to the limitation of the footprint.	1. Avifaunal Specialist 2. Contractor and ECO 3. Contractor and ECO 4. Contractor and ECO 5. Contractor and ECO 6. Contractor and ECO	1. Walk-through by avifaunal specialist 2. Implementation of the CEMPr. Oversee activities to ensure that the CEMPr is implemented and enforced via site audits and inspections. Report and record any non-compliance. 3. Ensure that construction personnel are made aware of the impacts relating to off-road driving. 4. Construction access roads must be demarcated clearly. Undertake site inspections to verify. 5. Monitor the implementation of noise control mechanisms via site inspections and record and report non-compliance. 6. Ensure that the construction area is demarcated clearly and that construction personnel are made aware of these demarcations. Monitor via site inspections and report non-compliance.	Construction	1. Avifaunal Specialist 2. Contractor and ECO 3. Contractor and ECO 4. Contractor and ECO 5. Contractor and ECO 6. Contractor and ECO	1. Once-off 2. On a daily basis 3. Weekly 4. Weekly 5. Weekly 6. Weekly	1. Evidence of walkthrough carried out. Report filed 2. Evidence of ECO monitoring 3. Evidence of awareness training 4. Adequate road demarcation and signage 5. Evidence of noise monitoring by specialist. No complaints for noise 6. Construction area adequately demarcated and fenced where necessary

34. Protection of heritage resources						
Impact Management Outcome: Minimise impact to heritage resources.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Carry out general monitoring of excavations for potential fossils, artefacts and material of heritage importance;	Suitably qualified specialist in consultation with the ECO	Appoint a suitably qualified specialist to carry out the monitoring of excavations for fossils, artefacts and important heritage material	Construction	ECO	During the undertaking of excavations of fossils, artefacts and heritage material	Proof of appointment of a suitably qualified specialist and photographic record of required monitoring by the specialist
▪ All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/ palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time must be allowed to remove/collect such material before development recommences.	dEO / cEO in consultation with the Contractor and ECO	Develop and implement procedures for situations where human remains, archaeological, palaeontological or historical material are uncovered	Construction	ECO	Weekly, during the construction phase and as and when required	Proof of work ceased and the required procedures followed in cases where material is discovered.
▪ Before any major construction commences a thorough field survey of representative natural and artificial rock exposures within the study region should be undertaken by a qualified palaeontologist.	Suitably qualified specialist in consultation with the ECO	Appoint a suitably qualified specialist to carry out the monitoring of excavations for fossils, artefacts and important heritage material	Construction	ECO/ Heritage / Palaeontological Specialist	Once- off prior to commencement of construction and weekly during the construction phase	Proof of appointment of specialist. Records of liaison with SAHRA and

▪ Buffer zones around built structures should be maintained during the construction phase to prevent damage to structures of cultural heritage interest. ▪ Mitigation of the pre-colonial, colonial archaeology and avoidance of marked graves which may not have been identified during the site survey should involve micro-siting prior to construction. ▪ Should any human burials, archaeological or palaeontological materials (fossils, bones, artefacts etc.) be uncovered or exposed during earthworks or excavations, they must immediately be reported to the ECPHRA and SAHRA. ▪ If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils (e.g. trace fossils or stromatolites) or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Itumeleng Masiteng/Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings at the expense of the developer. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required at the expense of the developer. ▪		and to train ECO to identify potential heritage resources that may be identified during construction activities. The implementation of the Change Find Fossil Procedure.				implementation of Chance Find Fossil Procedure and reporting in ECO monitoring reports.

▪ Minimise landscape scarring throughout the project area and ensure effective rehabilitation of areas not required during operation.	Project Developer	Project Developer to implement and abide by rehabilitation plan.	During the construction phase and operational phase.	ECO	Ongoing throughout construction phase and operational phase	ECO to report of rehabilitation activities in audit reports.
▪ Monitoring during the rainy season of any runoff from the road into the identified sites must be conducted by the ECO and if any adverse impacts such as erosion occur, reports must be submitted to SAHRA for further comment and recommendations;	Project Developer	Project Developer to abide by stormwater management plan and ensure run off from the road does not adversely affect the identified heritage sites.	During the construction phase and operational phase	ECO	Ongoing throughout construction phase and operational phase	ECO to report on condition of heritage sites within audit reports.
▪ The recommendations of the VIA must be implemented.	Project Manager/ dEO	Implement the VIA recommendation	Design phase and during construction.	ECO / Visual Impact Specialist	Monthly	Adherence to all the VIA recommendations
▪ A no-go 30m buffer must be implemented around Site 87039 to ensure that no impact takes place. The OHL can pass over the kraal if necessary.	Project Manager/ dEO	Fence the site 87039 according to the 30m buffer distance prescribed	Design phase and during construction.	ECO	Monthly	Buffer created and buffered site are not disturbed or impacted
▪ The pylon footings of the proposed OHL are not located within any kloofs or river valleys to mitigate the likelihood of impact to significant archaeological heritage	Project Manager/ dEO	Keep pylon footings from any kloofs or river valleys to mitigate the likelihood of impact to significant archaeological heritage	Design phase and during construction.	ECO	Monthly	No kloofs or river valleys disturbed by pylons
▪ If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils, burials or other categories of heritage resources are found during the	Project Manager/ dEO	Implement chance find fossil procedure	During construction and operational phase	ECO	Ongoing	Evidence as per Environmental Audit report and correspondence with SAHRA

proposed development, work must cease in the vicinity of the find and SAHRA must be alerted immediately to determine an appropriate way forward.						

35. Safety of the public						
Impact Management Outcome: All precautions are taken to minimise the risk of injury, harm or complaints.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels etc.;	cEO in consultation with the Contractor	Develop an Emergency Preparedness, Response and Fire Management Plan specific to the project	Pre-construction Construction	ECO	Once, prior to the commencement of construction and weekly during the construction phase	Compliance with the Emergency Preparedness, Response and Fire Management Plan
▪ All unattended open excavations must be adequately fenced or demarcated;	Contractor	Ensure that all excavations undertaken is fenced and demarcated within a reasonable timeframe and in instances where excavations will be open for long-periods of time	Construction	ECO	Weekly	Excavations are fenced where required and photographic proof can be provided
▪ Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed structures and protective scaffolding;	Contractor	All staff must be easily identifiable and the climbing of towers and scaffolding must be undertaken by authorized personnel as managed by the Contractor	Construction	ECO	Monthly, and as and when required	No incidents of unauthorised climbing is reported
▪ Ensure structures vulnerable to high winds are secured;	Contractor	Ensure that sufficient stabilisation measures are implemented to secure	Construction	ECO	Weekly, and as and when required	No incidents of unstable structures due to high winds is reported

		structures vulnerable to high winds				
▪ Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged.	cEO	Compile and regularly update as incidents and complaints are submitted from the public and indicate the actions taken to resolve the complaint	Construction	ECO	Monthly, and as and when required	The incidents and complaints register is complete and provides all the required details

36. Sanitation						
Impact Management Outcome: Clean and well-maintained toilet facilities are available to all staff in an effort to minimise the risk of disease and impact to the environment						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Mobile chemical toilets are installed onsite if no other ablution facilities are available;	Contractor	Mobile chemical toilets must be placed appropriately and in areas that avoid environmental sensitivities	Construction	ECO	Weekly	Mobile toilets are installed and avoid environmental sensitivities
▪ The use of ablution facilities and or mobile toilets must be used at all times and no indiscriminate use of the veld for the purposes of ablutions must be permitted under any circumstances;	Contractor in consultation with the cEO	All site staff must be informed of this requirement during the Environmental Awareness Training and the consequences of not adhering to the requirement	Pre-construction & Construction	ECO	Monthly, and as and when required	No evidence of non-compliance identified
▪ Where mobile chemical toilets are required, the following must be ensured: a) Toilets are located no closer than 100 m to any watercourse or water body; b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause; c) No spillage occurs when the toilets are cleaned or emptied and the contents are managed in accordance with the EMPr; d) Toilets have an external closing mechanism and are closed and secured from the outside when not in use to prevent toilet paper from being blown out;	Contractor in consultation with the cEO	The installation of the toilets by the Contractor must be as per the listed requirements	Construction	ECO	Weekly	No evidence of non-compliance identified

e) Toilets are emptied before long weekends and workers holidays, and must be locked after working hours; f) Toilets are serviced regularly and the ECO must inspect toilets to ensure compliance to health standards;						
▪ A copy of the waste disposal certificates must be maintained.	Contractor	Certificates obtained from the licensed waste disposal facility with the emptying of the toilets must be kept on file	Construction	ECO	Monthly, and as and when required	Certificates for waste disposal from the licensed waste disposal facility

37. Prevention of disease						
Impact Management Outcome: All necessary precautions linked to the spread of disease are taken.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Undertake environmentally friendly pest control in the camp area;	Contractor	Only environmentally-friendly pest control must be used, when required	Construction	ECO	As and when pest control is required for the project	Contractor to provide proof of pest control used being environmentally-friendly
▪ Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV/ AIDS, ▪ Ensure that the workforce is sensitised on the spread of COVID 19;	cEO / Contractor in consultation with the ECO	The effects of sexually transmitted diseases and HIV/ AIDS and COVID 19 must be covered in the Environmental Awareness Training	Pre-construction & Construction	ECO	Once, prior to the commencement t of construction and monthly during construction	Environmental awareness training material requirements checklist
▪ The Contractor must ensure that information posters on HIV/ AIDS, COVID 19 are displayed in the Contractor Camp area;	Contractor	Develop and place information posters on HIV/ AIDS and COVID 19	Construction	ECO	Weekly	Photographic evidence of poster placement
▪ Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable;	cEO / Contractor in consultation with the ECO	Information and education of sexually transmitted diseases must be covered in the Environmental Awareness Training.	Pre-construction & Construction	ECO	Monthly	Environmental awareness training material requirements checklist

▪ Free condoms must be made available to all staff on site at central points;	Contractor	Placement of free condoms in mobile toilets and at the construction camps	During the Construction Phase	ECO	Monthly	Proof of placement of free condoms by the contractor to be provided
▪ Medical support must be made available;	dEO / cEO in consultation with the Contractor	Ensure that designated personnel with first aid training are available on site and that first aid kits to provide medical support is readily available	Construction and Operations	ECO	Monthly	Check the availability of first aid trained personnel and medical kits (including if these are complete in terms of supplies)
▪ Provide access to Voluntary HIV and COVID 19 Testing and Counselling Services.	Contractor	Compile a HIV testing schedule and COVID 19 register, and provide counselling services where required	Construction	ECO	Quarterly, and as and when required	Voluntary testing schedules and proof of counselling (where undertaken)

38. Emergency Procedure						
Impact Management Outcome: Emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ The relevant local authority must be made aware of a fire as soon as it starts;	Contractor in consultation with the ECO	Develop and include a procedure in the Emergency Preparedness, Response and Fire Management Plan for the event of a fire and the procedure to be followed for informing the local authority	Construction	ECO	As and when a fire occurs	The local authority was informed as per the relevant procedure set out in the Emergency Preparedness, Response and Fire Management Plan
▪ In the event of emergency, necessary mitigation measures to contain the spill or leak must be implemented (see Section 6.12 : Hazardous Substances (Planning and design phase)	Contractor	Implement the required mitigation measures in the event of a spill or leak as per the requirements of Section 6.12 : Hazardous Substances (Planning and design phase.	Construction and Operations	ECO	As and when a spill or leak occurs	The mitigation measures included under Section 6.12 : Hazardous Substances (Planning and design phase have been adhered to

39. Hazardous Substances						
Impact Management Outcome: :Emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ The use and storage of hazardous substances to be minimised and non-hazardous and non-toxic alternatives substituted where possible;	cEO in consultation with the Contractor	Develop a strategy of how hazardous substances can be and should be minimised	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Contractor to provide evidence of substances used for proof of compliance
▪ All hazardous substances must be stored in suitable containers as defined in the Method Statement;	Contractor	Develop a Method Statement for the storage of hazardous substances in suitable containers	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Photographic proof that hazardous substances are stored in suitable containers as per the requirements of the relevant Method Statements
▪ Containers must be clearly marked to indicate contents, quantities and safety requirements;	Contractor	Develop a Method Statement for the storage of hazardous substances in suitable containers	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Photographic proof that hazardous substances are stored in suitable containers as per the requirements of the relevant Method Statements

▪ All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill / leak from the stored containers;	Contractor	Where hazardous waste is stored these must be clearly marked indicating the name and toxicity of the waste	During the Construction Phase	ECO	Monthly	Photographic proof that containers are marked as per the requirements
▪ Bunded areas to be suitably lined with a SABS approved liner;	Contractor	Where hazardous waste is stored these must be clearly marked indicating the name and toxicity of the waste	Construction	ECO	Monthly	Photographic proof that containers are marked as per the requirements
▪ An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up by the contractor and kept up to date on a continuous basis;	cEO / Contractor	Compile and update an Alphabetical Hazardous Chemical Substance (HCS) control sheet specific to the project	Construction	ECO	Monthly, and as and when required	Complete and up to date control sheet provided by the Contractor
▪ All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS);	cEO / Contractor	Keep a record of all hazardous chemicals and the respective MSDS	Construction	ECO	Monthly, and as and when required	Record of hazardous chemicals and the respective MSDS
▪ Employees handling hazardous substances / materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available;	cEO / Contractor	Develop environmental awareness training material which covers the relevant impacts and safety measures. Provide appropriate training and personal protective equipment for the relevant personnel handling hazardous substances and materials equipment for the relevant personnel handling	Pre-construction & Construction	ECO	Prior to the commencement of the environmental awareness training and monthly during the construction phase for personal protective equipment	Environmental awareness training material requirements checklist and all relevant personnel have undergone appropriate training and have access to personal protective equipment

		hazardous substances and materials				
▪ The Contractor must ensure that diesel and other liquid fuel, oil and hydraulic fluid is stored in appropriate storage tanks or in bowsers	Contractor	Appropriate storage facilities must be constructed or obtained for the storing of diesel, other liquid fuel, oil and hydraulic fluid	Construction	ECO	Monthly, and as and when required	Storage tanks for the project are appropriate and no incidents are reported in this regard
▪ The tanks/ bowsers must be situated on a smooth impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and the volume inside the bund must be 130% of the total capacity of all the storage tanks/ bowsers (110% statutory requirement plus an allowance for rainfall);	Contractor	Appropriate storage facilities must be constructed or obtained for tanks as per the requirements listed	Construction	ECO	Monthly, and as and when required	Storage areas for the tanks/ bowsers for the project are appropriate and no incidents are reported in this regard
▪ The floor of the bund must be sloped, draining to an oil separator;	Contractor	Appropriate storage facilities must be constructed as per the requirements listed	Construction	ECO	Once, during construction	Bunded storage areas are constructed according to the requirements
▪ Provision must be made for refuelling at the storage area, which is further than 100m of a river channel, by protecting the soil with an impermeable groundcover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained;	Contractor	Appropriately constructed refuelling facility must be developed as per the requirements. Drip trays must be provided for use	Construction	ECO cEO	Continuous	Soils at the refuelling facility are protected as required and drip trays are provided and used

▪ All empty externally dirty drums must be stored on a drip tray or within a bunded area;	Contractor	Ensure that empty dirty drums are stored appropriately according to a waste method statement	Construction	ECO cEO	Continuous	Drip trays or bunded areas are used for the storage of dirty drums . Waste Method Statement on file
▪ No unauthorised access into the hazardous substances' storage areas must be permitted;	Contractor	Ensure through the implementation of procedures that no unauthorised access is undertaken into the storage areas	Construction	ECO	Monthly	Proof of the implementation of the relevant procedure must be provided by the contractor
▪ No smoking must be allowed within the vicinity of the hazardous storage areas;	Contractor	Inform all employees of the requirement and develop and place relevant signage in the relevant areas	Construction	ECO cEO	Monthly Weekly	Photographic record of the signage placed must be provided
▪ Adequate fire-fighting equipment must be made available at all hazardous storage areas;	Contractor	Hazardous storage areas must be fitted with adequate fire-fighting equipment	Construction	ECO	Monthly	Adequate fire-fighting equipment is available and has been serviced
▪ Where refuelling away from the dedicated refuelling station is required, a mobile refuelling unit must be used. Appropriate ground protection such as drip trays must be used;	Contractor	Provide a mobile refuelling unit as well as suitable ground protection, where required	Construction	ECO	Monthly, and as and when required	A mobile refuelling unit and suitable ground protection is available for use
▪ An appropriately sized spill kit kept onsite relevant to the scale of the activity/s involving the use of hazardous substance must be available at all times;	Contractor	Provide an appropriate spill kit for the project for the use of hazardous substances	Construction	ECO	Monthly, and as and when required	Appropriate spill kits are available for use
▪ An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken;	cEO and Contractor	Provide an appropriate number of spill kits in relevant areas	Construction	ECO	Monthly	Proof of appropriate number of spill kits in appropriate areas

						to be provided by the contractor
▪ No hazardous waste may be buried or burned under any circumstances.	cEO and Contractor	Provide appropriate waste storage areas/containers before waste is removed from site	Construction	ECO	Monthly	Proof of correct storage
▪ In the event of a spill, contaminated soil must be collected in containers and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008 ▪ Emergency protocols must be in place in case of spills.	cEO and Contractor	Storage and disposal of contaminated soil must be in accordance with the National Environmental Management: Waste Act 59 of 2008	During the Construction Phase	ECO	Monthly, and as and when required	Proof of storage and disposal in terms of the National Environmental Management: Waste Act 59 of 2008 must be provided. Certificates of disposal at licensed waste disposal facilities must be provided
▪ Appoint appropriate contractors to remove any residue from spillages from site. Handling, storage and disposal of excess or containers of potentially hazardous materials must be in accordance with the requirements of pertinent Regulations and Acts (e.g. Hazardous Substances Act, Number 15 of 1973).	cEO and Contractor	Contractors must provided appropriate registration certificates to undertake the work.	Construction	ECO	Monthly	Proof of contractors registrations certificates

40. Workshop, Equipment, Maintenance and storage						
Impact Management Outcome: Soil, surface water and groundwater contamination is minimised.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area;	Contractor	Demarcate specific areas for the maintenance of vehicles and equipment	Construction	ECO	Monthly	A dedicated area for the maintenance of vehicles and machinery is used.
▪ During servicing of vehicles or equipment, especially where emergency repairs are effected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil.	Contractor	Ensure that a drip tray is available for an emergency repairs required	Construction	ECO	Monthly	Contractor to provide evidence of drip tray use for emergency repairs
▪ Leaking equipment must be repaired immediately or be removed from site to facilitate repair;	Contractor	Ensure that where leaking equipment is identified it is repaired immediately or removed from site for repairs	Construction	ECO	Monthly	Contractor to provide details of equipment repaired or removed from site
▪ Workshop areas must be monitored for oil and fuel spills;	cEO	Undertake regular inspections of the workshop areas for oil and fuel spills and keep an updated register of inspection on site	Construction	ECO	Monthly	Register of inspection

▪ Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available;	Contractor	Provide an appropriate spill kit for the project	Construction	ECO	Monthly, and as and when required	Appropriate spill kits are available for use
▪ The workshop area must have a bunded concrete slab that is sloped to facilitate runoff into a collection sump or suitable oil / water separator where maintenance work on vehicles and equipment can be performed;	Contractor	Ensure that the workshop area is sufficiently bunded in accordance with the required specification	Construction	ECO	Once, during the Construction Phase and as and when required	Workshop area is bunded in accordance with the required specification
▪ Water drainage from the workshop must be contained and managed in accordance with **Section 6.28: Storm and waste water management (construction phase) and Appendix H**	Contractor	Ensure that water drainage from workshop area is managed as per the requirements of section 6.28 **Storm and waste water management (construction phase)** and Appendix H	Construction	ECO	Monthly	Workshop drainage is managed in accordance with the requirements

41. Batching Plants						
Impact Management Outcome: Minimise spillages and contamination of soil, surface water and groundwater						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Concrete mixing must be carried out on an impermeable surface;	Contractor	Provide impermeable surface for the mixing of concrete	Construction	ECO	Weekly	No concrete mixing is undertaken on open ground
▪ Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies and drains;	Contractor	Demarcate and provide a storage area for bagged cement in-line with the listed requirements	Construction	ECO	Weekly	Photographic proof of bagged cement stored within the demarcated area
▪ Suitable screening and containment must be in place to prevent wind-blown contamination from cement storage, mixing, loading and batching operations;	Contractor	Demarcate and provide screening	Construction	ECO	Weekly	Photographic proof of screened demarcated area
▪ A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted;	Contractor	Provide a washout facility for the washing of associated equipment. Enforce limitations on water use for washing of equipment	Construction	ECO	Weekly	No cement laden water is released into the environment. Only minimal water is used for washing
▪ Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriate licensed disposal facility;	Contractor	Make use of hardened concrete where possible or dispose of concrete in a suitable manner	Construction	ECO	Monthly	Certificates of disposal of concrete at licensed waste disposal facility

▪ Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site;	Contractor	Bind empty cement bags and temporarily store it in an appropriate area on site	Construction	ECO	Monthly	Proof of binding of empty cement bags and storage in an appropriate are on site to be provided by the Contractor
▪ Mixed cement and empty bags are classified as hazardous waste and must be disposed of according to Section 6.39: Hazardous substances (construction phase)	cEO and Contractor	Storage and disposal of hazardous substances must be in accordance with the National Environmental Management: Waste Act and Storm and waste water management and for solid and hazardous waste management. (construction phase) of this EMPr	During the Construction Phase	ECO	Monthly, and as and when required	Proof of storage and disposal in terms of the National Environmental Management: Waste Act must be provided. Certificates of disposal at licensed waste disposal facilities must be provided
▪ Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to Section 6.42: Dust emissions. Construction phase)	Contractor	Ensure that sand and aggregates are kept damp or otherwise protected from dust generation	Construction	ECO	Monthly	Proof of damping (or alternative dust suppression) of sand and aggregates must be provided by the Contractor
▪ Any excess sand, stone and cement must be removed or reused from site on completion of construction period and disposed at a registered disposal facility;	Contractor	Ensure that all excess sand, stone and cement is removed or reused	Construction	ECO	Once, with the completion of construction	Certificates for the disposal of sand, stone and cement at licensed waste disposal facilities or

						proof of reuse must be provided

42. Dust Emissions						
Impact Management Outcome: Dust prevention measures are applied to minimise the generation of dust.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO;	Contractor	Apply dust suppressant	Construction	ECO	Weekly	Contractor to provide proof of use of dust suppressants , Dust Management Method Statement
▪ Removal of vegetation must be avoided until such time as soil stripping is required and similarly exposed surfaces must be re- vegetated or stabilised as soon as is practically possible;	Contractor	Proper planning for vegetation removal must be undertaken as well as for the associated rehabilitation	Construction and Rehabilitation	ECO	Weekly	Plan for implementation must be provided by the Contractor
▪ Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when a visible dust plume is present;	Contractor	Ensure that specific limitations are placed on the transport and handling of erodible materials during high wind conditions or when a visible dust plume is present	Construction	ECO	Bi-weekly	No complaints submitted in this regard
▪ During high wind conditions, the ECO must evaluate the situation and make recommendations as to whether dust-damping measures are adequate, or whether working will	ECO	ECO to provide adequate recommendation	Construction	Not Applicable		

cease altogether until the wind speed drops to an acceptable level;						
▪ Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind;	Contractor	Place soil stockpiles in areas less affected by wind	Construction	ECO	Bi-weekly	Soil stockpiles are not exposed to wind and have not been eroded
▪ Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO;	Contractor in consultation with the ECO	Contractor to implement erosion control measures as recommended and agreed with the ECO	Construction	ECO	Weekly, until erosion is no longer a problem	Recommendations made by the ECO have been implemented by the Contractor
▪ Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; Vehicles are to be kept in good working order and serviced regularly to minimise emissions.	cEO / dEO / contractor	Inform all drivers of speed limits and place appropriate signage along the relevant roads. All vehicles are to be serviced regularly to ensure that they are in good working order.	Construction	ECO Operation and Maintenance team	Monthly	No complaints from community members are submitted
▪ Straw stabilisation must be applied at a rate of one bale/10 m^2 and harrowed into the top 100 mm of top material, for all completed earthworks;	Contractor	Ensure that straw stabilisation is undertaken as per the listed requirements	Construction	ECO	Monthly	Photographic record of all straw stabilisation undertaken
▪ For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust.	Contractor	Appropriate dust suppressant measures are implemented	Construction	ECO	Weekly	Photographic record of measures being implemented and the results thereof

▪ Containers for dusty materials will be enclosed or covered by suitable tarpaulins / nets to prevent escape of dust during loading and transfer from site. ▪ Any complaints received from neighbours or site users must be reported to the Developers Project Manager and measures must be taken to limit dust.	Contractor	Contractor to implement erosion control measures as recommended and agreed with the ECO	Construction	ECO	Weekly	Recommendations made by the ECO have been implemented by the Contractor

43. Blasting						
Impact Management Outcome: Impact to the environment is minimised through a safe blasting practice.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Any blasting activity must be conducted by a suitably licensed blasting contractor; and	Contractor	Recruit licensed blasting contractor	Construction	ECO	Monthly, and as and when required	License of blasting contractor
▪ None of the above activities may be carried out on Sundays or Public Holidays without the approval of all relevant authorities.	Contractor	No activities on Sundays, Public Holidays	Construction	ECO	Monthly, and as and when required	Approval of Authorities if blasting should occur on a Sunday or Public Holiday
▪ The Contractor must take all necessary precautions to prevent damage to special features and the general environment, which includes the prevention of any fly rock.	Contractor	Follow recommendations to be implemented in addition to normal health and safety requirements as stipulated in the Occupational Health and Safety Act (Act No. 85 of 1993).	Construction	ECO	Monthly, and as and when required	Incidence register
▪ Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site.	Contractor	Notify neighbours to inform times and dates of blasting	Construction	ECO	Monthly, and as and when required	Proof of notifications

44. Noise						
Impact Management Outcome: Unnecessary noise is prevented by ensuring that noise from construction activities is mitigated.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Noisy construction activities near receptors (i.e. within 2km) should be limited to 06:00 – 18:00 Monday to Saturday, with no work on Sundays or public holidays . ▪ Avoid disturbing surrounding land users ▪ Avoid disturbance to Noise Sensitive Developments ▪ Minimize the noise pollution by abbreviating construction time. Refrain from working at night to minimize effect on nocturnal predators and prey that rely on audible cues.	Contractor	Compile a Code of Conduct for staff. Appropriate operating hours must be identified for the project.	Construction	ECO	Monthly, and as and when required	No complaints registered in this regard.
▪ Any plant and equipment normally required for operation at night (19:00 – 07:00), e.g., generators, should be silenced or suitably shielded to ensure that the night-time lower threshold of 45 dB, Laeq would not be exceeded at the nearest noise-sensitive developments	Contractor	Provide and implement silencing technology	Construction	ECO	Monthly, and as and when required	No complaints registered in this regard. Silencing technology is utilised.
▪ The Contractor must keep noise level within acceptable limits. Restrict the use of sound amplification equipment for communication and emergency only;	Contractor	Ensure that noise limits do not exceed acceptable limits and avoid the use of amplification communication	Construction	ECO	Monthly, and as and when required	No complaints registered in this regard. No amplification equipment is used.
▪ All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained;	Contractor	Provide and implement silencing technology	Construction	ECO	Monthly, and as and when required	No complaints registered in this regard. Silencing

						technology is utilised.
▪ Any complaints received by the Contractor regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers;	cEO	Update complaints register. Provide daily transport to and from site for employees	Construction	ECO	Monthly, and as and when required	Complaints register provided by the cEO and proof of transportation services provided
▪ Develop a Code of Conduct for the construction phase in terms of behaviour of construction staff. Operating hours as determined by the environmental authorisation are adhered to during the development phase. Where not defined, it must be ensured that development activities must still meet the impact management outcome related to noise management.	cEO and Contractor in consultation with the ECO	Compile a Code of Conduct for staff. Appropriate operating hours must be identified for the project.	Pre-construction and Construction	ECO	Once, prior to the commencement of construction	No complaints registered in this regard.
▪ The developer must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from location where construction activities are taking place	Project Developer	The Grieviance Mechanism must be implemented	Construction	ECO	Continuous	Evidence of non-compliance as reported by the local community or municipality as report by the grievance mechanism
▪ Vehicles and equipment used on site must be in good condition and serviced regularly.	Contractor	Vehicles and equipment are to be serviced regularly to ensure that they are in good working order	Construction	ECO	As required during construction	Proof of vehicle and equipment servicing and reporting of noise incidents
▪ Construction activities will be restricted to regular working hours, as far as possible.	Contractor	Construction activities are to be undertaken within the working hours as per the municipal by-laws	Construction	ECO	Continuous	Evidence of non-compliance as reported by the local community or

						municipality as report by the grievance mechanism
▪ Mechanical equipment with lower sound power levels must be selected to ensure that permissible occupation noise-rating limit of 85 dBA is not exceeded.	Contractor	Ensure mechanical equipment as per the specified noise limits are used during construction	Construction	ECO / Contractor	Continuous	Evidence in the form of incident reports by employees, local community or the surrounding landowners via the grievance mechanism
▪ Construction workers and personnel must wear hearing protection when required.	Contractor	All construction workers, subcontractors and visitors are to be provided with the appropriate PPE when accessing the site.	Construction	ECO/ Contractor	Continuous	Worker and Employees signed in daily as per health and safety protocols.

45. Fire Prevention						
Impact Management Outcome: Prevention of uncontrollable fires.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Designate smoking areas where the fire hazard could be regarded as insignificant;	cEO / Contractor	Identify and demarcate through signage designated smoking areas	Pre-construction & Construction	ECO	Monthly	Photographic record of designated smoking area
▪ No fires to be lit on the site	cEO / Contractor	Inform through awareness training	Pre-construction & Construction	ECO	Monthly	Proof of awareness training
▪ Firefighting equipment must be available on all vehicles located on site;	cEO / dEO in consultation with the Contractor	Provide all vehicles with firefighting equipment	Construction	ECO	Monthly	All vehicles are fitted with firefighting equipment and the details thereof are provided by the cEO
▪ Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site;	dEO / cEO / Contractor in consultation with the ECO	Develop environmental awareness training material which covers the contact numbers for the FPA and emergency services. Place the contact numbers for the FPA and emergency servicesat a visible and central location	Pre-construction & Construction	ECO	Prior to the commencement of the environmental awareness training and once during the construction phase	Environmental awareness training material requirements checklist and photographic record of contact numbers on display

46. Stockpiling and stockpiling areas						
Impact Management Outcome: Erosion and sedimentation as a result of stockpiling are reduced.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order to minimise impacts to watercourses, watercourses and water bodies;	Contractor	Identify and demarcate an appropriate location for the storage of excavated materials	Pre-construction & Construction	ECO	Monthly	Excavated material is not stored within sensitive environmental areas
▪ All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods;	Contractor	Implement appropriate and sufficient maintenance on stockpiled material regularly	Construction	ECO	Bi-weekly (every second month)	Stockpiled material is maintained sufficiently and is clear of weeds and alien vegetation
▪ Topsoil stockpiles must not exceed 2 m in height;	Contractor	Enforce limitations for the height of topsoil stockpiles	Construction	ECO	Bi-weekly (every second month)	Topsoil stockpiles do not exceed 2m in height
▪ During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin etc.);	Contractor	Appropriate material must be provided in order to cover stockpiles when required	Construction	ECO	Monthly	Contractor to provide proof of availability of appropriate material to cover stockpiles when required
▪ Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material in order to prevent erosion of the material.	Contractor	Sandbags must be provided in order to prevent erosion of stockpiled materials	Construction	ECO	Monthly	Contractor to provide proof of availability of sandbags to prevent

						erosion of stockpiled materials

47. Terrestrial Ecology						
Impact Management Outcome: To avoid or reduce impact of Potential Impacts on vegetation and listed protected plant species						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Site access should be controlled and no unauthorised persons should be allowed onto the site. ▪ Any fauna directly threatened by the associated activities should be removed to a safe location by a suitably qualified person. ▪ The collection, hunting or harvesting of any plants or animals at the site should be strictly forbidden. Personnel should not be allowed to wander off the demarcated site. ▪ Fires should not be allowed on site. ▪ All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill. ▪ All construction vehicles should adhere to a low speed limit (30km/h) to avoid collisions with susceptible species such as snakes and tortoises. ▪ Construction vehicles limited to a minimal footprint on site (no movement outside of the earmarked footprint). ▪ The minor detouring of service roads to use existing farm tracks, wise use of contours and avoiding species rich rocky outcrops. Carefully selected SCC (transplanting success) should be located well in advance of the construction phase and relocated to suitable habitats in close proximity.	Project Developer	Regular inspections around the constructed infrastructure to during construction phase.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process.

▪ Rare I, Critically Endangered (CR), Near Threatened (NT) and Vulnerable (VU) species should be successfully translocated to fenced off areas that are zoned as "Set Asides" and protected from livestock and small game. These areas should be far from public roads and not advertised. ▪ The location of road construction materials requires careful and systematic assessment, as per the Plant Rescue and Protection Plan. ▪ The service roads beneath the OHLs are a potential risk for SCC and will also require a systematic search for SCC, and included in the implementation of the Plant Rescue and Protection Plan.						
Impact Management Outcome: To avoid or reduce Potential increased alien plant invasion during construction						
▪ The Alien Plant and Open Space Management Plan included in the Environmental Management Programme (EMPr) must be implemented. ▪ Regular monitoring by the operation and maintenance team for alien plants within servitude must occur and could be conducted simultaneously with erosion monitoring. ▪ When alien plants are detected, these must be controlled and cleared using the recommended control measures for each species to ensure that the problem is not exacerbated or does not re-occur and increase to problematic levels. ▪ Clearing methods must aim to keep disturbance to a minimum	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ The alien invasive management plan set out in the EMP (2019) must be implented and monitored on an ongoing basis.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process.

48. Visual						
Impact Management Outcome: Socio-economic development is enhanced.						
Impact Management Actions	Implementation	Monitoring				
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ On-site signage must be discrete, and billboards avoided. Signage must be set against a backdrop and not intrude on the skyline.	Contractor	Ensure that signage is not intruding skyline	Construction and operational	ECO	Monthly	Photographic evidence
▪ Security and other outdoor lighting must be fitted with reflectors to conceal the light source and avoid spoilage to adjacent areas	Contractor	Ensure all security and outdoor lights are fitted with reflectors	Construction	ECO	Monthly	Photographic evidence
▪ Traffic and other signage to be limited to only that which is essential .	Contractor	Ensure that only necessary signage is erected	Construction and operational	ECO	Monthly	Photographic evidence
▪ Restrict the activities and movement of construction workers and vehicles to the immediate construction site and existing access roads.	Contractor	Construction activities are to be undertaken within the working hours as per the municipal by-laws	Construction	ECO	Continuous	Evidence of non-compliance as reported by the local community or municipality as report by the grievance mechanism

▪ All yards and storage areas to be enclosed by masonry walls.	Contractor	Erect masonry walls around yards and storage areas	Construction	ECO	Once off	Photographic record of walls erected
▪ Ensure that rubble, litter, and disused construction materials are appropriately stored (if not removed daily) and then disposed regularly at licensed waste facilities.	Contractor	Develop and implement a waste management plan	Construction	ECO	Monthly	Implementation of the waste management plan and proof of waste management through proof of responsible disposal
▪ Reduce and control construction dust using approved dust suppression techniques as and when required (i.e., whenever dust becomes apparent) ▪ Employ dust suppression techniques as and when required (i.e., whenever dust becomes apparent).	Contractor	Implement wind and dust mitigation prior to site closure	Construction	ECO	Prior to site closure for more than 05 days	Wind and dust mitigation is implemented prior to site closure
▪ Restrict construction activities to daylight hours whenever possible in order to reduce lighting impacts. ▪ Night time construction should be avoided where possible. ▪ Night lighting of the construction sites should be minimised within requirements of safety and efficiency ▪ Minimize light pollution by ceasing construction at night. Lights along the route and to the substation need	Contractor	Ensure all security and outdoor lights are fitted with reflectors and berms are created or vegetation is planted to provided screening where lighting is necessary	Construction	ECO	Monthly	Photographic evidence

to keep to a minimum. Red lights should be used where possible to reduce impact on nocturnal species. ▪ Setbacks around key sensitive visual receptors must be implemented.						
▪ Servitudes to be maintained along the length of the proposed access roads along the powerlines.	Contractor	Maintain the width of the access roads as planned including the number of water course crossings.	Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Evidence of well maintained access track lengths.
▪ Use existing roads wherever possible. Where new roads are required, these should be planned carefully, taking due cognisance of the local topography. Roads should be laid out along the contour wherever possible and should never traverse slopes at 90 degrees. All efforts should be employed to try and align roads along the landscape contours wherever possible. ▪ Ensure that vegetation is not unnecessarily removed during the construction period. ▪ Keep vegetation clearing to a minimum.	Contractor	Construction of roads should be undertaken properly, with adequate drainage structures in place to forego potential erosion problems	Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	No evidence of unnecessary creation of new access roads.

▪ Plan the placement of lay-down areas and temporary construction equipment camps in order to minimise vegetation clearing (i.e., in already disturbed areas) wherever possible.						
▪ Reduce the construction period through careful logistical planning and productive implementation of resources.	Contractor	Development a method statement	Pre-Construction	ECO dEO	Once, prior to construction	Method statement which complies with the minimum requirements listed
▪ Rehabilitate all construction areas, when no longer required.	Contractor	Plan the timeframe for rehabilitation in order to undertake vegetation planting during the optimal time for vegetation establishment	Rehabilitation	ECO	At the start of rehabilitation to confirm correct timeframe	Rehabilitation is undertaken during the optimal time
▪ The recommendations of the VIA must be implemented.	Project Manager/ dEO	Implement the VIA recommendation	Design phase and during construction.	ECO / Visual Impact Specialist	Monthly	Adherence to all the VIA recommendations

49. Socio-Economic						
Impact Management Outcome: Socio-economic development is enhanced.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Develop and implement communication strategies to facilitate public participation;	dEO / cEO	Identify and implement appropriate strategies for communication with the communities through consideration of the community needs	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction	Communication is undertaken as per the identified strategies and no complaints are submitted regarding communication
▪ Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process;	Contractor	Development and implement a Grievance Mechanism which considers the community needs and provides procedures for conflict resolution	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Conflict resolution is undertaken in line with the requirements of the Grievance Mechanism. No complaints on conflict resolution is submitted by the community
▪ Sustain continuous communication and liaison with neighbouring landowners and residents	Contractor	Develop and implement a Grievance Mechanism that provides procedures for communication / liaison	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	Communication / liaison with neighbouring landowners and residents are

		with neighbouring landowners and residents				undertaken in line with the requirements of the Grievance Mechanism. No complaints on communication with neighbouring landowners and residents is submitted
▪ The HIV Policy developed prior to the commencement of construction must be adhered to.	Project Developer / Contractor	The HIV policy must be developed and abided by.	Construction	Contractor		Evidence of employee awareness training signed register on the HIV policy.
▪ The Developer will implement a grievance procedure that is easily accessible to local communities, complaints related to contractor or employee behaviour can be lodged and responded to.	Project Developer	The Grievance Procedure must be implemented.	Construction	Contractor / ECO		Evidence of incidents reported and kept on file via the Grievance Mechanism Procedure.
▪ The construction workers (from outside the area) should be allowed to return home over the weekends or on a regular basis to visit their families; the contractor should make the necessary arrangement to facilitate these visits.	Contractor	Conditions of the employment contracts must be agreed upon by the employees and as per procurement procedures and abided by for the duration of construction.	Construction	Contractor		Disputes to be recorded and resolved by HR.

▪ Undertake a 'locals first' policy with regard to construction labour needs and create work and training opportunities for local stakeholders; ▪ Minimize impacts associated with influx of jobseekers.	Contractor	Develop and implement a "locals first" policy for the provision of employment opportunities	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and monthly during the construction phase	The "locals first" policy is considered in terms of the employment and training opportunities
▪ Minimise damage to agricultural land and stock losses, minimize disruption to current farm regimes.	Project Developer	Regular inspections around the constructed infrastructure during construction phase.	During the entire construction and operational phases	ECO	Prior to construction and ongoing	Reporting in monthly audit reports.

50. Temporary Closure of Site						
Impact Management Outcome: Minimise the risk of environmental impact during periods of site closure greater than five days.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Construction Phase						
▪ Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management actions included in sections 6.12: management of hazardous substances and section 6.40 workshop, equipment maintenance and storage; (construction phase)	Contractor	Regular emptying of the bunds must be undertaken. This must be undertaken as per the requirements listed in sections 6.12: management of hazardous substances and section 6.40 workshop, equipment maintenance and storage; (construction phase)	Construction	ECO	Prior to site closure for more than 05 days	Bunds are emptied as per the requirements listed under sections 6.12: management of hazardous substances and section 6.40 workshop, equipment maintenance and storage; (construction phase)
▪ Hazardous storage areas must be well ventilated;	Contractor	Install appropriate ventilation in all hazardous storage areas	Construction	ECO	Prior to site closure for more than 05 days	Effective ventilation is installed in hazardous storage areas
▪ Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service;	Contractor / cEO	Ensure fire extinguishers are serviced, as required and are easily accessible with appropriate signage indicating location. Ensure	Construction	ECO	Prior to site closure for more than 05 days	Signage placed indicating location of fire extinguishers and service records

		service records and kept up to date and filed				
▪ Emergency and contact details must be displayed;	Contractor / cEO	Place emergency and contact details which are readily available and easily accessible	Construction	ECO	Prior to site closure for more than 05 days	Photographic proof of contact details on display
▪ Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel;	Contractor in consultation with the ECO	Hold a workshop with all security personnel to provide a brief of the project and security requirements. Provide facilities in order to contact management and emergency personnel	Construction	ECO	Prior to site closure for more than 05 days	Proof of the workshop held must be kept on file by the contractor.
▪ Night hazards such as reflectors, lighting, traffic signage etc. must have been checked;	Contractor	Regular checks of night hazards must be undertaken	Construction	ECO	Prior to site closure for more than 05 days	Proof of checks of night hazards must be provided by the contractor
▪ Fire hazards identified and the local authority must have been notified of any potential threats e.g. large brush stockpiles, fuels etc.;	cEO / Contractor in consultation with the ECO	Identify any potential fire hazards and notify the relevant local authority	Construction	ECO	Prior to site closure for more than 05 days	Proof of notification of the fire hazards to the local authority must be provided by the Contractor
▪ Structures vulnerable to high winds must be secured;	Contractor	Ensure structures vulnerable to wind are secure prior to site closure	Construction	ECO	Prior to site closure for more than 05 days	Structures vulnerable to wind are secured prior to site closure
▪ Wind and dust mitigation must be implemented;	Contractor	Implement wind and dust mitigation prior to site closure	Construction	ECO	Prior to site closure for more than 05 days	Wind and dust mitigation is implemented prior to site closure

▪ Cement and materials stores must have been secured;	Contractor	Ensure cement and material stores are secured prior to site closure	Construction	ECO	Prior to site closure for more than 05 days	Cement and material stores
▪ Toilets must have been emptied and secured;	Contractor	Ensure toilets are emptied and secured prior to site closure	During the Construction Phase	ECO	Prior to site closure for more than 05 days	Toilets are emptied and secured prior to site closure
▪ Refuse bins must have been emptied and secured;	Contractor	Ensure refuse bins are emptied and secured prior to site closure	During the Construction Phase	ECO	Prior to site closure for more than 05 days	refuse bins are emptied and secured prior to site closure
▪ Drip trays must have been emptied and secured.	Contractor	Ensure drip trays are emptied and secured prior to site closure	During the Construction Phase	ECO	Prior to site closure for more than 05 days	Drip trays are emptied and secured prior to site closure

6.3 OPERATIONAL PHASE

51. Access Roads						
Impact Management Outcome: Minimise impact to the environment through the planned and restricted movement of vehicles on site.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Maximum use of both existing servitudes and existing roads must be made to minimise further disturbance through the development of new roads; ▪ The width of the road networks needs to be kept to a minimum.	Contractor	Existing access routes to be used must be specified and the development of new roads must be avoided	Operation	cEO / ECO	Continuous	Implement approved layout
▪ Water run-off from the road networks needs to be monitored and mitigated to ensure it doesn't affect neighbouring habitats through for example, the siltation of temporary pools within drainage lines.	Contractor	Undertake maintenance activities on road network used for construction	Construction	cEO / ECO	Continuous	Photographic record of road network tracking condition

52. Fencing and Gate Installation						
Impact Management Outcome: Minimise impact to the environment and ensure safe and controlled access to the site through the erection of fencing and gates where required.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner;	Contractor	Ensure all relevant gates are fitted with locks and are always locked	Operation	ECO	Continuous	All gates are locked

53. Noise						
Impact Management Outcome: To avoid or reduce noise impact generated during the construction and operational phases.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ The developer must implement a line of communication (i.e. a help line where complaints could be lodged). ▪ All potential sensitive receptors should be made aware of these contact numbers. ▪ The developer should maintain a commitment to the local community and respond to concerns in an expedient fashion.	Project Developer	▪ A compliants register must be developed and implemented for the duration of the project. ▪ The developer is to inform landowners regarding the commenmcement of operations in the vicinity of the project along with details to contact the site manager /ECO regarding concerns or complaints.	During construction phase and operational phase	ECO	Weekly	Record all grievances and complaints received in complaints register

54. Soil and Agricultural Potential						
Impact Management Outcome: Prevention and management of soil erosion.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Avoid parking of vehicles and equipment outside of designated parking areas. ▪ Re-establish vegetation along the access road to reduce the impact of run-off from the road surface. ▪ Each of the projects should adhere to the highest standards for soil erosion prevention and management	Project Developer	▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion developing ▪ Any waste generated during construction, must be stored into designated containers and removed from the site by the construction teams ▪ When signs of erosion is detected, the areas must be rehabilitated using a combination of geo-textiles and re-vegetation to prevent the eroded area(s) from expanding.	During the entire construction and operational phases	ECO	Monthly	No visible signs of soil erosion around the project infrastructure

▪ Regularly monitor the site to check for areas where signs of soil erosion may start to appear. ▪ Should any soil erosion be detected, it must be addressed immediately through rehabilitation and surface stabilisation techniques. ▪ Minimise erosion and loss of topsoil ▪ Level any remaining soil removed from excavation pits that remained on the surface instead of allowing small stockpiles of soil to remain on the surface. ▪ Where possible, conduct the construction activities outside of the rainy season	Project Developer	▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion developing Any waste generated during construction, must be stored into designated containers and removed from the site by the construction teams ▪ When signs of erosion is detected, the areas must be rehabilitated using a combination of geo-textiles and re-vegetation to prevent the eroded area(s) from expanding.. ▪ All construction with a potential to remove top soil should be communicated to the ECO before commencement	During the entire construction and operational phases	ECO	Monthly	No visible signs of soil erosion around the project infrastructure
Impact Management Outcome: Reduction of soil pollution						
▪ Maintenance must be undertaken regularly on all vehicles and construction/maintenance machinery to prevent hydrocarbon spills; ▪ Any left-over construction materials must be removed from site.	Project Developer/Contractor	▪ Regular and scheduled maintenance of operational vehicles	During the entire operational phase	ECO	Ongoing	▪ Proof of regular vehicle maintenance and no

						hydrocarbon spills recorded ▪ Proof of proper waste collection and management with disposal certificate ▪ No leftover waste material on site

55. Dust Emissions						
Impact Management Outcome: Dust prevention measures are applied to minimise the generation of dust.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Take all reasonable measures to minimise the generation of dust as a result of operational activities to the satisfaction of the ECO; ▪ If dust pollution is a significant concern and spraying road surfaces is required, then to spray the roadside vegetation will mitigate the effect on the plants. Given that the Eastern Cape is a drought stressed area, this is probably not a viable mitigation activity and the first post-construction rainfall event will reverse the impact.	Contractor	Apply dust suppressant	Operation	ECO	Weekly	Proof of use of dust suppressants , Dust Management Method Statement

56. Water Supply Management						
Impact Management Outcome: Undertake responsible water usage.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ The Contractor must ensure the following: a. The vehicle abstracting water from a river (if applicable as per WUL) does not enter or cross it and does not operate from within the river; b. No damage occurs to the riverbed or banks and that the abstraction of water does not entail stream diversion activities; and c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented.	DPM and Contractor	Method Statements According to the Water Use Licence	Operation	ECO	Continuous	Method Statements and Water Use Licence on file and Photographic records

57. Protection of watercourses						
Impact Management Outcome: Pollution and contamination of the watercourse environment and or estuary erosion are prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ The stormwater control measures systems must be inspected on an annual basis to ensure these are functional.	cEO and contractor	Monitoring program to be established by engineer	Operational	ECO Operation and maintenance team	Annually	Photographic evidence
Impact Management Outcome: To avoid or reduce impact on localized surface water quality (Construction and Operational Phase).						
▪ Institute environmental best practice guidelines as per the DWS Integrated Environmental Management Series for Construction Activities. ▪ Implement appropriate measures to ensure strict use and management of all hazardous materials used on site ▪ Implement appropriate measures to ensure Strict management of potential sources of pollutants (e.g. litter hydrocarbons from vehicles and machinery, cement during construction etc.) ▪ Implement appropriate measures to ensure containment of all contaminated water by means of careful run-off management on the development site. ▪ All soil contaminated due to leaks or spills should be remediated on site. If this is not possible, such contaminated soils must be disposed of in a suitable waste facility.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion developing Any waste generated during construction, must be stored into designated containers and removed from the site by the construction teams	During construction & operational phase	ECO	On-going	▪ Undertake inspections and record all findings and document the inspection process.

▪ Working protocols incorporating pollution control measures (including approved method statements by the contractor) should be clearly set out in the Construction Environmental Management Plan (CEMP) for the project and strictly enforced. ▪ No unnecessary activities, e.g. stockpiles or concrete mixing, within the drainage lines or minimum of 100m buffer on either side of the active channel, or within the 500m regulatory buffer around wetlands. ▪ Silt traps must be in place to prevent sedimentation. ▪ Emergency protocols must be in place in case of spills. ▪ All materials must be stored and used so that there in so leaking into the streams. ▪ Laydown yards, camps and storage areas must be beyond the watercourse areas. ▪ Proper mitigations and management, especially in terms of materials used and management of domestic waste from workers on site.		▪ When signs of erosion is detected, the areas must be rehabilitated using a combination of geo-textiles and re-vegetation to prevent the eroded area(s) from expanding. ▪ Waste Management Plan is to be undertaken in accordance with the plan in the EMPR.				
Impact Management Outcome: To avoid or reduce impact of altered runoff patterns due to rainfall interception by the road and compacted areas resulting in high levels of erosion (Operational Phase)						
▪ All bare areas, as a result of the development, should be revegetated with locally occurring species, to bind the soil and limit erosion potential. ▪ The road crossings will require maintenance in the beginning to remove topsoil and silt that collects and retards the rate of flow during rainfall evens. With the implementation of the various management plans, there will be an increase in vegetation cover and less topsoil movement. ▪ Roads and other disturbed areas should be regularly monitored for erosion problems and problem areas should	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ Regular inspections around the constructed infrastructure to detect early signs of soil erosion developing.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process.

receive follow-up monitoring to assess the success of the remediation. ▪ Silt traps should be used where there is a danger of topsoil or material stockpiles eroding and entering streams and other sensitive areas. ▪ Construction of gabions and other stabilisation features to prevent erosion, if deemed necessary.						

58. Vegetation Clearing						
Impact Management Outcome: Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Indigenous vegetation which does not interfere with the development must be left undisturbed;	cEO and contractor	Demarcate areas of indigenous vegetation to be avoided before clearance is undertaken	operation (i.e. for maintenance purposes)	ECO Operation and maintenance team	Weekly, and as and when required	No unnecessary clearance of indigenous vegetation is undertaken
▪ Prior to clearing the ECO must be notified in order to identify and demarcate any indigenous trees or plants, nesting sites or heritage sites that require protection or translocation	cEO and contractor	Notification of ECO	operation (i.e. for maintenance purposes)	ECO Operation and maintenance team	Weekly, and as and when required	Demarcation of indigenous trees or plants, nesting sites or heritage sites that require protection or translocation
▪ Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognised waste disposal facility;	Contractor	Undertake removal of alien invasive vegetation in accordance with the relevant guideline relevant to the project area and ensure the vegetation is disposed of at a licensed waste disposal facility	Construction and Operation	ECO Operation and maintenance team	Monthly, and as and when required	Proof must be provided that alien invasive vegetation has been cleared in accordance to the relevant guideline and that the vegetation was disposed of at a licensed waste disposal facility

▪ The need for fine-scale Alien Invasive Plants (AIP) baseline mapping will be instrumental in the successful implementation of the AIP Management Plan. To improve the potential success of the AIP Management Plan, it is recommended that monitoring and implementation pf the AIP management plan must be undertaken monthly for the first two years of the operational phase.	dEO / cEO Contractor	Undertake mapping of alien invasive vegetation in accordance with the relevant guideline relevant to the project area and ensure the vegetation is disposed of at a licensed waste disposal facility Develop a procedure for dealing with livestock within the affected properties	Pre-construction, Construction and Operation	ECO Operation and maintenance team	Once, prior to the commencement of construction and as and monthly during the operation phase for the first two years.	Photographic evidence Proof must be provided that alien invasive vegetation has been mapped Written consent provided by the landowner and proof of representation of the landowner during interference
▪ Vegetation must be trimmed where it is likely to intrude on the minimum vegetation clearance distance (MVCD) or will intrude on this distance before the next scheduled clearance. MVCD is determined from SANS 10280;	Contractor	Develop a procedure for the trimming of vegetation in terms of the with the listed requirements	Construction and operation	ECO Operation and maintenance team	Monthly, and as and when required	Proof must be provided that vegetation is trimmed in accordance with the listed requirements
▪ Debris resulting from clearing and pruning must be disposed of at a recognised waste disposal facility, unless the landowners wish to retain the cut vegetation	Contractor	Dispose of the debris in accordance with the waste management plan	Construction and operation	ECO Operation and maintenance team	Monthly, and as and when required	Proof must be provided that the debris has been disposed of at a licensed waste disposal facility
Impact Management Outcome: Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure.(loss of vegetation)						
▪ Minimise impacts associated with loss of vegetation	Contractor	▪ On-site employees, farm workers and visitors to the site will be educated about	Construction and operation	ECO Operation and	Monthly, and as and when required	Proof of training registers for farm workers and visitors

		the conservation of vegetation. This will include strict guidelines for remaining on existing roads while on site to avoid unnecessary destruction or damage to undisturbed and rehabilitated vegetation. ▪ It is understood that lease agreements are in place but it is recommended that landowners are encouraged to ensure livestock numbers are kept at or below densities recommended by the Department of Agriculture to prevent over-grazing. ▪ A fire management policy and guidelines will be developed to ensure that the development of the access roads and water course crossings is compatible with the long-term fire ecology of the site (see Section 6.1 Fire prevention; construction phase) ▪ Remove alien vegetation from any disturbed areas (see Section 6.1 Vegetation Clearing; Construction phase)		maintenance team		Proof of compliance to fire management plan.

▪ The implementation of Sustainable Livestock Management is important. This involves revisiting of carrying capacities – based on regular veld condition assessments and not outdated lookout tables from Dohne Research Station. The veld needs to rest and the income from the WGTs to the farmer needs to be used as leverage to destock and wait for the productivity of the land to increase. ▪ High resolution mapping of all SCC should be undertaken and some areas need to be fenced off – based on the recommendations of an expert in SCC. The Set Asides could provide much needed refugia for key species like *Euphorbia meloformis*, *Faucaria tuberculosa* and others.	dEO / cEO Contractor	▪ Develop a procedure for dealing with livestock within the affected properties	Pre-construction & Construction	ECO	Once, prior to the commencement of construction and as and when required during the construction phase	Written consent provided by the landowner and proof of representation of the landowner during interference
▪ The bush encroacher species like *V. karoo* are likely to out compete the indigenous species, especially forbs, shrubs and succulent species. This is due to the impacts of climate change. The SCC are almost exclusively succulent species which require high levels of solar radiation and are typically shade-intolerant. The Bush Encroachment Management Plan needs to be implemented as a co-management agreement between the WEF and the landowners, while the densities are still low and the associated costs are relatively low. The Bush Encroachment Management Plan needs to be implemented in conjunction with the Revegetation and Rehabilitation Plan to make sensible use of the spinescent brush material.	Contractor	Undertake removal of brush encoracher vegetation in accordance with the relevant guideline relevant to the project area and ensure the vegetation is disposed of at a licensed waste disposal facility	Construction and Operation	ECO Operation and maintenance team	Monthly, and as and when required	Proof must be provided that bush encroacher vegetation has been cleared in accordance to the relevant guideline and that the vegetation was disposed of at a licensed waste disposal facility

59. Protection of fauna						
Impact Management Outcome: Minimise disturbance to fauna and avifauna.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ All vehicles entering the site must adhere to low speed limits for heavy (30km/h) and light vehicles (40km/h). ▪ All motorists using the road infrastructure need to receive an induction to educate them about the negative impacts of roadkill and the driving techniques that can be employed to avoid roadkill. ▪ Speed signs and 'animal crossing' warning signs need to be erected along the road throughout the study site. ▪ Mobile speed cameras need to be erected at pre-determine sensitive areas to ensure drivers reduce their speed. All motorists caught speeding need to be fined to discourage further speeding. ▪ Road use should be limited to specific personal at night to ensure a reduction of motorists on the road as roadkill is a more prevalent threat to nocturnal fauna because of the animals' cryptic habits and the motorist's inability to see wildlife as effectively at night.	dEO / cEO Contractor	Ensure speed limit signs are visible and speed is monitored.	Operation	ECO Operation and maintenance team	Monthly, and as and when required	No incident report relating to speeding.
▪ No Domestic animals allowed on site.	dEO / cEO Contractor	Remove any domestic animal that may enter on site to nearest animal care facility e.g., SPCA.	Operation	ECO Operation and maintenance team	Monthly, and as and when required	No presence of domestic animals on site.

▪ Breeding sites must be kept intact and disturbance to breeding birds must be avoided. Special care must be taken where nestlings or fledglings are present;	dEO / cEO in consultation with the Contractor	Avoid breeding sites and ensure that special care is taken in the presence of nestlings and fledglings	Operation	ECO Operation and maintenance team	Weekly, and as an when required during the construction. Monthly, and as and when required during operation	Photographic record of intact breeding sites
▪ Nesting sites in near vicinity of the development must documented;	dEO / cEO in consultation with the ECO	Walk-downs of the existing lines located parallel to the project must be undertaken and nests and the details thereof documented	Operation	ECO Operation and maintenance team	Quarterly, and as and when required	Details of walk-downs undertaken must be noted and kept on file and photographic records of nesting sites must be kept
▪ No deliberate or intentional killing of fauna is allowed;	dEO / cEO in consultation with the Contractor	Implement and maintain snake deterrents on pylons in areas where snakes are abundant	Construction and Operation	ECO Operation and maintenance team	Once, during the construction of the pylons and as and when required. Monthly during operation	Photographic record of the implementation and maintenance of snake deterrents
▪ Maintain a log of fauna-related incidents or mortalities (incl. roadkill, electrocutions etc.). The log should be reviewed annually, and mitigations amended/implemented as data suggests.	dEO / cEO in consultation with the Contractor	Capture all incidents and mortalities of all fauna on site. An investigation of cause to each incident of mortality must be undertaken.	Construction and Operation	ECO Operation and maintenance team	Monthly, and as and when required	Report logging all fauna-related incidents or mortalities together with mitigation measures that are implemented.
▪ Operational activities to be limited to the designated footprint (i.e., no driving off road). ▪ The areas adjacent to infrastructure need to be avoided to ensure the mitigations undertaken during the construction phase are not undone.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process. Proof of training and

▪ The rocky outcrops that have been re-introduced into the buffer zones and adjacent habitat need to be avoided completely to ensure that wildlife colonisation is not hindered. Rocky outcrops that have been translocated through the redistribution of rocks often harbour higher densities and diversities of rupiculous fauna as they present a more complex and heterogenous habitat. The increased availability of microsites and microhabitats (in and amongst the rock cracks) compared to the pristine adjacent environment means these areas are more sensitive. They should thus be avoided. If this not possible, a suitable and qualified specialist needs to clear these areas of fauna prior to operational activities.						induction of employees is to be kept on file for auditing purposes.

60. Terrestrial Ecology						
Impact Management Outcome: To avoid or reduce impact of Potential increased erosion risk during operation						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Any erosion problems observed along access road should be rectified immediately and monitored thereafter to ensure that they do not re-occur. ▪ Re-instate as much of the eroded area to its pre-disturbed, "natural" geometry (no change in elevation and any banks not to be steepened) where possible. ▪ The Road and other disturbed areas should be regularly monitored for erosion problems and problem areas should receive follow-up monitoring by the EO to assess the success of the remediation. ▪ Where cutting into the embankment will occur the necessary stabilising infrastructure should be installed. ▪ Topsoil must be removed and stored separately from subsoil. Topsoil must be reapplied where appropriate as soon as possible in order to encourage and facilitate rapid regeneration of the natural vegetation on cleared areas. ▪ Practical phased development and vegetation clearing must be practiced so that cleared areas are not left un-vegetated and vulnerable to erosion for extended periods of time. ▪ Minimise soil erosion	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ The erosion management plan as per the EMP (2019) must be implemented. ▪ Cutting of embankments for the access road is to be undertaken following consultation and approval of the Archaeological Specialist to ensure no areas of ehritage significance are disturbed or destroyed. ▪ Bi-annual monitoring of erosion in the vicinity of the , roads, and other hard-standing surfaces will be conducted before and after the rainy season	During construction phase and operational phase	ECO Operations and maintenance contractor	Weekly Bi Annually	Undertake inspections and record all findings and document the inspection process.

		to ensure erosion sites can be identified early and remedied.				
Impact Management Outcome: To avoid or reduce altered runoff patterns due to rainfall interception by the road and compacted areas resulting in high levels of erosion (Operational Phase)						
▪ Re-establishment of vegetation along the upgraded route should be monitored and alternatively, soil surfaces, where no revegetation seems possible will have to be covered with gravel or small rock fragments to increase porosity of the soil surface, slow down runoff and prevent wind- and water erosion. ▪ Runoff and storm water should adequately be controlled to prevent localised rill and gully erosion. ▪ Any erosion problems observed should be rectified as soon as possible and monitored thereafter to ensure that they do not re-occur. ▪ The Road should be regularly monitored for erosion problems and problem areas should receive follow-up monitoring to assess the success of the remediation.	Project Developer	▪ Regular inspections around the constructed infrastructure to during construction phase. ▪ The erosion management plan and stormwater management plan as set out in the EMPr (2019) must be implemented and monitored on an on-going basis.	During construction phase and operational phase	ECO	Weekly	Undertake inspections and record all findings and document the inspection process.
Impact Management Outcome: To avoid or reduce the loss of SCC to the plant collecting trade or due to or livestock management (Operational Phase)						
▪ If the monitoring during the lifespan of the WEF indicates significant but unintended or un-anticipated impacts on the plant ecology of SCC – then the entire road network needs to be decommissioned (after the Decommissioning Phase) and the roads need to be rehabilitated back to the original vegetation. ▪ The width of the road networks need to be kept to a minimum. ▪ The mass rearing and propagation of key SCC species could include the rewilding into areas that may have become fragmented or where seed dispersal is restricted (e.g. across the R350).	dEO / cEO in consultation with the Specialists	▪ Rehabilitate the road network during operation as and when seen fit during the monitoring. ▪ Keep the road width to the recommended minimum ▪ Rewilding practices to be implemented as where necessary ▪	operational phase	Operations and maintenance contractor/ ECO/specialist	Weekly	Proof of road rehabilitated

▪ restrict access with a controlled access point and locked gates along the R350 and other district roads. The location of key SCC needs to be carefully guarded and documents not freely available to the public. ▪ For selected key species such as E. meloformis, F. tuberculosa, and Huernia spp., permits are needed from DEDEAT to collect specimens (in the construction footprint and possibly outside the buffers), for mass propagation and rewilding back to the site to prevent numbers of plants falling below a threshold for a Minimum Viable Population (MVP).	dEO / cEO	▪ Ensure secure and access controlled gates along the R350 ▪ Acquire permits from DEDEAT to collect specimens for rewilding	operational phase	dEO / cEO	Weekly	Access controlled point installed at recommended points
▪ The recommendations of the Plant Rescue and Protection Plan needed to be implemented ▪ The implementation of Sustainable Livestock Management is crucial.	dEO / cEO	▪ Follow the requirements and procedures as stipulated in the Plant Rescue and Protection Pla ▪ revisiting of carrying capacities – based on regular veld condition assessments and not outdated lookout tables from Dohne Research Station. Ensure that the veld is rested and income from the WGT's to the farmer needs to be used as leverage to destock and wait for the productivity of the land to increase. ▪ High resolution mapping of all SCC should be undertaken and some areas need to be fenced off – based on the	operational phase	Operations and maintenance contractor/ ECO	Weekly	Evidence of Plant Rescue and Protection Plan implementation No exceedance on carrying capacity of the veld

		recommendations of an expert in SCC. The Set Asides could provide much needed refugia for key species like Euphorbia meloformis, Faucaria tuberculosa and others				

61. Prevention of Disease						
Impact Management Outcome: All necessary precautions linked to the spread of disease are taken.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Medical support must be made available;	dEO / cEO in consultation with the Contractor	Ensure that designated personnel with first aid training are available on site and that first aid kits to provide medical support is readily available	Construction and Operations	ECO	Monthly	Check the availability of first aid trained personnel and medical kits (including if these are complete in terms of supplies)

62. Emergency Procedures						
Impact Management Outcome: Emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ In the event of emergency, necessary mitigation measures to contain the spill or leak must be implemented (see Section 6.39: Hazardous substances (construction phase)	Contractor	Implement the required mitigation measures in the event of a spill or leak as per the requirements of Section 6.39: Hazardous substances (construction phase)	Construction and Operations	ECO	As and when a spill or leak occurs	The mitigation measures included under Section 6.39: Hazardous substances (construction phase) have been adhered to

63. Visual						
Impact Management Outcome: Socio-economic development is enhanced.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ On-site signage must be discrete, and billboards avoided. Signage must be set against a backdrop and not intrude on the skyline.	Contractor	Ensure that signage is not intruding skyline	Construction and operational	ECO	Monthly	Photographic evidence
▪ Traffic and other signage to be limited to only that which is essential .	Contractor	Ensure that only necessary signage is erected	Construction and operational	ECO	Monthly	Photographic evidence
▪ Minimize the visual impacts during the operation phase	Contractor	• Signage related to the powerline and its associated access roads and water course crossings must be discrete and confined to entrance gates.	Operational	Operations and maintenance contractor ECO	Ongoing.	Photographic evidence
▪ Maintain the general appearance of the facility as a whole.	Contractor	• Periodic rehabilitation and maintainance of access roads and associated infrastructure(buildings and ancillary structures)	Operational	Operations and maintenance contractor ECO	Ongoing.	Photographic evidence

▪ Monitor rehabilitated areas, and implement remedial action as and when required	Contractor	• Carry out rehabilitation activities where required and remediate any affected or degraded roads or infrastructure.	Operational	Operations and maintenance contractor ECO	Ongoing.	Photographic evidence
▪ Retain / re-establish and maintain natural vegetation in all areas outside of the development footprint. ▪ Maintain the general appearance of the facility as a whole. ▪ Monitor rehabilitated areas, and implement remedial action as and when required.	cEO and contractor	Demarcate areas of indigenous vegetation to be avoided before clearance is undertaken. Prevent unnecessary disturbance and damage to natural vegetation and topsoil loss	Construction and operation (i.e. for maintenance purposes)	ECO Operation and maintenance team	Weekly, and as and when required	No unnecessary clearance of indigenous vegetation is undertaken
▪ Monitor rehabilitated areas, and implement remedial action as and when required ▪ Retain / re-establish and maintain natural vegetation in all areas outside of the development footprint. ▪ Maintain the general appearance of the facility as a whole. ▪ Monitor rehabilitated areas, and implement remedial action as and when required.	Contractor	• Plan the timeframe for rehabilitation in order to undertake vegetation planting during the optimal time for vegetation establishment	Operational	ECO	At the start of rehabilitation to confirm correct timeframe	Rehabilitation is undertaken during the optimal time
▪ Shield the sources of light by physical barriers (walls, vegetation, or the structure itself). ▪ Limit mounting heights of lighting fixtures, or alternatively use foot-lights or bollard level lights. ▪ Make use of minimum lumen or wattage in fixtures. ▪ Make use of down-lighters, or shielded fixtures. ▪ Make use of Low-Pressure Sodium lighting or other types of low impact lighting.	Contractor	• Carry out the light management activities as requested	Operational	Operations and maintenance contractor ECO	Ongoing.	Photographic evidence

▪ Make use of motion detectors on security lighting. This will allow the site to remain in relative darkness, until lighting is required for security or maintenance purposes.						

64. Health and Safety						
Impact Management Outcome: Ensure the health and safety of subcontractors and site users						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Maintain health and safety standards ▪ Appropriate PPE must be worn by staff and working personnel.	Project Developer / Contractor	▪ The Health & Safety Plan must be implemented during operational phase ▪ Ensure all ppersonnel is wearing appropriate and adequate PPE	Operation	Operations and maintenance contractor /ECO	Continuous	Maintenance registers and inspection registers should be in place and in use

65. Socio-Economic						
Impact Management Outcome: Socio-economic development is enhanced through Tourism						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ Enhance tourism impacts	Project Developer	An information notice board at the nearest town (Bedford) to facilitate educating the public about the need and benefits of project. This is aimed at instilling the concept of sustainability and creating awareness by engaging the community and local schools. Information brochures and posters must be made available at the kiosk that will provide more information about the facility. These should be presented in the appropriate languages to maximise the benefits	Operation phase	ECO Operations and maintenance contractor	Operation and ongoing	Proof of site erected at the site or in Bedford
▪ Minimise damage to agricultural land and stock losses, minimize disruption to current farm regimes.	Project Developer	Regular inspections around the constructed infrastructure during construction phase.	During the entire construction and operational phases	ECO	Prior to construction and ongoing	Reporting in monthly audit reports.

66. Traffic						
Impact Management Outcome: Mitigate traffic impacts						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Operational Phase						
▪ The traffic management plan will be adhered to including adherence to speed limits and 'rules of the road' ▪ All directly affected and neighbouring farmers and local residents will be able to lodge grievances with the Developer using the Grievance Procedure regarding dangerous driving or other traffic violations that could be linked to the project.	Project Developer/ Contractor	The traffic management plan and grievance mechanism procedure must be implemented	Construction	Contractor / ECO	Continuous	Compliance reporting on the traffic management plan and evidence of incidents reports as per the grievance mechanism.
▪ During operation, if abnormal loads are required for maintenance, the appropriate arrangements will be made to obtain the necessary transportation permits and the route ▪ agreed with the relevant authorities to minimise the impact of other road users. ▪ ▪ All internal and access roads that will be used by the Developer and/contractor/sub-contractors during the operational phase of the project must be maintained	Project Developer/ Contractor	Obtain the necessary permits for transportation Maintenance of the internal and access roads that will be used by the Developer and/contractor/sub-contractors during the operational phase	Construction	Contractor / ECO	Continuous	Transportation permits are in place Proof of maintenance of the internal and access roads that will be used by the Developer and/contractor/sub-contractors during the operational phase

6.4 REHABILITATION

67. Protection of Watercourses						
Impact Management Outcome: Pollution and contamination of the watercourse environment, drainage lines and or estuary erosion are prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Rehabilitation Phase						
▪ Monitor and rehabilitate disturbed areas near drainage lines. ▪ Reduce the number of crossings so as to reduce the impacts on connectivity of drainage lines.	cEO and contractor	Monitoring program to be established by freshwater ecologist	Rehabilitation Phase	ECO Operation and maintenance team	Monthly, and as and when required	Photographic evidence
▪ Minimize impacts and ensure buffer zones remain in place ▪ Institute 100m buffers around drainage lines and 500m buffers around natural wetlands.	cEO and contractor	Install silt traps to reduce sediment loss. Laydown areas must be created for stockpiling of equipment and chemicals, and for storage of materials during project-related activities. Prepare appropriate environmental management plans, e.g. stormwater and waste management plans, and monitor compliance.	Rehabilitation Phase	ECO Operation and maintenance team	Monthly, and as and when required	Evidence of silt traps installed Laydown areas created for stockpiling of equipment Appropriate management plans being adhered to as per requirements

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68. Dust Emissions						
Impact Management Outcome: Dust prevention measures are applied to minimise the generation of dust.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Rehabilitation Phase						
▪ Removal of vegetation must be avoided until such time as soil stripping is required and similarly exposed surfaces must be re- vegetated or stabilised as soon as is practically possible;	Contractor	Proper planning for vegetation removal must be undertaken as well as for the associated rehabilitation	Construction and Rehabilitation	ECO	Weekly	Plan for implementation must be provided by the Contractor

69. Exacavations						
Impact Management Outcome: No environmental degradation occurs as a result of excavation.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Rehabilitation Phase						
▪ Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes;	Contractor	Spoil used for landscaping must be applied as per the listed requirements	Construction and Rehabilitation	ECO	Monthly	Photographic record of spoil used for landscaping purposes

						as well as feedback from the contractor

70. Landscaping and Rehabilitation						
Impact Management Outcome: Minimise the risk of environmental impact during periods of site closure greater than five days.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Rehabilitation Phase						
▪ Re-vegetated areas, created during the construction phase, need to be continually monitored to ensure that invasive species do not congregate the buffers and adjacent habitat causing habitat homogenization, soil erosion (topsoil loss) and fragmentation. ▪ All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed to a registered waste site and certificates of disposal provided;	Contractor and ECO	Implement a rehabilitation plan; Dispose of all spoil and waste at a licensed waste disposal facility	Operation / Rehabilitation	ECO	Weekly	Rehabilitation of the disturbed areas is undertaken as per the rehabilitation plan. All waste disposal certificates are available.
▪ All slopes must be assessed for contouring, and to contour only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983	Contractor and ECO	Assess all slopes	Rehabilitation	ECO	Weekly	All slopes are assessed and contoured as required
▪ All slopes must be assessed for terracing, and to terrace only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983;	Contractor and ECO	Assess all slopes	Rehabilitation	ECO	Weekly	All slopes are assessed and terraced as required

▪ Berms that have been created must have a slope of 1:4 and be replanted with indigenous species and grasses that approximates the original condition;	Contractor and ECO	Ensure all berms have a slope of 1:4 and is replanted with indigenous species	Rehabilitation	ECO	Weekly	All berms have a slope of 1:4 and is replanted with indigenous species and grasses
▪ Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping which must be agreed to by the holder of the EA and the landowners;	DPM	Ensure that lands must be rehabilitated by ripping which must be agreed to by the holder of the EA and the landowners	Rehabilitation	ECO	Weekly	Written permission from Landowners
▪ Indigenous species must be used for with species and/grasses to where it compliments or approximates the original condition;	Contractor	Make use of indigenous species for rehabilitation	Rehabilitation	ECO	Weekly	Indigenous species are used for rehabilitation
▪ Stockpiled topsoil must be used for rehabilitation (refer to Section 6.49 : Stockpiling and stockpile areas; (construction phase)	Contractor	Ensure stockpiled topsoil is used as per the requirements listed under Section 6.49 : Stockpiling and stockpile areas; (construction phase)	Rehabilitation	ECO	Weekly	Stockpiled topsoil is used as per the requirements listed under Section 6.49 : Stockpiling and stockpile areas; (construction phase)
▪ Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion;	Contractor	Ensure that topsoil is spread evenly	Rehabilitation	ECO	Weekly	Topsoil is spread evenly
▪ Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed;	Contractor	Remove all visible weeds from placement area and topsoil before spreading the topsoil	Rehabilitation	ECO	Weekly	No weeds are visible in the placement area or the topsoil

▪ Subsoil must be ripped before topsoil is placed;	Contractor	Undertake the ripping of subsoil prior to the spreading of topsoil	Rehabilitation	ECO	Weekly	Subsoil is ripped before topsoil is placed
▪ The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment;	Contractor	Plan the timeframe for rehabilitation in order to undertake vegetation planting during the optimal time for vegetation establishment	Rehabilitation	ECO	At the start of rehabilitation to confirm correct timeframe	Rehabilitation is undertaken during the optimal time
▪ Where impacted through construction related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled;	Contractor	All disturbed slope areas must be stabilised	Rehabilitation	ECO	Weekly	Disturbed slopes are stabilised sufficiently
▪ Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly;	Contractor	Stabilise slopes as per the design specifications	Pre-construction & Rehabilitation	ECO	Weekly	Slopes are stabilised as per the design specifications
▪ Spoil can be used for backfilling or landscaping as long as it is covered by a minimum of 150 mm of topsoil.	Contractor	Spoil used for landscaping must be applied as per the listed requirements	Rehabilitation	ECO	Weekly	Photographic record of spoil used for landscaping purposes as well as feedback from the contractor
▪ Where required, re-vegetation including hydro-seeding can be enhanced using a vegetation seed mixture as described below. A mixture of seed can be used provided the mixture is carefully selected to ensure the following: a) Annual and perennial plants are chosen; b) Pioneer species are included; c) Species chosen must be indigenous to the area with the seeds used coming from the area; d) Root systems must have a binding effect on the soil;	Contractor in consultation with a suitably qualified specialist	Make use of a suitable vegetation seed mixture should enhancement be required	Rehabilitation	ECO	As and when required	Use of a suitable vegetation seed mixture if required

e) The final product must not cause an ecological imbalance in the area ▪ Areas that have been cleared during the construction phase need to re-vegetated with a similar species composition to ensure the areas are not colonised by opportunistic and alien species, which indirectly alters the biotic and abiotic landscape for terrestrial fauna. ▪ The mass rearing and propagation of key SCC species could include the rewilding into areas that may have become fragmented or where seed dispersal is restricted (e.g. across the R350).						

6.5 DECOMMISSIONING PHAASE

71. Stormwater management						
Impact Management Outcome: Impacts to the soil potential caused by stormwater and wastewater discharges during decommissioning						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Decommissioning Phase						
▪ Natural stormwater runoff not contaminated during the development and clean water can be discharged directly to watercourses and water bodies, subject to the Project Manager's approval and support by the ECO;	Contractor and cEO	Implement an effective system of storm water run-off control. See Stormwater management plan of this EMPr	Construction	ECO	Continuous	No mismanagement of runoff
▪ Rehabilitate any areas where erosion occurred and amend the stormwater run-off control measures if required.	Contractor	Implement erosion control measures	Construction	ECO	Monthly	Photographic proof of rehabilitation of areas that were eroded

72. Agriculture and soil potential						
Impact Management Outcome: No loss of topsoil through decommissioning activities that disturb the soil profile						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Decommissioning Phase						
▪ Unnecessary land clearance must be avoided; ▪ Regularly monitor the site to check for areas where signs of soil erosion may start to appear. ▪ Should any soil erosion be detected, it must be addressed immediately through rehabilitation and surface stabilisation techniques.Minimise erosion and loss of topsoil	Project Developer	Strip, stockpile and re-spread topsoil during rehabilitation	Decommissioning phase	ECO	Continually as required	No visible signs of soil erosion around the project infrastructure
Impact Management Outcome: No degradation of veld vegetation through vehicle traffic and dust generation						
▪ Control vehicle passage and control dust	Project Developer	Traffic management plan should address vehicle passage and dust control at decommissioning phase	Decommissioning phase	ECO	Continually as required	Proof of no loss of topsoil or excessive dust generation

73. Visual						
Impact Management Outcome: Visual impact of decommissioning activities on existing views of sensitive visual receptors						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Decommissioning Phase						
▪ Minimise the Visual impact of decommissioning activities on existing views of sensitive visual receptors	Operations and maintenance contractor/ ECO	Rehabilitation of cleared and disturbed areas. ▪ Working at night should be avoided, where possible. ▪ Night lighting of reclamation sites should be minimised within requirements of safety and efficiency	Decommissioning phase	Operations and maintenance contractor/ ECO	Ongoing	Evidence of rehabilitated areas after clearing and disturbing Proof of no or little night work
▪ Remove infrastructure not required for the post-decommissioning use of the site. ▪ Rehabilitate all areas as per the rehabilitation plan undertaken. Consult an ecologist regarding rehabilitation specifications. ▪ Access roads, which are not required post-construction, should be ripped and rehabilitated	Contractor	Periodic rehabilitation and maintenance of access roads and associated infrastructure. Adhere to the approved rehabilitation plan.	Operational	Operations and maintenance contractor ECO	Ongoing.	Photographic evidence Proof of rehabilitation activities
▪ Monitor rehabilitated areas, post decommissioning and implement remedial action as and when required	Contractor	Carry out rehabilitation activities where required and remediate any affected or degraded roads or infrastructure.	Operational	Operations and maintenance contractor ECO	Ongoing.	Photographic evidence

74. Protection of fauna						
Impact Management Outcome: Minimise disturbance to fauna and avifauna.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Decommissioning Phase						
▪ All vehicles carrying out decommissioning activities must adhere to low speed limits for heavy (30km/h) and light vehicles (40km/h).	dEO / cEO Contractor	Ensure speed limit signs are visible and speed is monitored.	Decommissioning	ECO Operation and maintenance team	Monthly, and as and when required	No incident report relating to speeding.
▪ No deliberate or intentional killing of fauna is allowed;	dEO / cEO in consultation with the Contractor	Implement and maintain snake deterrents on pylons in areas where snakes are abundant	Decommissioning	ECO Operation and maintenance team	Once, during the construction of the pylons and as and when required. Monthly during operation	Photographic record of the implementation and maintenance of snake deterrents
▪ Conduct an avifaunal inspection of the OHL prior to its decommissioning to identify nests on the poles/towers. A site-specific Decommissioning EMPr (DEMPr) must be implemented, which gives appropriate and detailed description of how construction activities must be conducted. All contractors are to adhere to the DEMPr and should apply good environmental practice during decommissioning. The DEMPr must specifically include the following: ▪ No off-road driving;	1. Contractor and ECO 2. Contractor and ECO 3. Contractor and ECO 4. Contractor and ECO 5. Contractor and ECO	1. Implementation of the DEMPr. Oversee activities to ensure that the DEMPr is implemented and enforced via site audits and inspections. Report and record any non-compliance. 2. Ensure that decommissioning personnel are made	Decommissioning	1. Contractor and ECO 2. Contractor and ECO 3. Contractor and ECO 4. Contractor and ECO 5. Contractor and ECO	1. On a daily basis 2. Weekly 3. Weekly 4. Weekly 5. Weekly	1. Evidence of ECO monitoring 2. Evidence of awareness training of decommissioning personnel 3. Adequate road demarcation and signage 4. Evidence of noise monitoring by specialist. No complaints for noise

▪ Maximum use of existing roads during the decommissioning phase and the construction of new roads should be kept to a minimum as far as practical; ▪ Measures to control noise and dust according to latest best practice; ▪ Restricted access to the rest of the property; ▪ Strict application of all recommendations in the botanical specialist report pertaining to the limitation of the footprint.		aware of the impacts relating to off-road driving. 3. Access roads must be demarcated clearly. Undertake site inspections to verify. 4. Monitor the implementation of noise control mechanisms via site inspections and record and report non-compliance. 5. Ensure that the decommissioning area is demarcated clearly and that personnel are made aware of these demarcations. Monitor via site inspections and report non-compliance.				5. Adequatede commissioning area demarcation and signage

75. Protection of Watercourses						
Impact Management Outcome: Pollution and contamination of the watercourse environment drainage lines, and or estuary erosion are prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Decommissioning Phase						
▪ Monitor and rehabilitate disturbed areas near drainage lines.	cEO and contractor	Monitoring program to be established by freshwater ecologist	Decommissioning Phase	ECO Operation and maintenance team	Monthly, and as and when required	Photographic evidence
▪ Minimize impacts and ensure buffer zones remain in place	cEO and contractor	Install silt traps to reduce sediment loss. Laydown areas must be created for stockpiling of equipment and chemicals, and for storage of materials during project-related activities. Prepare appropriate environmental management plans, e.g. stormwater and waste management plans, and monitor compliance.	Decommissioning Phase	ECO Operation and maintenance team	Monthly, and as and when required	Evidence of silt traps installed Laydown areas created for stockpiling of equipment Appropriate management plans being adhered to as per requirements

76. Ecological resources						
Impact Management Outcome: No negative impact to ecology of the site during or after decommissioning						
Impact Management Actions	Implementation			Monitoring		
	Responsible Person	Method of Implementation	Timeframe for Implementation	Responsible Person	Frequency	Evidence of Compliance
Decommissioning Phase						
▪ The rehabilitation of the site must ensure that the final condition of the site is environmentally acceptable and that there will be no adverse long term effects on the surrounding environment afterwards ▪ If the monitoring during the lifespan of the WEF indicates significant but unintended or un-anticipated impacts on the plant ecology of SCC – then the entire road network needs to be decommissioned (after the Decommissioning Phase) and the roads need to be rehabilitated back to the original vegetation. ▪ Conduct as much decommissioning as possible during the dry season, and outside the buffers. ▪ No unnecessary activities, e.g. stockpiles, within the drainage lines or minimum of 100m buffer on either side of the active channel, or within the 500m regulatory buffer around wetlands. ▪ Silt traps must be in place to prevent sedimentation. ▪ Emergency protocols must be in place in case of spills. ▪ Laydown yards, camps and storage areas must be beyond the watercourse areas. ▪ Proper mitigations and management, especially in terms of materials used and management of domestic waste from workers on site.	dEO / cEO in consultation with the Specialists	Follow the requirements and procedures as stipulated in the rehabilitation plan.	Decommissioning	Operations and maintenance contractor/ ECO	Ongoing	Photographic evidence of the progress on final rehabilitation to be documented by the ECO in monitoring reports for the duration of the construction phase.

SECTION 7: PROJECT REQUIREMENTS

Activities undertaken during site preparation, construction and operation may require additional permits, over and above the Environmental Authorisation. The developer is responsible for ensuring that the necessary permits are in place in order to comply with national and local regulations. Additional permit requirements are described below.

7 7.1 SAHRA Requirements

The following requirements are made in terms of section 3(4) of the NEMA Regulations and section 38(8) of the National Heritage Resources Act, Act No 25 of 1999 (NHRA):

- 38(4)b – The recommendations of the specialists must be adhered to.
- 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.
- 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with this section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.
- 38(4)e – The following condition apply with regards to the appointment of specialists:
- If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.

7.2 Water Use Authorisation Requirements

Regulations requiring that a water user be registered, GN R.1352 (1999). Regulations requiring the registration of water users were promulgated by the Minister of Water Affairs in terms of provision made in Section 26(1)(c), read together with Section 69 of the National Water Act, 1998. Section 26(1)(c) of the Act allows for registration of all water uses including existing lawful water use in terms of Section 34(2). Section 29(1)(b)(vi) also states that in the case of a GA, the responsible authority may attach a condition requiring the registration of such water use. The Regulations (Art. 3) oblige any water user as defined under Section 21 of the Act to register such use with the responsible authority and effectively to apply for a Registration Certificate as contemplated under Art.7(1) of the Regulations. GA in terms of Section. 39 of the NWA.

According to the preamble to Part 6 of the NWA, 1998, "This Part established a procedure to enable a responsible authority, after public consultation, to permit the use of water by publishing general authorisations in the Gazette…" and further states that "The use of water under a general authorisation does not require a licence until the general authorisation is revoked, in which case licensing will be necessary…" The GAs for Section 21 (c) and (i) water uses (impeding or diverting flow or changing the bed, banks or characteristics of a watercourse) as defined under the NWA have recently been revised (Government Notice R509 of 2016). The proposed works within or adjacent to the wetland areas and river channels are likely to change the characteristics of the associated freshwater ecosystems and may therefore require authorization. Determining if a water use licence is required for these water uses is now associated with the risk of degrading the ecological status of a watercourse. A low risk of impact could be authorised in terms of a GA.

7.3 Borrow Pits

A borrow pit refers to an open pit where material (soil, sand, or gravel rock) is removed for use at another location. Msenge Emoyeni Wind Farm (Pty) Ltd may want to use borrow pits for certain earthworks operations, such as the construction of roads, embankments, bunds, berms, and other structures.

The establishment of borrow pits is regarded as a mining activity and is legislated in terms of the Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA). A mining permit must be obtained from the Department of Minerals and Energy prior to the establishment of borrow pits on the site.

7.4 Abnormal vehicle Loads

Wind turbine components will be delivered to site using road transport and due to the size of the components, the vehicles used to deliver turbine components will be considered abnormal loads in terms of the Road Traffic Act (Act No 29 of 1989). A permit for a vehicle carrying an abnormal load must be obtained from the relevant Provincial Authority. The vehicle must comply with the Administrative Guidelines for Granting of Exemption Permits for the Conveyance of Abnormal Loads, issued by the Department of Transport, 2009.

SECTION 8: CONCLUSION

The mitigation and permit/license requirements as mentioned in this document include all recommendations made by the specialists appointed for the deviation of the authorised 132kV powerline and development of an on-site substation associated with the authorised Msenge Emoyeni Wind Energy Facility, Eastern Cape Province. Recommendations and stipulations received during the public participation process will be incorporated and addressed within this EMPr prior to submission of the Final Basic Assessment report to the competent authority. also be included in this document. The EAP is confident that this Environmental Management Programme addresses all identified impacts to acceptable levels and that this document should be accepted as the Final EMPr for the watercourse crossings and access tracks associated with the deviation of the authorised 132kV powerline and development of an on-site substation associated with the authorised Msenge Emoyeni Wind Energy Facility (2022) on completion of the public participation process and incorporation of all comments received from stakeholders and I&AP's.

APPENDICES

Appendix A: Curricula Vitae

Appendix B: Grievance Mechanism

Appendix C: Alien Plant and Open Space Management Plan

Appendix D: Plant Rescue and Protection Plan

Appendix E: Re-vegetation and Rehabilitation Plan

Appendix F: Bush Encroachment Management Plan

Appendix G: Erosion Management Plan

Appendix H: Stormwater Management Plan

Appendix I: Waste Management Plan

Appendix J: Emergency Preparedness, Response and Fire Management Plan

Appendix K: Traffic Management Plan

Appendix L: Key Legislation

Appendix M: Chance Find Procedure