DEVELOPMENT AND EXPANSION OF SUBSTATION INFRASTRUCTURE FOR THE TRANSMISSION AND DISTRIBUTION OF ELECTRICITY

DEVELOPMENT OF THE ON-SITE 132KV SWITCHING STATION AT THE VIRGINIA SOLAR PARK, LOCATED ON THE VIRGINIA 1 SOLAR PARK, MATJHABENG LOCAL MUNICIPALITY, LEJWELEPUTSWA DISTRICT MUNICIPALITY, FREE STATE PROVINCE

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GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE DEVELOPMENT AND EXPANSION OF SUBSTATION INFRASTRUCTURE FOR THE TRANSMISSION AND DISTRIBUTION OF ELECTRICITY




environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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INTRODUCTION

1. Background

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) requires that an environmental management programme (EMPr) be submitted where an environmental impact assessment (EIA) has been identified as the environmental instrument to be utilised as the basis for a decision on an application for environmental authorisation (EA). The content of an EMPr must either contain the information set out in Appendix 4 of the Environmental Impact Assessment Regulations, 2014, as amended (EIA Regulations) or must be a generic EMPr relevant to an application as identified and gazetted by the Minister in a government notice. Once the Minister has identified, through a government notice that a generic EMPr is relevant to an application for EA, that generic EMPr must be applied by all parties involved in the EA process, including but not limited to the applicant and the competent authority (CA).

Please kindly see below an Organogram of the Applicant Company Structure (Figure 1) and requirements for an Environmental Site Compliance Officer (ESCO):

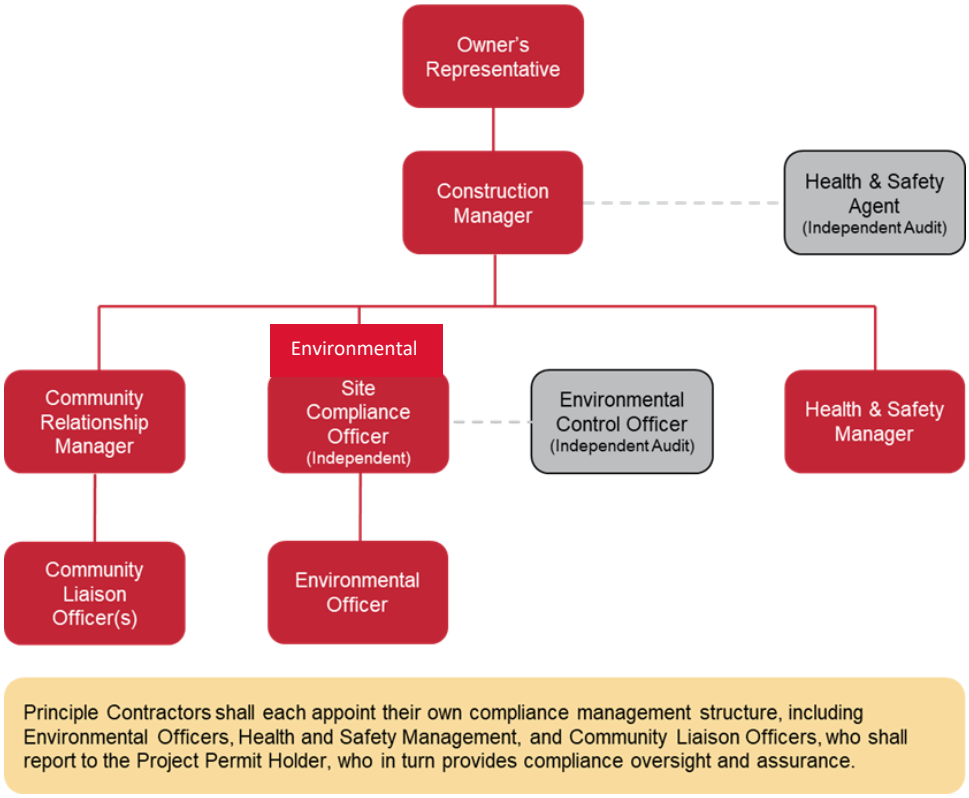


Figure 1: Organogram of the Applicant company structure

A suitably qualified ESCO must be appointed by the Applicant to monitor the project compliance onsite on a full-time basis.

Responsibilities of the ESCO include:

- Be fully conversant with the BAR, the conditions of EA and the EMPr;
- Be fully conversant with all relevant environmental legislation and ensure compliance thereof;
- Approve method statements (co-approval with Site Manager);
- Remain employed until the completion of the construction activities; and
- Report to the Project Manager, including all findings identified onsite.

In addition, the ESCO will:

- Undertake monthly inspections of the site and surrounding areas to audit compliance with the EMPr and conditions of the environmental authorisation;
- Take appropriate action if the specifications contained in the EMPr and conditions of the environmental authorisation are not followed;
- Monitor and verify that environmental impacts are kept to a minimum, as far as possible; and
- Ensure that activities onsite comply with all relevant environmental legislation.

2. Purpose

This document constitutes a generic EMPr relevant to applications for the development or expansion of substation infrastructure for the transmission and distribution of electricity, and all listed and specified activities necessary for the realisation of such infrastructure.

This EMPr has been amended for the construction and operation of the **132kV Switching station** that will connect the Virginia 1, 2 and 3 Solar Parks to the Virginia 132kV Powerline and to the Eskom Theseus Substation, located on the Farm Blomskraal 216, Matjhabeng Local Municipality, Lejweleputswa District Municipality, Free State Province.

Please note that the Virginia 1 Solar Park 132kV substation was administratively split, consequently, the two components of the substation (132kV step-up substation and switching station) fall under different ownership. The Virginia 1 Solar Park 132kV step-up substation (this EMPr) falls under the URSA Energy (RF) (Pty) Ltd Applicant. The 132kV switching station falls under the Norma Energy (Pty) Ltd Applicant.

This Generic EMPr speaks to the <u>132kV switching station only.</u>

The roles and responsibilities of this EMPr (Section 3, page 6 and 9) have been updated as per the Client's specific organogram. The additional roles and responsibilities are indicated via underlined text.

3. Objective

The objective of this generic EMPr is to prescribe and pre-approve generally accepted impact management outcomes and impact management actions, which can commonly and repeatedly be used for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of substation infrastructure for the transmission and distribution of electricity. The use of a generic EMPr is intended to reduce the need to prepare and review individual EMPrs for applications of a similar nature.

4. Scope

The scope of this generic EMPr applies to the development or expansion of substation infrastructure for the transmission and distribution of electricity requiring EA in terms of NEMA. This generic EMPr applies to activities requiring EA, mainly activity 11 and 47 of the Environmental Impact Assessment Regulations Listing Notice 1 of 2014, as amended, and activity 9 of the Environmental Impact Assessment Regulations Listing Notice 2 of 2014, as amended, and all associated listed or specified activities necessary for the realization of such infrastructure.

5. Structure of this document

This document is structured in three parts with an Appendix as indicated in the table below:

Part	Section	Heading	Content
A		Provides general guidance and information and is **not legally binding**	Definitions, acronyms, roles & responsibilities and documentation and reporting.
B	1	Pre-approved generic EMPr template	Contains generally accepted impact management outcomes and impact management actions required for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of substation infrastructure for the transmission and distribution of electricity, which are presented in the form of a template that has been pre-approved. The template in this section is to be completed by the contractor, with each completed page signed and dated by the holder of the EA prior to commencement of the activity. Where an impact management outcome is not relevant, the words "not applicable" can be inserted in the template under the "responsible persons" column. Once completed and signed, the template represents the EMPr for the activity approved by the CA and is legally binding. The template **is not required** to be submitted to the CA as once the generic EMPr is gazetted for implementation, it has been approved by the CA. To allow interested and affected parties access to the pre-approved EMPr template for consideration through the decision-making process, the EAP on behalf of the applicant /proponent must make the hard copy of this EMPr available at a public location and where the applicant has a website, the EMPr should also be made available on such publicly accessible website.
	2	Site specific information	Contains preliminary infrastructure layout and a declaration that the applicant/holder of the EA will comply with the pre-approved generic EMPr template contained in Part B: Section 1 and understands that the impact management outcomes and impact management

Part	Section	Heading	Content
			actions are **legally binding**. The preliminary infrastructure layout must be finalized to inform the final EMPr that is to be submitted with the basic assessment report (BAR) or environmental impact assessment report (EIAR), ensuring that all impact management outcomes and impact management actions have been either pre-approved or approved in terms of Part C. This section **must be** submitted to the CA together with the final BAR or EIAR. The information submitted to the CA will be considered to be incomplete should a signed copy of Part B: section 2 not be submitted. Once approved, this Section forms part of the EMPr for the development and is legally binding.
C		Site specific sensitivities/ attributes	If any specific environmental sensitivities/ attributes are present on the site which require site specific impact management outcomes and impact management actions, not included in the pre-approved generic EMPr, to manage impacts, these specific impact management outcomes and impact management actions must be included in this section. These specific environmental attributes must be referenced spatially, and impact management outcomes and impact management actions must be provided. These specific impact management outcomes and impact management actions must be presented in the format of the pre-approved EMPr template (Part B: section 1) This section will not be required should the site contain no specific environmental sensitivities or attributes. However, if Part C is applicable to the site, it **is required** to be submitted together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP and must contain his/her name and expertise including a curriculum vitae. Once approved, Part C forms part of the EMPr for the site and is legally binding. This section applies only **to additional** impact management outcomes and impact management actions that are necessary for the avoidance, management and mitigation of impacts and risks associated with the specific development or expansion and which are not already included in Part B: section 1.

Part	Section	Heading	Content
Appendix 1			Contains the method statements to be prepared prior to commencement of the activity. The method statements are **not required** to be submitted to the competent authority.

6. Completion of part B: section 1: the pre-approved generic EMPr template

The template is to be completed prior to commencement of the activity, by providing the following information for each environmental impact management action:

- For implementation
  - a 'responsible person',
  - a method for implementation,
  - a timeframe for implementation
- For monitoring
  - a responsible person
  - frequency
  - evidence of compliance.

The completed template must be signed and dated by the holder of the EA prior to commencement of the activity. The method statements prepared and agreed to by the holder of the EA must be appended to the template as Appendix 1. Each method statement must be signed and dated on each page by the holder of the EA. This template once signed and dated is legally binding. The holder of the EA will remain responsible for its implementation.

7. Amendments of the impact management outcomes and impact management actions

Once the activity has commenced, a holder of an EA may make amendments to the impact management outcomes and impact management actions in the following manner:

- Amendment of the impact management outcomes: in line with the process contemplated in Regulation 37 of the EIA Regulations; and
- Amendment of the impact management actions in line with the process contemplated in Regulation 36 of the EIA Regulations.

8. Documents to be submitted as part of part B: section 2 site specific information and declaration

Part B: Section 2 has three distinct sub-sections. The first and third sub-sections are in a template format. Sub-section two requires a map to be produced.

Sub-section 1 contains the project name, the applicant's name and contact details, the site information, which includes coordinates of the property or farm in which the proposed substation infrastructure is proposed as well as the 21-digit Surveyor General code of each cadastral land parcel and, where available, the farm name.

Sub-section 2 is to be prepared by an EAP and must contain his/her name and expertise including a curriculum vitae. This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout using the national web based environmental screening tool, when available for compulsory use at: https://screening.environment.gov.za/screeningtool. The sensitivity map shall identify the nature of each sensitive feature e.g., threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features and within 50 m from the development footprint.

Sub-section 3 is the declaration that the applicant (s)/proponent (s) or holder of the EA in the case of a change of ownership must complete which confirms that the applicant/EA holder will comply with the pre-approved 'generic EMPr' template in Section 1 and understands that the impact management outcomes and impact management actions are legally binding.

(a) Amendments to Part B: Section 2 – site specific information and declaration

Should the EA be transferred, Part B: Section 2 must be completed by the new applicant/proponent and submitted with the application for an amendment of the EA in terms of regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted as part of such an application for an amendment to an EA will be considered to be incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr bECO, ESCOmes legally binding to the new EA holder.

PART A – GENERAL INFORMATION

1. DEFINITIONS

In this EMPr any word or expression to which a meaning has been assigned in the NEMA or EIA Regulations has that meaning, and unless the context requires otherwise –

" clearing" means the clearing and removal of vegetation, whether partially or in whole, including trees and shrubs, as specified.

" Construction camp" is the area designated for key construction infrastructure and services, including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous 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" - The Contractor has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract, are in line with the Environmental Management Programme and that Method Statements are implemented as described.

"**Hazardous substance**" is a substance governed by the Hazardous Substances Act, 1973 (Act No. 15 of 1973) as well as the Hazardous Chemical and Substances Regulations, 1995.

"Method statement" means a written submission by the Contractor to the Project Manager in response to this EMPr or a request by the Project Manager and ECO, ESCO. The method statement must set out the equipment, materials, labour, and method(s) the Contractor proposes using to carry out an activity identified by the Project Manager when requesting the Method Statement. This must be done in such detail that the Project Manager and ECO, ESCO is able to assess whether the Contractor's proposal is in accordance with this specification and/or will produce results in accordance with this specification.

The method statement must cover as a minimum applicable detail with regard to:

(i) Construction procedures.
(ii) Plant, materials, and equipment to be used.
(iii) Transporting the equipment to and from site.
(iv) How the plant/ material/ equipment will be moved while on site.
(v) How and where the plant/ material/ equipment will be stored.
(vi) The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur.
(vii) Timing and location of activities.
(viii) Compliance/ non-compliance; and
(ix) Any other information deemed necessary by the Project Manager.

"slope" means the inclination of a surface expressed as one unit of rise or fall for so many horizontal units.

"Solid waste" means all solid waste, including construction debris, hazardous waste, excess cement/ concrete, wrapping materials, timber, cans, drums, wire, nails, food, and domestic waste (e.g., plastic packets and wrappers).

"spoil" means excavated material which is unsuitable for use as material in the construction works or is material which is surplus to the requirements of the construction works.

"topsoil" means a varying depth (up to 300 mm) of the soil profile irrespective of the fertility, appearance, structure, agricultural potential, fertility, and composition of the soil.

"works" means the works to be executed in terms of the Contract

2. ACRONYMS and ABBREVIATIONS

CA	Competent Authority
cEO	Contractors Environmental Officer
dEO	Developer Environmental Officer
DPM	Developer Project Manager
DSS	Developer Site Supervisor
EAR	Environmental Audit Report
ECA	Environment Conservation Act No. 73 of 1989
ECO, ESCO	Environmental Control Officer
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
ERAP	Emergency Response Action Plan
EMPr	Environmental Management Programme Report
EAP	Environmental Assessment Practitioner
FPA	Fire Protection Agency
HCS	Hazardous chemical Substance
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act ,2004 (Act No. 10 of 2004)
NEMWA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
MSDS	Material Safety Data Sheet
RI&APs	Registered Interested and affected parties

3. ROLES AND RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) IMPLEMENTATION

The effective implementation of this generic EMPr is dependent on established and clear roles, responsibilities, and reporting lines within an institutional framework. This section of the EMPr gives guidance to the various environmental roles and reporting lines, however, project specific requirements will ultimately determine the need for the appointment of specific person(s) to undertake specific roles and or responsibilities. As such, it must be noted that in the event that no specific person, for example, an environmental control officer (ECO, ESCO) is appointed, the holder of the EA remains responsible for ensuring that the duties indicated in this document for action by the ECO, ESCO are undertaken.

Table 1: *Guide to roles and responsibilities for implementation of an EMPr*

Responsible Person(s)	**Role and Responsibilities**
Developer's Project Manager (DPM)	<u>Role</u> The Project Developer is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent authority (CA). Where required, an environmental control officer (ECO, ESCO) must be contracted by the Project Developer to objectively monitor the implementation of the EMPr according to relevant environmental legislation, and the conditions of the environmental authorisation (EA). The Project Developer is further responsible for providing and giving mandate to enable the ECO, ESCO to perform responsibilities, and he must ensure that the ECO, ESCO is integrated as part of the project team while remaining independent. <u>Responsibilities</u> - Be fully conversant with the conditions of the EA. - Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s). - Issuing of site instructions to the Contractor for corrective actions required. - Monitor the implementation of the EMPr throughout the project by means of site inspections and meetings. Overall management of the project and EMPr implementation; and - Ensure that periodic environmental performance audits are undertaken on the project implementation.

Responsible Person(s)	Role and Responsibilities
Developer Site Supervisor (DSS)	Role The DSS reports directly to the DPM, oversees site works, liaises with the contractor(s) and the ECO, ESCO. The DSS is responsible for the day-to-day implementation of the EMPr and for ensuring the compliance of all contractors with the conditions and requirements stipulated in the EMPr. Responsibilities - Ensure that all contractors identify a contractor's Environmental Officer (cEO). - Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO, ESCO. - Must ensure that all landowners have the relevant contact details of the site staff, ECO, ESCO and cEO. - Issuing of site instructions to the Contractor for corrective actions required. - Will issue all non-compliances to contractors; and - Ratify the Monthly Environmental Report.
Environmental Control Officer (ECO, ESCO)	Role The ECO, ESCO should have appropriate training and experience in the implementation of environmental management specifications. The primary role of the ECO, ESCO is to act as an independent quality controller and monitoring agent regarding all environmental concerns and associated environmental impacts. In this respect, the ECO, ESCO is to conduct periodic site inspections, attend regular site meetings, pre-empt problems and suggest mitigation and be available to advise on incidental issues that arise. The ECO, ESCO is also required to conduct compliance audits, verifying the monitoring reports submitted by the cEO. The ECO, ESCO provides feedback to the DSS and Project Manager regarding all environmental matters. The Contractor, cEO and dEO are answerable to the Environmental Control Officer for non-compliance with the Performance Specifications as set out in the EA and EMPr. The ECO, ESCO provides feedback to the DSS and Project Manager, who in turn reports back to the Contractor and potential and Registered Interested &Affected Parties (RI&APs), as required. Issues of non-compliance raised by the ECO, ESCO must be taken up by the Project Manager and resolved with the Contractor as per the conditions of his contract. Decisions regarding environmental procedures, specifications and requirements which have a cost implication (i.e., those that are deemed to be a variation, not allowed for in the Performance Specification) must be endorsed by the Project Manager. The ECO, ESCO must also, as be specified by the EA, report to the relevant CA as and when required.

Responsible Person(s)	Role and Responsibilities
	Responsibilities The responsibilities of the ECO, ESCO will include the following: - A suitably qualified external ECO, ESCO must be appointed by the Holder of the EA to audit the project compliance in terms of the EMPr and conditions of the EA on a monthly basis, during the construction phase, in line with Condition 21 of the EA. - The costs of the ECO, ESCO shall be borne by the Holder of the EA (proof of appointment must be maintained onsite). - Be aware of the findings and conclusions of all EA related to the development. - Be familiar with the rECO, ESCOmmendations and mitigation measures of this EMPr. - Be conversant with relevant environmental legislation, policies, and procedures, and ensure compliance with them. - Undertake regular and comprehensive site inspections / audits of the construction site according to the generic EMPr and applicable licenses in order to monitor compliance as required. - Educate the construction team about the management measures contained in the EMPr and environmental licenses. - Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective. - Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements. - In consultation with the Developer Site Supervisor order the removal of person(s) and/or equipment which are in contravention of the specifications of the EMPr and/or environmental licenses. - Liaison between the DPM, Contractors, authorities, and other lead stakeholders on all environmental concerns. - Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr. - Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO). - Checking the cEO's rECO, ESCOrd of environmental incidents (spills, impacts, legal transgressions etc.) as well as corrective and preventive actions taken. - Checking the cEO's public complaints register in which all complaints are rECO, ESCOrded, as well as action taken. - Assisting in the resolution of conflicts.

Responsible Person(s)	Role and Responsibilities
	- Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor. - In case of non-compliances, the ECO, ESCO must first communicate this to the Senior Site Supervisor, who has the power to ensure this matter is addressed. Should no action or insufficient action be taken, the ECO, ESCO may report this matter to the authorities as non-compliance. - Maintenance, update, and review of the EMPr. - Communication of all modifications to the EMPr to the relevant stakeholders.
developer Environmental Officer (dEO)	<u>Role</u> The dEOs will report to the Project Manager and are responsible for implementation of the EMPr, environmental monitoring and reporting, providing environmental input to the Project Manager and Contractor's Manager, liaising with contractors and the landowners as well as a range of environmental coordination responsibilities. <u>Responsibilities</u> - Be fully conversant with the EMPr. - Be familiar with the rECO, ESCOmmendations and mitigation measures of this EMPr and implement these measures. - Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s). - Confine the development site to the demarcated area. - Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO). - Assist the contractors in addressing environmental challenges on site. - Assist in incident management: - Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared. - Assist the contractor in investigating environmental incidents and compile investigation reports. - Follow-up on pre-warnings, defects, non-conformance reports. - Measure and communicate environmental performance to the Contractor. - Conduct environmental awareness training on site together with ECO, ESCO and cEO. - Ensure that the necessary legal permits and / or licenses are in place and up to date. - Acting as Developer's Environmental Representative on site and work together with the ECO, ESCO and contractor;

Responsible Person(s)	Role and Responsibilities
Contractor	Role The Contractor appoints the cEO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where specified, to provide Method Statements setting out in detail how the impact management actions contained in the EMPr will be implemented during the development or expansion of substation infrastructure for the transmission and distribution of electricity activities. Responsibilities - project delivery and quality control for the development services as per appointment. - employ a suitably qualified person to monitor and report to the Project Developer's appointed person on the daily activities on-site during the construction period. - ensure that safe, environmentally acceptable working methods and practices are implemented, and that equipment is properly operated and maintained, to facilitate proper access and enable any operation to be carried out safely. - attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones. - ensure that contractors' staff repair, at their own cost, any environmental damage as a result of a contravention of the specifications contained in EMPr, to the satisfaction of the ECO, ESCO.
contractor Environmental Officer (cEO)	Role Each Contractor affected by the EMPr should appoint a cEO, who is responsible for the on-site implementation of the EMPr (or relevant sections of the EMPr). The Contractor's representative can be the site agent; site engineer; a dedicated environmental officer; or an independent consultant. The Contractor must ensure that the Contractor's Representative is suitably qualified to perform the necessary tasks and is appointed at a level such that she/he can interact effectively with other site Contractors, labourers, the Environmental Control Officer, and the public. As a minimum the cEO shall meet the following criteria: Responsibilities - Be on site throughout the duration of the project and be dedicated to the project.

Responsible Person(s)	Role and Responsibilities
	- Ensure all their staff are aware of the environmental requirements, conditions, and constraints with respect to all of their activities on site. - Implementing the environmental conditions, guidelines and requirements as stipulated within the EA, EMPr and Method Statements. - Attend the Environmental Site Meeting. - Undertaking corrective actions where non-compliances are registered within the stipulated timeframes. - Report back formally on the completion of corrective actions. - Assist the ECO, ESCO in maintaining all the site documentation. - Prepare the site inspection reports and corrective action reports for submission to the ECO, ESCO. - Assist the ECO, ESCO with the preparing of the monthly report; and - Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint a cEO representing that company.
Environmental Onsite Compliance Officer (ESCO)	- A suitably qualified ESCO must be appointed by the Holder of the EA to monitor the project compliance onsite on a full time basis. - Responsibilities of the ESCO include: o Be fully conversant with the BAR, the conditions of EA and the EMPr; o Be fully conversant with all relevant environmental legislation and ensure compliance thereof; o Approve method statements (co-approval with Site Manager); o Remain employed until the completion of the construction activities; and o Report to the Project Manager, including all findings identified onsite. - In addition, the ESCO will: o Undertake monthly inspections of the site and surrounding areas to audit compliance with the EMPr and conditions of the environmental authorisation; o Take appropriate action if the specifications contained in the EMPr and conditions of the environmental authorisation are not followed; o Monitor and verify that environmental impacts are kept to a minimum, as far as possible; and o Ensure that activities onsite comply with all relevant environmental legislation

4. ENVIRONMENTAL DOCUMENTATION REPORTING AND COMPLIANCE

To ensure accountable and demonstrated implementation of the EMPr, a number of reporting systems, documentation controls and compliance mechanisms must be in place for all substation infrastructure projects as a minimum requirement.

4.1 Document control/Filing system

The holder of the EA is solely responsible for the upkeep and management of the EMPr file. As a minimum, all documentation detailed below will be stored in the EMPr file. A hard copy of all documentation shall be filed, while an electronic copy may be kept where relevant. A duplicate file will be maintained in the office of the DSS (where applicable). This duplicate file must remain current and up to date. The filing system must be updated, and relevant documents added as required. The EMPr file must be made available at all times on request by the CA or other relevant authorities. The EMPr file will form part of any environmental audits undertaken as prescribed in the EIA Regulations.

4.2 Documentation to be available

At the outset of the project the following preliminary list of documents shall be placed in the filing system and be accessible at all times:

- Full copy of the signed EA from the CA in terms of NEMA, granting approval for the development or expansion.
- Copy of the generic and site specific EMPr as well as any amendments thereof.
- Copy of declaration of implementing generic EMPr and subsequent approval of site specific EMPr and amendments thereof.
- All method statements.
- Completed environmental checklists.
- Minutes and attendance register of environmental site meetings.
- An up-to-date environmental incident log.
- A copy of all instructions or directives issued.
- A copy of all corrective actions signed off. The corrective actions must be filed in such a way that a clear reference is made to the non-compliance rECO, ESCOrd.
- Complaints register.

4.3 Weekly Environmental Checklist

The ECO, ESCOs are required to complete a Weekly Environmental Checklist, the format of which is to be agreed prior to commencement of the activity. The ECO, ESCOs are required to sign and date the checklist, retain a copy in the EMPr file and submit a copy of the completed checklist to the DSS on a weekly basis.

The checklists will form the basis for the Monthly Environmental Reports. Copies of all completed checklists will be attached as Annexures to the Environmental Audit Report as required in terms of the EIA Regulations.

4.4 Environmental site meetings

Minutes of the environmental site meetings shall be kept. The minutes must include an attendance register and will be attached to the Monthly Report that is distributed to attendees. Each set of minutes must clearly rECO, ESCOrd “Matters for Attention” that will be reviewed at the next meeting.

4.5 Required Method Statements

The method statement will be done in such detail that the ECO, ESCOs are enabled to assess whether the contractor's proposal is in accordance with the EMPr.

The method statement must cover applicable details with regard to:

- development procedures.
- materials and equipment to be used.
- getting the 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 EMPr; and
- any other information deemed necessary by the ECO, ESCOs.

Unless indicated otherwise by the Project Manager, the Contractor shall provide the following method statements to the Project Manager no less than 14 days prior to the commencement date of the activity:

- Site establishment – Camps, Lay-down or storage areas, satellite camps, infrastructure.
- Batch plants.
- Workshop or plant servicing.
- Handling, transport, and storage of Hazardous Chemical Substance's.
- Vegetation management – Protected, clearing, aliens, felling.
- Access management – Roads, gates, crossings etc.
- Fire plan.
- Waste management – transport, storage, segregation, classification, disposal (all waste streams).
- Social interaction – complaints management, compensation claims, access to properties etc.
- Water – use (source, abstraction, and disposal), access and all related information, crossings, and mitigation.
- Emergency preparedness – Spills, training, other environmental emergencies.
- Dust and noise management methodologies.
- Fauna interaction and risk management – only if the risk was identified – wildlife interaction especially on game farms; and
- Heritage and palaeontology management.

The ECO, ESCOs shall monitor and ensure that the contractors perform in accordance with these method statements. Completed and agreed method statements between the holder of the EA and the contractor shall be captured in Appendix 1.

4.6 Environmental Incident Log (Diary)

The ECO, ESCOs are required to maintain an up-to-date and current Environmental Incident Log (environmental diary). The Environmental Incident Log is a means to rECO, ESCOrd all environmental incidents and/or all non-compliance notice would not be issued. An environmental incident is defined as:

- Any deviation from the listed impact management actions (listed in this EMPr) that may be addressed immediately by the ECO, ESCOs. (For example, a contractor's staff member littering or a drip tray that has not been emptied).
- Any environmental impact resulting from an action or activity by a contractor in contravention of the environmental stipulations and guidelines listed in the EMPr which as a single event would have a minor impact but which if cumulative and continuous would have a significant effect (for example no toilet paper available in the ablutions for an afternoon); and
- General environmental information such as road kills or injured wildlife.

The ECO, ESCOs are to rECO, ESCOrd all environmental incidents in the Environmental Incident Log. All incidents regardless of severity must be reported to the Developer. The Log is to be kept in the EMPr file and at a minimum the following will be rECO, ESCOrded for each environmental incident:

- The date and time of the incident.
- Description of the incident.
- The name of the Contractor responsible.
- The incident must be listed as significant or minor.
- If the incident is listed as significant, a non-compliance notice must be issued, and rECO, ESCOrded in the log.
- Remedial or corrective action taken to mitigate the incident; and
- RECO, ESCOrd of repeat minor offences by the same contractor or staff member.

The Environmental Incident Log will be captured in the EAR.

4.7 Non-compliance

A non-compliance notice will be issued to the responsible contractor by the ECO, ESCOs via the DSS or Project Manager. The non-compliance notice will be issued in writing; a copy filed in the EMPr file and will at a minimum include the following:

- Time and date of the non-compliance.
- Name of the contractor responsible.
- Nature and description of the non-compliance.
- RECO, ESCOmmended / required corrective action; and
- Date by which the corrective action to be completed.
- The contractors shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the development site pertaining to the environment shall be rECO, ESCOrded in a dedicated register and the response noted with the date and action taken. The ECO, ESCO should be made aware of any complaints. Any non-compliance with the agreed procedures of the EMPr is a transgression of the various statutes and laws that define the manner by which the environment is managed. Failure to redress the cause shall be reported to the relevant CA for them to deal with the transgression, as it deems fit. The contractor is deemed not to have complied with the EMPr if, inter alia, There is a deviation from the environmental conditions, impact management outcomes and impact management actions activities, as approved in generic and site specific EMPr as relevant as set out in the EMPr, which deviation has, or may cause, an environmental impact.

4.8 Corrective action rECO, ESCOrds

For each non-compliance notice issued, a documented corrective action must be rECO, ESCOrded. On receiving a non-compliance notice from the DSS, the contractor's cEO will ensure that the corrective actions required take place within the stipulated timeframe. On completion of the corrective action the cEO is to issue a Corrective Action Report in writing to the ECO, ESCOs. If satisfied that the corrective action has been completed, the ECO, ESCOs are to sign-off on the Corrective Action Report and attach the report to the non-compliance notice in the EMPr file. A corrective action is considered complete once the report has signed off by the ECO, ESCOs.

4.9 Photographic rECO, ESCOrd

A digital photographic rECO, ESCOrd will be kept. The photographic rECO, ESCOrd will be used to show before, during and post rehabilitation evidence of the project as well used in cases of damages claims if they arise. Each image must be dated, and a brief description note attached.

The Contractor shall:

1. Allow the ECO, ESCOs access to take photographs of all areas, activities, and actions.

The ECO, ESCOs shall keep an electronic database of photographic rECO, ESCOrds which will include:

1. Pictures of all areas designated as work areas, camp areas, development sites and storage areas taken before these areas are set up.
2. All bunding and fencing.
3. Road conditions and road verges.
4. Condition of all farm fences.
5. Topsoil storage areas.
6. All areas to be cordoned off during construction.
7. Waste management sites.
8. Ablution facilities (inside and out).
9. Any non-conformances deemed to be "significant".
10. All completed corrective actions for non-compliances.
11. All required signage.
12. Photographic rECO, ESCOrdings of incidents.
13. All areas before, during and post rehabilitation; and
14. Include relevant photographs in the Final Environmental Audit Report.

4.10 Complaints register

The ECO, ESCOs shall keep a current and up-to-date complaints register. The complaints register is to be a rECO, ESCOrd of all complaints received from communities, stakeholders, and individuals. The Complaints RECO, ESCOrd shall:

1. RECO, ESCOrd the name and contact details of the complainant.
2. RECO, ESCOrd the time and date of the complaint.
3. Contain a detailed description of the complaint.
4. Where relevant and appropriate, contain photographic evidence of the complaint or damage (ECO, ESCOs to take relevant photographs); and

5. Contain a copy of the ECO, ESCOs written response to each complaint received and keep a rECO, ESCOrd of any further correspondence with the complainant. The ECO, ESCO's written response will include a description of any corrective action to be taken and must be signed by the Contractor, ECO, ESCO and affected party. Where a damage claim is issued by the complainant, the ECO, ESCOs shall respond as described in (**section 4.11**) below.

4.11 Claims for damages

In the event that a Claim for Damages is submitted by a community, landowner or individual, the ECO, ESCOs shall:

1. RECO, ESCOrd the full detail of the complaint as described in (**section 4.10**) above.
2. The DPM will evaluate the claim and associated damage and submit the evaluation to the Senior Site Representative for approval.
3. Following consideration by the DPM, the claim is to be resolved and settled immediately, or the reason for not accepting the claim communicated in writing to the claimant. Should the claimant not accept this, the ECO, ESCO shall, in writing report the incident to the Developer's negotiator and legal department; and
4. A formal rECO, ESCOrd of the response by the ECO, ESCOs to the claimant as well as the rectification of the method of making payments not amount will be rECO, ESCOrded in the EMPr file.

4.12 Interactions with affected parties

Open, transparent, and good relations with affected landowners, communities and regional staff are an essential aspect to the successful management and mitigation of environmental impacts.

The ECO, ESCOs shall:

1. Ensure that all queries, complaints, and claims are dealt within an agreed timeframe.
2. Ensure that any or all agreements are documented, signed by all parties and a rECO, ESCOrd of the agreement kept in the EMPr file.
3. Ensure that a complaints telephone numbers are made available to all landowners and affected parties; and
4. Ensure that contact with affected parties is courteous at all times.

4.13 Environmental audits

Internal environmental audits of the activity and implementation of the EMPr must be undertaken. The findings and outcomes included in the EMPr file and submitted to the CA at intervals as indicated in the EA.

The ECO, ESCOs must prepare a monthly EAR. The report will be tabled as the key point on the agenda of the Environmental Site Meeting. The Report is submitted for acceptance at the meeting and the final report will be circulated to the Project Manager and filed in the EMPr file. At a frequency determined by the EA, the ECO, ESCOs shall submit the monthly reports to the CA. At a minimum the monthly report is to cover the following:

- Weekly Environmental Checklists.
- Deviations and non-compliances with the checklists.
- Non-compliances issued.
- Completed and reported corrective actions.

- Environmental Monitoring.
- General environmental findings and actions; and
- Minutes of the Bi-monthly Environmental Site Meetings.

4.14 Final environmental audits

On final completion of the rehabilitation and/or requirements of the EA a final EAR is to be prepared and submitted to the CA. The EAR must comply with Appendix 7 of the EIA Regulations.

PART B: SECTION 1: Pre-approved generic EMPr template

5. IMPACT MANAGEMENT OUTCOMES AND IMPACT MANAGEMENT ACTIONS

This section provides a pre-approved generic EMPr template with aspects that are common to the development of substation infrastructure for the transmission and distribution of electricity. There is a list of aspects identified for the development or expansion of substation infrastructure for the transmission and distribution of electricity, and for each aspect a set of prescribed impact management outcomes and associated impact management actions have been identified. Holders of EAs are responsible to ensure the implementation of these outcomes and actions for all projects as a minimum requirement, in order to mitigate the impact of such aspects identified for the development or expansion of substation infrastructure for the transmission and distribution of electricity.

The template provided below is to be completed by providing the information under each heading for each environmental impact management action.

The completed template must be signed and dated on each page by both the contractor and the holder of the EA prior to commencement of the activity. The method statements prepared and agreed to by the holder of the EA must be appended to the template as Appendix 1. Each method statement must also be duly signed and dated on each page by the contactor and the holder of the EA. This template, once signed and dated, is legally binding. The holder of the EA will remain responsible for its implementation.

5.1 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
– All staff must receive environmental awareness training prior to commencement of the activities;	ECO, ESCO / cEO / dEO	Hold environmental awareness training workshops	Pre-construction Construction	ECO, ESCO dEO	Monthly and as and when required	Attendance registers and training minutes / notes for the rECO, ESCOrd
– 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, ESCO / cEO / dEO	Pre-construction Construction	ECO, ESCO dEO	Monthly and as and when required	Attendance registers and training minutes / notes for the rECO, ESCOrd
– Refresher environmental awareness training is available as and when required;	cEO / dEO in consultation with the ECO, ESCO	Hold refresher environmental awareness training workshops	During the construction phase	ECO, ESCO dEO	Monthly and as and when required	Attendance registers and training minutes / notes for the rECO, ESCOrd
– 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;	cEO / dEO	Hold training workshops and ensure that the EA and EMPr is readily available	During the construction phase	ECO, ESCO dEO	Monthly and as and when required	Attendance registers and training minutes / notes for the rECO, ESCOrd

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
– 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	Develop and place appropriate posters at key locations	Pre-construction Construction	ECO, ESCO dEO cEO	Monthly	Photographic rECO, ESCOrd
– 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) Emergency 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.	cEO / dEO in consultation with the ECO, ESCO	Develop environmental awareness training material which covers the minimum requirements	Pre-construction Construction	ECO, ESCO dEO	Prior to the commencement of the environmental awareness training	Environmental awareness training material requirements checklist

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
– A rECO, ESCOrd of all environmental awareness training courses undertaken as part of the EMPr must be available;	ECO, ESCO / cEO / dEO	Filing system including all proof of training (i.e., attendance register and training minutes / notes for the rECO, ESCOrd)	During the construction phase	ECO, ESCO dEO	Monthly	Completed and up to date filing system with proof of training
– Educate workers on the dangers of open and/or unattended fires;	cEO / dEO in consultation with the ECO, ESCO	Develop environmental awareness training material which covers the dangers of open and/or unattended fire	Pre-construction Construction	ECO, ESCO dEO	Prior to the commencement of the environmental awareness training	Environmental awareness training material requirements checklist
– A staff attendance registers of all staff to have received environmental awareness training must be available.	ECO, ESCO / cEO / dEO	Filing system including all proof of training (i.e., attendance register)	During the construction phase	ECO, ESCO dEO	Monthly	Completed and up to date filing system inclusive of all attendance registers
– Course material must be available and presented in appropriate languages that all staff can understand.	ECO, ESCO / cEO / dEO	Develop environmental awareness training material in the required languages.	During the construction phase	ECO, ESCO dEO	Monthly	Environmental awareness training material requirements checklist and the

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
		Training material must by readily available to all staff				training register which must indicate the language of the training

5.2 Site Establishment development

Impact management outcome: Impacts on the environment are minimized 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
– 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	Contractor	Development of an appropriate method statement	Pre-construction	ECO, ESCO dEO	Once, prior to construction	Availability of the method statement which complies with the minimum requirements listed

cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management;						
– 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 identified in the Basic Assessment Report	Pre-construction Construction	ECO, ESCO dEO	Once, prior to construction	Availability of a layout and sensitivity map indicating avoidance of sensitive areas
– Sites must be located where possible on previously disturbed areas;	DPM	Place site outside of sensitive areas and within previously disturbed areas identified in the BA Report	Pre-construction	ECO, ESCO dEO	Once, prior to construction	Availability of a layout and sensitivity map indicating avoidance of sensitive areas and placement within disturbed areas
– The camp must be fenced in accordance with ***Section 5.5: Fencing and gate installation***; and	DPM	Design and implementation of fencing as per the requirements of Section 5.5 of this EMPr	Pre-construction & Construction	ECO, ESCO dEO	Once, prior to construction and once during the construction of the fencing	The camp is fenced in accordance with Section 5.5 of this EMPr
– The use of existing accommodation for contractor staff, where possible, is encouraged.	Not applicable – the development of new accommodation is not proposed. Staff will be accommodated in the closet town					

5.3 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
– Identification of access restricted areas is to be informed by the environmental assessment, site walk through, and any additional areas identified during development;	dEO / cEO in consultation with the ECO, ESCO	Spatially demarcate access restricted areas informed by the BA Report	Pre-construction	ECO, ESCO	Once, prior to construction	Access restricted areas are identified and provided in a spatial format
– 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	dEO / cEO in consultation with the ECO, ESCO	Erect appropriate temporary barriers around access restricted areas	At the commencement and for the duration of the construction phase	ECO, ESCO	Monthly	Access restricted areas are closed-off through temporary barriers and barriers are maintained to a sufficient standard
– Unauthorised access and development related activity inside access restricted areas is prohibited.	Contractor / dEO / cEO	Erect appropriate temporary barriers around access restricted areas and provide clear signage of restricted status	During the construction phase	ECO, ESCO	Monthly, and as and when required	Photographic evidence and notes of compliance that no unauthorised access or activities has taken place within the access restricted areas

5.4 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
– An access agreement must be formalized and signed by the DPM, Contractor and landowner before commencing with the activities;	DPM Contractor	Develop access agreements with the affected landowners. Ensure that agreements are approved and signed	Pre-construction	dEO ECO, ESCO	Once, prior to construction	Availability of approved and signed negotiations
– 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 as degradation takes place	During the construction phase	cEO / ECO, ESCO	Weekly	Photographic rECO, ESCOrd of the pre-construction condition and degradation of roads, and rECO, ESCOrds of the implementation and effectiveness of maintenance activities

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
– All contractors must be made aware of all these access routes.	dEO / cEO	Develop a map illustrating all access routes associated with the project and present and provide the map to all contractors	Pre-construction Construction	ECO, ESCO	Once, prior to construction	Access routes map readily 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 to the pre-disturbance state	Construction and Rehabilitation	ECO, ESCO	Bi-weekly (every two weeks)	Photographic rECO, ESCOrd 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;	Contractor (and Eskom maintenance staff where relevant to operation)	Existing access routes to be used must be specified and the development of new roads must be avoided as far as possible	Construction and operation	cEO Operation and maintenance team	Weekly	Implementation of the approved layout

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
– In circumstances where private roads must be used, the condition of the said roads must be rECO, ESCOrded in accordance with **section 4.9: photographic rECO, ESCOrd**; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor;	dEO / cEO	RECO, ESCOrd the conditions of private roads to be used (prior to use) as per the requirements of section 4.9 and agree on the required condition of the roads with the landowner, DPM and contractor	During the construction phase	ECO, ESCO	Prior to the use of private roads	Photographic rECO, ESCOrd and proof of the road conditions agreed upon with the relevant parties
– Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands	DPM and Contractor	Design access roads to follow fence lines and avoid vegetated areas	Pre-construction	ECO, ESCO	Once during the design and once prior to construction	Implementation of the 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 access roads	During the construction phase	ECO, ESCO dEO	Once during the design and weekly during the construction of access roads	Implementation of the approved layout

5.5 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
– 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 rECO, ESCOrded and documented in accordance with section 4.9: photographic rECO, ESCOrd;	ECO, ESCO	Existing and new gates will be rECO, ESCOrded and documented as per the requirements of section 4.9	During the construction phase	ECO, ESCO	Once, when the construction of all new gates has been completed	Photographic rECO, ESCOrd of the existing and new gates as per the requirements of section4.9
– 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, ESCO Operation and maintenance team	Bi-weekly (every sECO, ESCOnd week)	All gates are locked and no complaints from landowners are received in this regard

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
– At points where the line crosses an existing fence in which there is no suitable gate within the extent of the line servitude, on the instruction of the DPM, a gate must be installed at the approval of the landowner;	dEO	Install new gates where required with the approval of the affected landowner	During the construction phase	ECO, ESCO	Once, prior to construction and during the construction phase, as and when required	New gates are installed where required
– Care must be taken that the gates must be so erected that there is a gap of no more than 100 mm between the bottom of the gate and the ground;	Contractor	Install gates in a manner so that there is a gap of no more than 100mm between the bottom of the gate and the ground	During the construction phase	cEO	Once, during the erection of the gates during the construction phase	New gates installed as per the requirement
– Where gates are installed in jackal proof fencing, a suitable reinforced concrete still must be provided beneath the gate;	Contractor	Implement a reinforced concrete sill beneath gates installed for jackal proofing	During the construction phase	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	During the construction phase	ECO, ESCO	Monthly	No tension reduction on fence wires

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
– All gates installed in electrified fencing must be re-electrified;	Contractor	Electrify gates installed in electrified fencing	During the construction phase	ECO, ESCO	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 the development activities;	Contractor	Undertake maintenance activities on fences and barriers	During the construction phase	ECO, ESCO	Monthly	Photographic rECO, ESCOrd of maintained fences and barriers
– Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where applicable;	Contractor	Fence construction camps, batching plants, hazardous storage areas and access restricted areas	During the construction phase	ECO, ESCO	Once during the erection of fencing	Photographic rECO, ESCOrd of fences erected
– Any temporary fencing to restrict the movement of life-stock must only be erected with the permission of the land owner.	dEO/ cEO Contractor	Obtain written approval from the relevant landowner where temporary fencing is required to restrict life-stock movement	During the construction phase	ECO, ESCO	To be monitored as temporary fencing is required	Written approval to be provided by the dEO

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
– All fencing must be developed of high-quality material bearing the SABS mark;	Contractor	Make use of high-quality materials approved by SABS	During the construction phase	cEO	To be monitored as fencing is erected during the construction phase	Use of high-quality materials for fencing approved by SABS
– 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	During the construction phase	ECO, ESCO	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	During the construction phase	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	At the end of the Construction Phase	ECO, ESCO dEO	Once, following the completion of the construction phase	No temporary fences associated with the project is present following the completion of

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
						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	At the end of the Construction Phase	ECO, ESCO dEO	Once, following the completion of the construction phase	No fence uprights associated with the project is present following the completion of the construction phase

5.6 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
– All abstraction points or bore holes must be registered with the DWS and suitable water meters installed to ensure that the abstracted volumes are measured on a daily basis;	Not applicable water for the project will be either sourced from municipal sources and abstraction points.					
– The Contractor must ensure the following: a. The vehicle abstracting water from a river does not enter or cross it and does not operate from within the river. b. No damage occurs to the river bed 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.	Not applicable - water for the project will be sourced from municipal sources and abstraction points.					
– Ensure water conservation is being practiced by: a. Minimising water use during cleaning of equipment. b. Undertaking regular audits of water systems; and c. Including a discussion on water usage and conservation during environmental awareness training. d. The use of grey water is encouraged.	Contractor / dEO / cEO in consultation with the ECO, ESCO	Implement the required water conservation measures throughout on-site construction processes	During the construction phase	ECO, ESCO	Monthly, and as and when required	Successful implementation of water conservation

5.7 Storm and wastewater management

Impact management outcome: Impacts to the environment caused by storm water 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
– 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	During the construction phase	ECO, ESCO	Weekly	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 cEO	Obtain approved absorbent material and make use of licensed waste disposal facilities for disposal of oil	During the Construction Phase	ECO, ESCO	Monthly	Availability of approved absorbent material at the construction site and proof of disposal of oil at licenses 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, ESCO;	DPM in consultation with the ECO, ESCO	Consultation between the DPM and the ECO, ESCO to determine if water can be	During the construction phase	ECO, ESCO	As and when the need arises to discharge natural stormwater	Proof of consultation between the DPM and ECO, ESCO and the outcomes

Impact management outcome: Impacts to the environment caused by storm water 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
		discharged directly into water bodies (where present). The necessary water quality testing must be undertaken prior to discharge			runoff and clean water	thereof to be provided. Proof of water quality testing and the results thereof.
– 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, ESCO.	DPM in consultation with the ECO, ESCO	Consultation between the DPM and the ECO, ESCO to determine if water can be discharged directly into water bodies (where present). The necessary water quality testing must be undertaken prior to discharge	During the construction phase	ECO, ESCO	As and when the need arises to discharge water	Proof of consultation between the DPM and ECO, ESCO and the outcomes thereof to be provided. Proof of water quality testing and the results thereof.

5.8 Solid and hazardous waste management

Impact management outcome: Wastes are appropriately stored, handled, and safely disposed of at a rECO, ESCOgnised waste facility**.**						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All measures regarding waste management must be undertaken using an integrated waste management approach;	Contractor	Develop and implement a waste management plan	During the construction phase	ECO, ESCO	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 which are strategically placed throughout the site	During the construction phase	ECO, ESCO	Weekly	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	Design and Construction Phase	ECO, ESCO	Once, prior to the commencement of construction	A waste collection site is appropriately placed and demarcated

Impact management outcome: Wastes are appropriately stored, handled, and safely disposed of at a rECO, ESCOgnised waste facility**.**						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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	During the Construction Phase	ECO, ESCO	Weekly	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	During the Construction Phase	cEO	Weekly	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, ESCO	Include waste segregation as part of the environmental awareness training material.	Pre-construction Construction	ECO, ESCO	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	During the construction phase	ECO, ESCO	Monthly	No mismanagement of bins.

Impact management outcome: Wastes are appropriately stored, handled, and safely disposed of at a rECO, ESCOgnised waste facility**.**						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		capacity and on a regular basis as required for the project				
– 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	During the construction phase	ECO, ESCO	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	During the construction phase	ECO, ESCO	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	During the construction phase	ECO, ESCO	Monthly	Disposal certificates of disposal at licensed facilities to be provided and filed as part

Impact management outcome: Wastes are appropriately stored, handled, and safely disposed of at a rECO, ESCOgnised waste facility**.**						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
						of the filing system

5.9 Protection of watercourses and estuaries

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
– 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	During the construction phase	ECO, ESCO	Weekly	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	During the construction phase	ECO, ESCO	Weekly	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 rECO, ESCOrd
– Where possible, no development equipment must traverse any seasonal or permanent wetland	Not applicable - no wetlands are located near the site for the placement of the substation.					
– No return flow into the estuaries must be allowed and no disturbance of the Estuarine functional Zone should occur;	Not applicable – no estuaries are located within the study area.					

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
– Development of permanent watercourse or estuary crossing must only be undertaken where no alternative access to tower position is available;	Not applicable – no watercourses will be crossed because of the development of the substation.					
– There must not be any impact on the long-term morphological dynamics of watercourses or estuaries;	Not applicable – the development of the substation will not have any long-term morphological impacts on watercourses as there are no watercourses present within the section of the preferred grid connection corridor where the substation will be developed.					
– Existing crossing points must be favoured over the creation of new crossings (including temporary access)	Not applicable – no new road crossings will be required for the development of substation.					
– When working in or near any watercourse or estuary, 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	Contractor	Activities undertaken near watercourses must be in-line with and consider the specified environmental controls	During the construction phase	ECO, ESCO	Monthly, and as and when required	No degradation of the watercourses and no incidents of destruction reported

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
timeously. In this regard, the banks should be appropriately and incrementally stabilised as soon as development allows.						

5.10 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
General:						
– 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, ESCO Operation and maintenance team	Weekly, and as and when required	No unnecessary clearance of indigenous vegetation is undertaken
– 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	During the Construction Phase	ECO, ESCO	Weekly, and as and when required	No clearance of protected or endangered species other

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
		to be avoided by construction activities				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;	Relevant specialist in consultation with the Contractor	Develop and implement a Plant Search and Rescue Plan	Pre-construction & Construction	ECO, ESCO	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 relevant CA prior to the cutting or clearing of the affected species, and they must be filed;	DPM	Undertake the permitting process in order to obtain the relevant permits for the removal of protected species. Permits must be kept on file	Pre-construction	ECO, ESCO	Once, prior to the commencement of the construction phase and removal of the protected species	Permits on file
– The Environmental Audit Report must confirm that all identified species have been rescued and replanted and	ECO, ESCO	Ensure that the audit report indicates all species	During the Construction Phase and following the	**ECO, ESCO**	Once, prior to the commencement	Specialist report

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
that the location of replanting is compliant with conditions of approvals;		rescued and replanted and provides feedback in terms of compliance with the conditions of permits for replanting	completion of the Construction Phase		of the construction phase and removal of the protected species	
– Trees felled due to construction must be documented and form part of the Environmental Audit Report;	ECO, ESCO	Ensure that the audit report documents the details of trees felled	During the Construction Phase and following the completion of the Construction Phase	Not Applicable		
– 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	During the Construction Phase	ECO, ESCO	Monthly	No felled trees, vegetation cuttings and debris are dumped in inappropriate locations and disposal certificates are available as proof

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
						of responsible disposal
– Only a registered pest control operator may apply herbicides on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained;	DPM and Contractor	A suitably qualified pest control operator must be appointed	Construction and Operation	ECO, ESCO	As and when the use of herbicides is required	Only registered pest control operators must be appointed, and proof of their registration must be provided
– A daily register must be kept of all relevant details of herbicide usage;	Contractor	Develop a daily register for the documentation of the details of herbicide usage	During the construction phase	ECO, ESCO	Monthly	Daily register provided by the pest control operator
– No herbicides must be used in estuaries	Not applicable - no estuaries are present within the study area					
– All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance with ***Section 5.3: Access restricted areas.***	Contractor in consultation with the cEO	Spatially demarcate protected species and sensitive vegetation and implement appropriate fencing where required as per section 5.3	During the construction phase	ECO, ESCO	Once, during the undertaking of the demarcation of the areas and the erection of the fencing	Demarcation and fencing are undertaken in-line with the requirements of section 5.3

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
– Alien invasive vegetation must be removed and disposed of at a licensed waste management facility.	Contractor	Remove all alien invasive vegetation and dispose of the removed vegetation at a licensed waste management facility	During the construction phase	ECO, ESCO	Monthly, and as and when required	Disposal certificates of disposal at licensed facilities to be provided and filed as part of the filing system

5.11 Protection of fauna

Impact management outcome: Disturbance to fauna is minimised.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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 and during the construction phase	ECO, ESCO	Once, prior to the commencement of construction and as and when required during	Written consent provided by the landowner and proof of representation of the landowner

Impact management outcome: Disturbance to fauna is minimised.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
					the construction phase	during interference
– The breeding sites of raptors and other wild birds' species must be taken into consideration during the planning of the development programme;	dEO / cEO in consultation with the Contractor	Ensure that the planning and development programme considers breeding sites for wild bird species	Pre-construction & Construction	ECO, ESCO	Once, prior to the commencement of construction and as and when required	The planning and development programme which includes the consideration of breeding sites for wild bird species
– 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 fledgelings	During the Construction Phase Operation Phase	ECO, ESCO Operation and maintenance team	Weekly, and as and when required during the construction. Monthly, and as and when required during operation	Photographic rECO, ESCOrd of intact breeding sites
– Special rECO, ESCOmmendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds;	dEO / cEO in consultation with the Contractor	All mitigation measures rECO, ESCOmmended by the avifauna	During the Construction Phase Operation Phase	ECO, ESCO Operation and maintenance team	Weekly during construction and monthly during operation	Photographic rECO, ESCOrd of compliance and successful

Impact management outcome: Disturbance to fauna is minimised.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		specialist must be implemented				implementation of the rECO, ESCOmmended measures
– 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. These areas must be demarcated as Access Restricted Areas	During the Construction Phase	ECO, ESCO	Monthly, and as and when required	No instances of poaching are reported
– No deliberate or intentional killing of fauna is allowed;	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	During the Construction Phase	ECO, ESCO	Monthly, and as and when required	No instances of deliberate or intentional killing are reported

Impact management outcome: Disturbance to fauna is minimised.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		not adhering to the requirement. These areas must be demarcated as Access Restricted Areas				
– In areas where snakes are abundant, snake deterrents are to be deployed on the pylons to prevent snakes climbing up, being electrocuted, and causing power outages; and	dEO / cEO in consultation with the Contractor	Implement and maintain snake deterrents in areas where snakes are abundant	During the Construction Phase Operation Phase	ECO, ESCO Operation and maintenance team	Once, during the construction and as and when required. Monthly during operation	Photographic rECO, ESCOrd of the implementation and maintenance of snake deterrents
– 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	ECO, ESCO	Once, prior to the commencement of construction and as and when required	Permits for removal and/relocation must be kept on file and be readily available

5.12 Protection of heritage resources

Impact management outcome: Impact to heritage resources is minimised.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Identify, demarcate, and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in **Section 5.3: Access restricted areas;**	No significant and sensitive Heritage and Palaeontological areas identified in the specialist assessment.					
– Carry out general monitoring of excavations for potential fossils, artefacts, and material of heritage importance;	Suitably qualified specialist in consultation with the ECO, ESCO	Appoint a suitably qualified specialist to carry out the monitoring of excavations for fossils, artefacts, and important heritage material	During the Construction Phase	ECO, ESCO	During the undertaking of excavations of fossils, artefacts, and heritage material	Proof of appointment of a suitably qualified specialist and photographic rECO, ESCOrd 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 rECO, ESCOmmences.	dEO / cEO in consultation with the Contractor and ECO, ESCO	Develop and implement procedures for situations where human remains, archaeological, palaeontological, or historical material are uncovered	During the Construction Phase	ECO, ESCO	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.

5.13 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
– 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, ESCO	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	During the Construction Phase	ECO, ESCO	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 infrastructure and protective scaffolding;	Contractor	All staff must be easily identifiable, and the climbing of infrastructure and	During the construction phase	ECO, ESCO	Monthly, and as and when required	No incidents of unauthorised climbing are reported

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
		scaffolding must be undertaken by authorised personnel as managed by the Contractor				
– Ensure structures vulnerable to high winds are secured;	Contractor	Ensure that sufficient stabilisation measures are implemented to secure structures vulnerable to high winds	During the construction phase	ECO, ESCO	Weekly, and as and when required	No incidents of unstable structures due to high winds is reported
– 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	During the construction phase	ECO, ESCO	Monthly, and as and when required	The incidents and complaints register are complete and provides all the required details

5.14 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
– Mobile chemical toilets are installed onsite if no other ablution facilities are available;	Contractor	Mobile chemical toilets must be placed appropriately and in areas which avoid environmental sensitivities	During the Construction Phase	ECO, ESCO	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, ESCO	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.	Contractor in consultation with the cEO	The installation of the toilets by the Contractor must be as per the listed requirements	During the Construction Phase	ECO, ESCO	Weekly	No evidence of non-compliance identified

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
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. 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, ESCO 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	During the Construction Phase	ECO, ESCO	Monthly, and as and when required	Certificates for waste disposal from the licensed waste disposal facility

5.15 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
– Undertake environmentally friendly pest control in the camp area;	Contractor	Only environmentally friendly pest control must be used, when required	During the Construction Phase	ECO, ESCO	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;	cEO / Contractor in consultation with the ECO, ESCO	The effects of sexually transmitted diseases and HIV/ AIDS must be covered in the Environmental Awareness Training	Pre-construction & Construction	ECO, ESCO	Once, prior to the commencement of construction and monthly during construction	Environmental awareness training material requirements checklist
– The Contractor must ensure that information posters on HIV/ AIDS are displayed in the Contractor Camp area;	Contractor	Develop and place information posters on HIV/ AIDS	During the Construction Phase	ECO, ESCO	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, ESCO	Information and education of sexually transmitted diseases must be covered in the Environmental Awareness Training.	Pre-construction & Construction	ECO, ESCO	Monthly	Environmental awareness training material requirements checklist

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
– 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, ESCO	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, ESCO	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 Testing and Counselling Services.	Contractor	Compile a HIV testing schedule and provide counselling services where required	During the Construction Phase	ECO, ESCO	Quarterly, and as and when required	Voluntary testing schedules and proof of counselling (where undertaken)

5.16 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
– 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, ESCO	Once, prior to the commencement of construction	Emergency Preparedness, Response and Fire Management Plan compiled
– The Emergency Plan 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, ESCO	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, ESCO	Develop environmental awareness training material which covers the relevant	Pre-construction	ECO, ESCO	Prior to the commencement of the environmental	Environmental awareness training material requirements checklist

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
		emergency procedures			awareness training	
– The relevant local authority must be made aware of a fire as soon as it starts;	Contractor in consultation with the ECO, ESCO	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, ESCO	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 ***Hazardous Substances section 5.17).***	Contractor	Implement the required mitigation measures in the event of a spill or leak as per the requirements of Section 5.17.	Construction and Operations	ECO, ESCO	As and when a spill or leak occurs	The mitigation measures included under Section 5.17 have been adhered to

5.17 Hazardous substances

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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, ESCO	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, ESCO	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	Where hazardous waste is stored, these must be clearly marked indicating the	During the Construction Phase	ECO, ESCO	Monthly	Photographic proof that containers are marked as per the requirements

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		required details of the contents				
– All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill / leak from the stored containers;	Contractor	Ensure that storage areas are sufficiently bunded which are of sufficient capacity to contain a spill / leak from the stored containers	During the Construction Phase	ECO, ESCO	Monthly during the Construction Phase	Photographic proof that storage areas are bunded and proof that the bund areas are of sufficient capacity to contain a spill / leak from the stored containers
– Bunded areas to be suitably lined with a SABS approved liner;	Contractor	Ensure that bunded storage areas are suitably lined	During the Construction Phase	ECO, ESCO	Once, during the Construction Phase	Photographic proof that bunded storage areas are suitably lined
– An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up 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	During the Construction Phase	ECO, ESCO	Monthly, and as and when required	Complete and up to date control sheet provided by the Contractor

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS);	cEO / Contractor	Keep a rECO, ESCOrd of all hazardous chemicals and the respective MSDS	During the Construction Phase	ECO, ESCO	Monthly, and as and when required	RECO, ESCOrd of hazardous chemicals and the respective MSDS
– All employees working with 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, ESCO	Once, prior to the commencement of construction and as and when required	RECO, ESCOrd 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	Pre-construction & Construction	ECO, ESCO	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

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		handling hazardous substances and materials				protective equipment
– 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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Once, during construction	Bunded storage areas are constructed according to the requirements

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Provision must be made for refuelling at the storage area 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	During the Construction Phase	ECO, ESCO cEO	Monthly Weekly	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 as per the requirements	During the Construction Phase	ECO, ESCO cEO	Monthly Weekly	Drip trays or bunded areas are used for the storage of dirty drums
– No unauthorised access into the hazardous substance's storage areas must be permitted;	Contractor	Ensure through the implementation of procedures that no unauthorised access is undertaken into the storage areas	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO cEO	Monthly Weekly	Photographic rECO, ESCOrd of the signage placed must be provided

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		relevant signage in the relevant areas				
– 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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Monthly, and as and when required	Appropriate spill kits are available for use
– 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, ESCO	Once, prior to the commencement of construction	Proof of training to be provided by the contractor

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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	During the Construction Phase	ECO, ESCO	Monthly	Proof of appropriate number of spill kits in appropriate areas to be provided by the contractor
– 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. Refer to ***Section 5.7*** for procedures concerning ***storm and waste water management*** and ***5.8*** for ***solid and hazardous waste management.***	cEO and Contractor	Storage and disposal of contaminated soil must be in accordance with the National Environmental Management: Waste Act and sections 5.7 and 5.8 of this EMPr	During the Construction Phase	ECO, ESCO	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

5.18 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
– 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	During the Construction Phase	ECO, ESCO	Monthly	A dedicated area for the maintenance of vehicles and machinery is used.
– During servicing of vehicles or equipment, especially where emergency repairs are affected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil. The relevant local authority must be made aware of a fire as soon as it starts;	Contractor	Ensure that a drip tray is available for an emergency repair required	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Monthly	Register of inspection

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
		updated register of inspection on site				
– 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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	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 Section ***5.7: Storm and waste water management.***	Contractor	Ensure that water drainage from workshop area is managed as per the requirements of section 5.7	During the Construction Phase	ECO, ESCO	Monthly	Workshop drainage is managed in accordance with the requirements

5.19 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
– Concrete mixing must be carried out on an impermeable surface;	Contractor	Provide impermeable surface for the mixing of concrete	During the Construction Phase	ECO, ESCO	Weekly	No concrete mixing is undertaken on open ground
– Batching plants areas must be fitted with a containment facility for the collection of cement laden water.	Contractor	Provide containment facility for the collection of cement laden water	During the Construction Phase	ECO, ESCO	Weekly	No cement laden water is released into the environment
– Dirty water from the batching plant must be contained to prevent soil and groundwater contamination	Contractor	Provide containment facility for the collection of cement laden water (dirty water)	During the Construction Phase	ECO, ESCO	Weekly	No cement laden water is released into the environment
– 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	During the Construction Phase	ECO, ESCO	Weekly	Photographic proof of bagged cement stored within the 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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Monthly	Proof of binding of empty cement bags and storage in an appropriate area on site to be provided by the Contractor
– Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to ***Section 5.20: Dust emissions***)	Contractor	Ensure that sand and aggregates are kept damp or otherwise protected from dust generation	During the Construction Phase	ECO, ESCO	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 the construction period and disposed at a registered disposal facility;	Contractor	Ensure that all excess sand, stone, and cement is removed or reused	At the completion of the Construction Phase	ECO, ESCO	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
– Temporary fencing must be erected around batching plants in accordance with Section ***5.5: Fencing and gate installation.***	Contractor	Erect temporary fencing around batching plants as per the	During the Construction Phase	ECO, ESCO	Weekly	Temporary fencing is undertaken in

		requirements listed in section 5.5				accordance with section 5.5

5.20 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
– Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO, ESCO;	Contractor	Apply appropriate dust suppressant	During the Construction Phase	ECO, ESCO	Weekly	Contractor to provide proof of use of appropriate dust suppressants
– 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	During the Construction Phase and Rehabilitation	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Bi-weekly (every sECO, ESCOnd week)	No complaints submitted in this regard

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
		conditions or when a visible dust plume is present				
– During high wind conditions, the ECO, ESCO must evaluate the situation and make rECO, ESCOmmendations as to whether dust-damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level;	ECO, ESCO	ECO, ESCO to provide adequate rECO, ESCOmmendations	During the Construction Phase	ECO, ESCO	Daily	RECO, ESCOmmendations made by the ECO, ESCO have been implemented by the Contractor
– 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	During the Construction Phase	ECO, ESCO	Bi-weekly (every sECO, ESCOnd week)	Soil stockpiles are not exposed to wind and have not been eroded
– Where erosion of stockpiles bECO, ESCOmes a problem, erosion control measures must be implemented at the discretion of the ECO, ESCO;	Contractor in consultation with the ECO, ESCO	Contractor to implement erosion control measures as rECO, ESCOmmended and agreed with the ECO, ESCO	During the Construction Phase	ECO, ESCO	Weekly, until erosion is no longer a problem	RECO, ESCOmmendations made by the ECO, ESCO have been implemented by the Contractor
– Vehicle speeds must not exceed 30 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas:	cEO / dEO / contractor	Inform all drivers of speed limits and place appropriate	During the Construction Phase Operation Phase	ECO, ESCO	Monthly	No complaints from community

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
		signage along the relevant roads		Operation and Maintenance team		members are submitted
– Straw stabilisation must be applied at a rate of one bale/10 m² 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	During the Construction Phase	ECO, ESCO	Monthly	Photographic rECO, ESCOrd 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	During the Construction Phase	ECO, ESCO	Weekly	Photographic rECO, ESCOrd of measures being implemented and the results thereof

5.21 Blasting

Impact management outcome: Impact to the environment is minimized through a safe blasting practice.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Any blasting activity must be conducted by a suitably licensed blasting contractor; and	Not Applicable – no blasting proposed					
– Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site.	Not Applicable – no blasting proposed					

5.22 Noise

Impact Management outcome: Prevent unnecessary noise to the environment by ensuring that noise from development activity is mitigated.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Monthly, and as and when required	No complaints registered in this regard. Silencing

Impact Management outcome: Prevent unnecessary noise to the environment by ensuring that noise from development activity is mitigated.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
						technology is utilised.
– Any complaints received by the Contractor regarding noise must be rECO, ESCOrded 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	During the Construction Phase	ECO, ESCO	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, ESCO	Compile a Code of Conduct for staff. Appropriate operating hours must be identified for the project.	Pre-construction and Construction	ECO, ESCO	Once, prior to the commencement of construction	No complaints registered in this regard.

5.23 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
– Designate smoking areas where the fire hazard could be regarded as insignificant;	cEO / Contractor	Identify and demarcate through signage for designated smoking areas	Pre-construction & Construction	ECO, ESCO	Monthly	Photographic rECO, ESCOrd of designated smoking area
– 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, ESCO	Monthly	All vehicles are fitted with firefighting equipment and the details thereof are provided by the cEO
– The local Fire Protection Agency (FPA) must be informed of construction activities;	cEO in consultation with the ECO, ESCO	Undertake formal consultation to inform the local FPA of the associated construction activities	Pre-construction	ECO, ESCO	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	Develop environmental awareness training	Pre-construction & Construction	ECO, ESCO	Prior to the commencement of the	Environmental awareness training material

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
	consultation with the ECO, ESCO	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			environmental awareness training and once during the construction phase	requirements checklist and photographic rECO, ESCOrd of contact numbers on display
– Two-way swop of contact details between ECO, ESCO and FPA.	ECO, ESCO	Consultation between the ECO, ESCO and FPA in order to exchange contact details	Pre-construction	Not Applicable		

5.24 Stockpiling and stockpile areas

Impact management outcome: Reduce erosion and sedimentation as a result of stockpiling.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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 and water bodies;	Contractor	Identify and demarcate an appropriate location for the storage of excavated materials	Pre-construction & Construction	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Bi-monthly (every sECO, ESCOnd 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	During the Construction Phase	ECO, ESCO	Bi-monthly (every sECO, ESCOnd 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	During the Construction Phase	ECO, ESCO	Monthly	Contractor to provide proof of availability of appropriate material to cover stockpiles when required

Impact management outcome: Reduce erosion and sedimentation as a result of stockpiling.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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	During the Construction Phase	ECO, ESCO	Monthly	Contractor to provide proof of availability of sandbags to prevent erosion of stockpiled materials

5.25 Civil works

Impact management outcome: Impact to the environment minimised during civil works to create the substation terrace.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Where terracing is required, topsoil must be collected and retained for the purpose of re-use later to rehabilitate disturbed areas not covered by yard stone;	Contractor	Collect and retain topsoil for terracing	During the Construction Phase Rehabilitation	ECO, ESCO	Weekly	Proof of collection and retaining of topsoil
– Areas to be rehabilitated include terrace embankments and areas outside the high voltage yards;	Contractor	Undertake rehabilitation of terrace	During the Construction Phase Rehabilitation	ECO, ESCO	Weekly	Photographic rECO, ESCOrd of rehabilitation of

Impact management outcome: Impact to the environment minimised during civil works to create the substation terrace.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		embankments and areas outside of the high voltage yard where applicable				terrace embankments and areas outside the high voltage yards
– Where required, all sloped areas must be stabilised to ensure proper rehabilitation is affected and erosion is controlled;	Contractor	All disturbed slope areas must be stabilised	Rehabilitation	ECO, ESCO	Weekly	Disturbed slopes are stabilised sufficiently
– These areas can be 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, ESCO	Weekly	Slopes are stabilised as per the design specifications
– Rehabilitation of the disturbed areas must be managed in accordance with ***Section 5.35: Landscaping and rehabilitation;***	Contractor	Undertaken rehabilitation of disturbed areas as per the requirements listed under section 5.35	Rehabilitation	ECO, ESCO	Weekly	Rehabilitation of disturbed areas is undertaken in-line with the requirements of section 5.35
– All excess spoil generated during terracing activities must be disposed of in an appropriate manner and at a rECO, ESCOgnised landfill site; and	Contractor	Use a licensed waste disposal facility for the disposal of excess spoil	During the Construction Phase	ECO, ESCO	Monthly	Certificates obtained for the disposal of excess spoil at a licensed waste disposal facility

Impact management outcome: Impact to the environment minimised during civil works to create the substation terrace.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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, ESCO	Monthly	Photographic rECO, ESCOrd of spoil used for landscaping purposes as well as feedback from the contractor

5.26 Excavation of foundation, cable trenching and drainage systems

Impact management outcome: No environmental degradation occurs as a result of excavation of foundation, cable trenching and drainage systems.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All excess spoil generated during foundation excavation must be disposed of in an appropriate manner and at a licensed landfill site, if not used for backfilling purposes;	Contractor	Use a licensed waste disposal facility for the disposal of excess spoil	During the Construction Phase	ECO, ESCO	Monthly	Certificates obtained for the disposal of excess spoil at a licensed waste disposal facility

Impact management outcome: No environmental degradation occurs as a result of excavation of foundation, cable trenching and drainage systems.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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, ESCO	Monthly	Photographic rECO, ESCOrd of spoil used for landscaping purposes as well as feedback from the contractor
– Management of equipment for excavation purposes must be undertaken in accordance with ***Section 5.18: Workshop, equipment maintenance and storage***; and	Contractor	Undertake the management of equipment for excavation as per the requirements of section 5.18	During the Construction Phase	ECO, ESCO	Monthly	Management of equipment is undertaken in line with the requirements of section 5.18
– Hazardous substances spills from equipment must be managed in accordance with ***Section 5.17: Hazardous substances.***	Contractor	Undertake the management of hazardous substances spills from equipment as per the requirements of section 5.17	During the Construction Phase	ECO, ESCO	Monthly	Management of hazardous substances spills from equipment is undertaken in line with the requirements of section 5.17

5.27 Installation of foundations, cable trenching and drainage systems

Impact management outcome: No environmental degradation occurs during the installation of foundation, cable trenching and drainage system.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Batching of cement to be undertaken in accordance with ***Section 5.19: Batching plants***; and	Contractor	Undertake the batching of cement as per the requirements of section 5.19	During the Construction Phase	ECO, ESCO	Monthly	Management of batching cement is undertaken in line with the requirements of section 5.19
– Residual solid waste must be disposed of in accordance with ***Section 5.8: Solid waste and hazardous management.***	Contractor	Undertake the disposal of solid waste as per the requirements of section 5.8	During the Construction Phase	ECO, ESCO	Monthly	The disposal of solid waste is undertaken in line with section 5.8.

5.28 Installation of equipment (circuit breakers, current Transformers, Isolators, Insulators, surge arresters, voltage transformers, earth switches)

Impact management outcome: No environmental degradation occurs as a result of installation of equipment.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Management of dust must be conducted in accordance with Section ***5. 20: Dust emissions***;	Contractor	Manage dust as per the requirements of section5.20	During the Construction Phase	ECO, ESCO	Weekly	The management of dust is undertaken as per the requirements of section 5.20
– Management of equipment used for installation must be conducted in accordance with Section ***5.18: Workshop, equipment maintenance and storage***;	Contractor	Undertake the management of equipment for installation as per the requirements of section 5.18	During the Construction Phase	ECO, ESCO	Monthly	Management of equipment is undertaken in line with the requirements of section 5.18
– Management of hazardous substances and any associated spills must be conducted in accordance with Section ***5.17: Hazardous substances***; and	Contractor	Undertake the management of hazardous substances and associated spills as per the requirements of section 5.17	During the Construction Phase	ECO, ESCO	Monthly	Management of hazardous substances and associated spills is undertaken in line with the requirements of section 5.17
– Residual solid waste must be recycled or disposed of in accordance with ***Section 5.8: Solid waste and hazardous management.***	Contractor	Undertake the recycling or disposal of residual solid waste as per the	During the Construction Phase	ECO, ESCO	Monthly	The recycling or disposal of residual solid waste is

Impact management outcome: No environmental degradation occurs as a result of installation of equipment.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		requirements of section 5.8				undertaken in line with section 5.8.

5.29Steelwork Assembly and Erection

Impact management outcome: No environmental degradation occurs as a result of steelwork assembly and erection.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– During assembly, care must be taken to ensure that no wasted/unused materials are left on site e.g., bolts and nuts	Contractor	Inspect areas where construction is being undertaken and remove and appropriately dispose of wasted/unused materials	During the Construction Phase	ECO, ESCO	Weekly	Contractor to provide proof of inspection and removal of waste/unused materials and the appropriate disposal thereof (i.e., disposal certificates)
– Emergency repairs due to breakages of equipment must be managed in accordance with ***Section 5.18: Workshop, equipment maintenance and storage*** and ***Section 5.16: Emergency procedures.***	Contractor	Undertake emergency repairs of equipment as per the requirements of section 5.18 and 5.16	During the Construction Phase	ECO, ESCO	Weekly	Emergency repairs of equipment is undertaken as per the requirements of section 5.18 and 5.16

5.30 Cabling and Stringing

Impact management outcome: No environmental degradation occurs as a result of stringing.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Residual solid waste (off cuts etc.) shall be recycled or disposed of in accordance with Section ***6.8: Solid waste and hazardous Management;***	Contractor	Undertake the recycling or disposal of residual solid waste as per the requirements of section 5.8	During the Construction Phase	ECO, ESCO	Monthly	The recycling or disposal of residual solid waste is undertaken in line with section 5.8.
– Management of equipment used for installation shall be conducted in accordance with ***Section 5.18: Workshop, equipment maintenance and storage;***	Contractor	Undertake the management of equipment for installation as per the requirements of section 5.18	During the Construction Phase	ECO, ESCO	Monthly	Management of equipment for installation is undertaken in line with the requirements of section 5.18
– Management of hazardous substances and any associated spills shall be conducted in accordance with ***Section 5.17: Hazardous substances.***	Contractor	Undertake the management of hazardous substances and associated spills as per the requirements of section 5.17	During the Construction Phase	ECO, ESCO	Monthly	Management of hazardous substances and associated spills is undertaken in line with the requirements of section 5.17

5.31 Testing and Commissioning (all equipment testing, earthing system, system integration)

Impact management outcome: No environmental degradation occurs as a result of Testing and Commissioning.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Residual solid waste must be recycled or disposed of in accordance with ***Section 5.8: Solid waste and hazardous management.***	Contractor	Undertake the recycling or disposal of residual solid waste as per the requirements of section 5.8	During the Construction Phase	ECO, ESCO	Monthly	The recycling or disposal of residual solid waste is undertaken in line with section 5.8.

5.32 Socio-ECO, ESCOnomic

Impact management outcome: enhanced socio-ECO, ESCOnomic development.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Develop and implement communication strategies to facilitate public participation;	dEO / cEO	Identify and implement appropriate strategies for communication	Pre-construction & Construction	ECO, ESCO	Once, prior to the commencement of construction and monthly	Communication is undertaken as per the identified strategies and no complaints are

Impact management outcome: enhanced socio-ECO, ESCOnomic development.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		with the communities through consideration of the community needs			during the construction	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, ESCO	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 are submitted by the community
– Sustain continuous communication and liaison with neighbouring owners and residents	Contractor	Development and implement a Grievance Mechanism which provides procedures for communication / liaison with	Pre-construction & Construction	ECO, ESCO	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

Impact management outcome: enhanced socio-ECO, ESCOnomic development.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		neighbouring landowners and residents				the Grievance Mechanism. No complaints on communication with neighbouring landowners and residents is submitted
– 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, ESCO	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
– Where feasible, no workers, with the exception of security personnel, must be permitted to stay over-night on the site. This would reduce the risk to local farmers.	Not Applicable - no workers, other than security is proposed to stay on-site overnight.					

5.33 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
– Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management actions included in ***sections 5.17: Hazardous substances and 5.18: Workshop, equipment maintenance and storage;***	Contractor	Regular emptying of the bunds must be undertaken. This must be undertaken as per the requirements listed in sections 5.17 and 5.18	During the Construction Phase	ECO, ESCO	Prior to site closure for more than 05 days	Bunds are emptied as per the requirements listed under sections 5.17 and 5.18
– Hazardous storage areas must be well ventilated;	Contractor	Install appropriate ventilation in all hazardous storage areas	During the construction phase	ECO, ESCO	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 rECO, ESCOrds 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 service rECO, ESCOrds are kept	During the Construction Phase	ECO, ESCO	Prior to site closure for more than 05 days	Signage placed indicating location of fire extinguishers and service rECO, ESCOrds

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
		up to date and filed				
– Emergency and contact details displayed must be displayed;	Contractor / cEO	Place emergency and contact details which are readily available and easily accessible	During the Construction Phase	ECO, ESCO	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, ESCO	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	Pre-construction & construction	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Prior to site closure for more than 05 days	Proof of checks of night hazards

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
		must be undertaken				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, ESCO	Identify any potential fire hazards and notify the relevant local authority	During the Construction Phase	ECO, ESCO	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 is secure prior to site closure	During the Construction Phase	ECO, ESCO	Prior to site closure for more than 05 days	Structures vulnerable to wind is secured prior to site closure
– Wind and dust mitigation must be implemented;	Contractor	Implement wind and dust mitigation prior to site closure	During the Construction Phase	ECO, ESCO	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	During the Construction Phase	ECO, ESCO	Prior to site closure for more than 05 days	Cement and material stores are secured prior to site closure

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
– Toilets must have been emptied and secured;	Contractor	Ensure toilets are emptied and secured prior to site closure	During the Construction Phase	ECO, ESCO	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, ESCO	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, ESCO	Prior to site closure for more than 05 days	Drip trays are emptied and secured prior to site closure

5.34 Dismantling of old equipment

Impact management outcome: Impact to the environment to be minimised during the dismantling, storage, and disposal of old equipment commissioning.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All old equipment removed during the project must be stored in such a way as to prevent pollution of the environment;	Contractor	Appropriately store old equipment in a manner which prevents pollution to the environment. This could include the construction of bunded areas	DECO, ESCOmmissioning	ECO, ESCO	Monthly	Photographic rECO, ESCOrd of appropriate storage of old equipment
– Oil containing equipment must be stored to prevent leaking or be stored on drip trays;	Contractor	Appropriately store equipment containing oil through the use of drip trays or other suitable methods	DECO, ESCOmmissioning	ECO, ESCO	Monthly	Photographic rECO, ESCOrd of appropriate storage of equipment containing oil
– All scrap steel must be stacked neatly, and any disused and broken insulators must be stored in containers;	Contractor	Ensure all scrap steel is stacked neatly and store disused and broken insulators in appropriate containers	DECO, ESCOmmissioning	ECO, ESCO	Monthly	Photographic rECO, ESCOrd of stacked scrap steel and containers containing broken and disused insulators

Impact management outcome: Impact to the environment to be minimised during the dismantling, storage, and disposal of old equipment commissioning.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Once material has been scrapped and the contract has been placed for removal, the disposal Contractor must ensure that any equipment containing pollution causing substances is dismantled and transported in such a way as to prevent spillage and pollution of the environment;	Contractor	Develop and implement a procedure for the dismantling and transportation of equipment containing pollution causing substances which prevents spillage and pollution of the environment	DECO, ESCOmmissioning	ECO, ESCO	Monthly	Proof from contractor that dismantling and transportation of equipment containing pollution causing substances has been undertaken in an appropriate manner
– The Contractor must also be equipped to contain and clean up any pollution causing spills; and	Contractor	Ensure sufficient spill kits are available for the clean-up of pollution causing spills	DECO, ESCOmmissioning	ECO, ESCO	Monthly	Sufficient spill kits are available on site
– Disposal of unusable material must be at a licensed waste disposal site.	Contractor	Make use of a licensed waste disposal site	DECO, ESCOmmissioning	ECO, ESCO	Monthly	Certificates obtained for the disposal at a licensed waste disposal site

5.35 Landscaping and rehabilitation

Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed of to a registered waste site;	Contractor	Develop and implement a rehabilitation plan for the rehabilitation of all disturbed areas. Dispose of all spoil and waste at a licensed waste disposal facility	Pre-construction & Rehabilitation	ECO, ESCO	Weekly	Rehabilitation of the disturbed areas is undertaken as per the rehabilitation plan. All certificates of waste disposal at licensed facilities 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 in consultation with the ECO, ESCO	Assess all slopes and determine whether contouring is required	Rehabilitation	ECO, ESCO	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 in consultation with the ECO, ESCO	Assess all slopes and determine whether terracing is required	Rehabilitation	ECO, ESCO	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	Ensure all berms have a slope of 1:4 and is replanted	Rehabilitation	ECO, ESCO	Weekly	All berms have a slope of 1:4 and is replanted with indigenous

Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
		with indigenous species and grasses				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;	Not applicable					
– Rehabilitation of access roads inside of farmland;	Not applicable					
– 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, ESCO	Weekly	Indigenous species are used for rehabilitation
– Stockpiled topsoil must be used for rehabilitation (refer to ***Section 5.24: Stockpiling and stockpiled areas***);	Contractor	Ensure stockpiled topsoil is used as per the requirements listed under section 5.24	Rehabilitation	ECO, ESCO	Weekly	Stockpiled topsoil is used as per the requirements listed under section 5.24
– 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, ESCO	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, ESCO	Weekly	No weeds are visible in the placement area or the topsoil

Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Subsoil must be ripped before topsoil is placed;	Contractor	Undertake the ripping of subsoil prior to the spreading of topsoil	Rehabilitation	ECO, ESCO	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, ESCO	At the start of rehabilitation to confirm the 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, ESCO	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, ESCO	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, ESCO	Weekly	Photographic rECO, ESCOrd of spoil used for landscaping purposes as well

Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
						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. e) The final product must not cause an ECO, ESCOlogical imbalance in the area	Contractor in consultation with a suitably qualified specialist	Make use of a suitable vegetation seed mixture should enhancement be required	Rehabilitation	ECO, ESCO	As and when required	Use of a suitable vegetation seed mixture if required

6 ACCESS TO THE GENERIC EMPr

Once completed and signed, to allow the public access to the generic EMPr, the holder of the EA must make the EMPr available to the public in accordance with the requirements of Regulation 26(h) of the EIA Regulations.

PART B: SECTION 2

7 SITE SPECIFIC INFORMATION AND DECLARATION

7.1 Sub-section 1: contact details and description of the project

7.1.1 Details of the applicant: Norma Energy (RF) (Pty) Ltd

PROJECT APPLICANT DETAILS	
DEVELOPMENT ENTITY	
Applicant Name	Norma Energy (Pty) Ltd
Responsible Person	Mr Matteo Giulio Luigi Brambilla
Address	14th Floor Pier Place Heerengracht Street Foreshore Cape Town 8001
Contact Details	+27 (0)21 418 3940 (T) +27 (0)72 212 1531 (C) Email: m.logan@redrocket.energy

7.1.2 Details and expertise of the EAP: Terramanzi Group (Pty) Ltd

Details and expertise of the EAP:	
EAP Name	Fabio Venturi - Terramanzi Group (Pty) Ltd
EAP Qualifications	BSc (Hons) Zoology , 20 years' experience as an environmental practitioner
Professional Affiliation/Registration	EAPASA(2021/4088)
Physical Address	16 Bell Crescent, Westlake, Cape Town, 7945
Telephone	021 701 5228
Cell phone	082 575 3800
Email Address	fabio@terramanzi.co.za

Expertise of the EAP (Curriculum Vitae included): Yes

The EMPr was authored by: Tarryn Frankland (Terramanzi Group - EAPASA Candidate 2022/6205)

The EMPr was signed off by: Fabio Venturi (Terramanzi Group - EAPASA 2021 / 4088)

The EMPr was reviewed by: Kristen Shaw (Terramanzi Group - EAPASA Candidate 2022/4741), Zandria Jordan (Terramanzi Gorup), Chane Olckers (Terramanzi Group).

7.1.3 Project name:

Proposed Virginia 132 kV Switching Station to connect the authorised Virginia 1, 2 and 3 Solar Parks to the National Grid - Theseus Eskom substation, via the 132 kV Powerline.

7.1.4 Description of the project:

Norma Energy (Pty) Ltd proposes to establish the 132kV Switching station located on the Virgina 1 Solar Park. The Virginia 1 Solar Park received Environmental Authorisation on 19 May 2022 (DFFE Ref. No.: 14/12/16/3/3/2/2099). The Project is located on the Farm Blomskraal 216, Ventersburg RD, Matjhabeng Local Municipality, Lejweleputswa District Municipality, Free State Province.

The Virginia 1 132kV Substation was administratively split under two different ownerships. The 132kV step-up portion of the substation falls under the Virginia 1 Applicant (Norma Energy (Pty) Ltd); and the 132kV switching station portion falls under a new Applicant name: Norma Energy (Pty) Ltd. This generic Substation EMPr deals with the 132kV Switching station only.

The 132kV step-up station will connect the Virginia 1, 2 and 3 Solar Parks via the Virginia 132 kV Powerline to the Eskom Theseus Substation. The Virginia Solar Park cluster and OHPL Project was awarded Preferred Bidder Status under the 6th Round of the Renewable Independent Power Producer Programme (REIPPP). The facility is a SIP 8 project.

The Applicant has also reiterated that this is a SIP Project and that should the Competent Authority decide to authorize this Application that it is imperative that the EMPR and corridor layout be approved as assessed and presented for approval to allow the SIP Project to comply with the requirements of the REIPPPP and reach financial close. Based on the findings of the professional team and the EAP, it is reasonable to suggest that the Competent Authority can approve both the EMPR and layout as applied for.

Table 2: Details of the land parcel on which the Virginia 1 Solar Park 132 kV Substation

Cadastral Land Parcel	SG Code	Approximate Co-ordinates of the Substation on land portion
Farm Blomskraal 216, Ventersburg RD	F03500000000021600000	28°13'26.48"S 27° 0'24.48"E

7.1.5 Project location:

The Virginia 132kV step-up station will be located within the Virginia 1 Solar Park development area. The Project is located on the Farm Blomskraal 216, Ventersburg RD, Matjhabeng Local Municipality, Lejweleputswa District Municipality, Free State Province. The Project is located approximately 16 km to the southeast of the town of Virginia (see Figure 2).

Table 3: The co-ordinates of 132kV switching station

Point	Latitude	Longitude
1	-28°12'53.60"S	26°58'32.47"E
2	-28°12'55.82"S	26°58'36.34"E
3	-28°12'58.21"S	26°58'34.60"E

4	-28°12'56.00"S	26°58'30.73"E

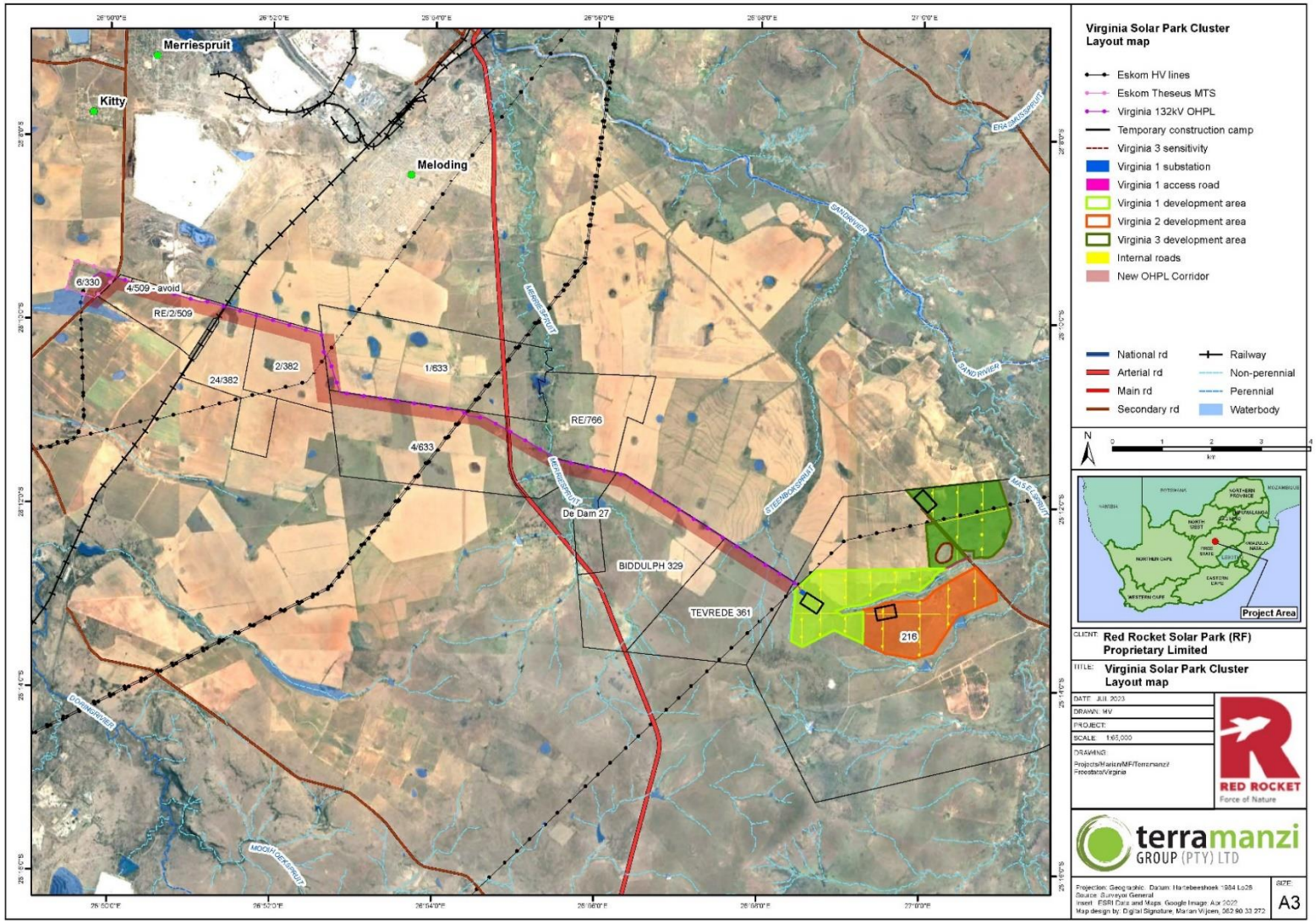


Figure 2: Regional Topographical Locality Map of the Virginia Solar Park Cluster and OHPL

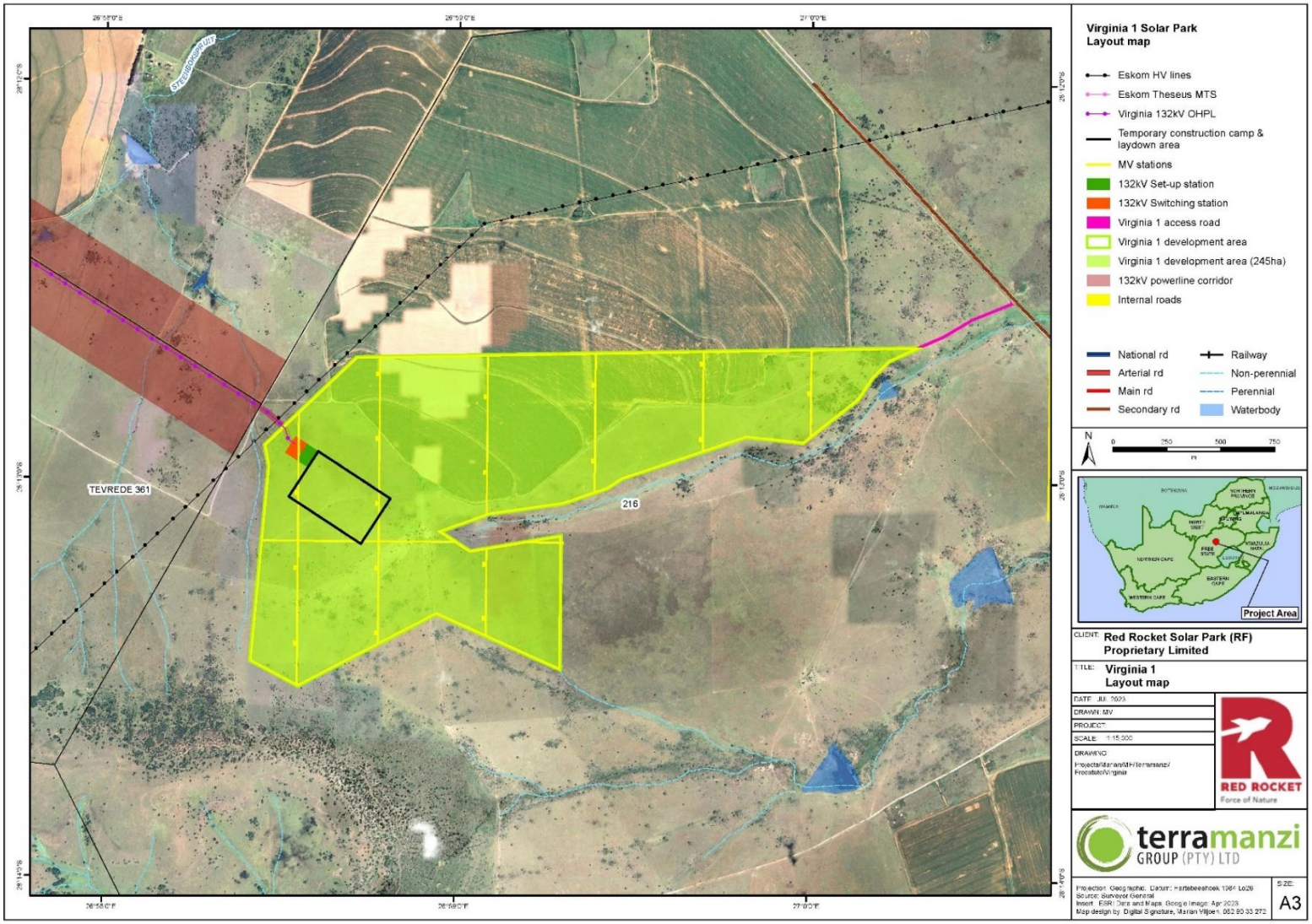


Figure 3: Layout Map for the Virginia 1 Solar Park. The orange polygon depicts the 132kV switching station which is applicable to this EMPr.

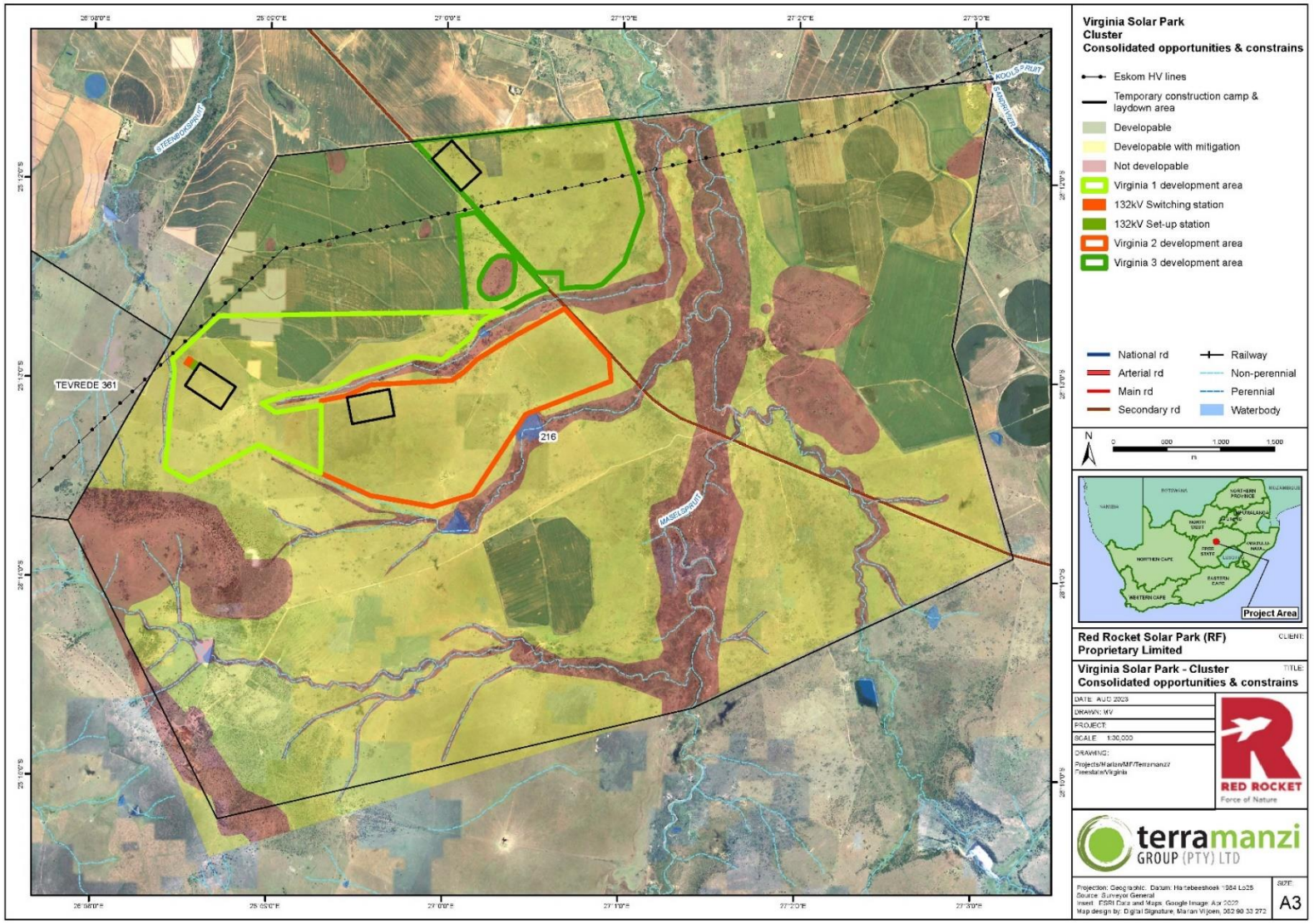


Figure 4: Site sensitivity map for the entire Virginia Solar Cluster

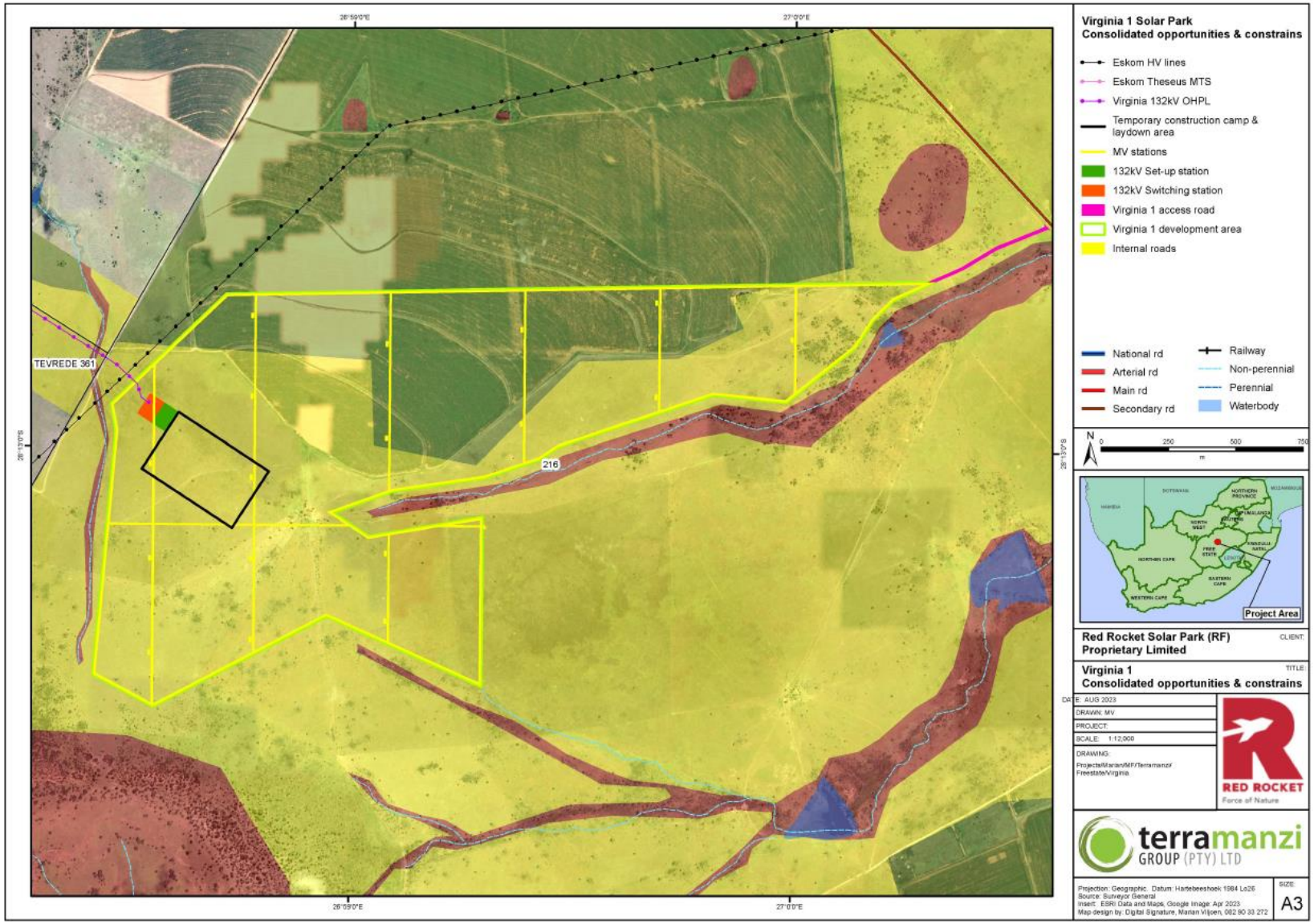


Figure 5: Site sensitivity map for the Virginia 1 Solar Park

7.2 Sub-section 2: Development footprint site map

This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity map must be prepared from the national web based environmental screening tool, when available for compulsory use at: https://screening.environment.gov.za/screeningtool The sensitivity map shall identify the nature of each sensitive feature e.g. threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features within 50 m from the development footprint.

The DFFE Environmental Screening Tool was utilised for this project to initially identify potential environmental sensitivities. The environmental sensitivities were then assessed by specialists. The environmental sensitives confirmed by the specialists are presented as follows:

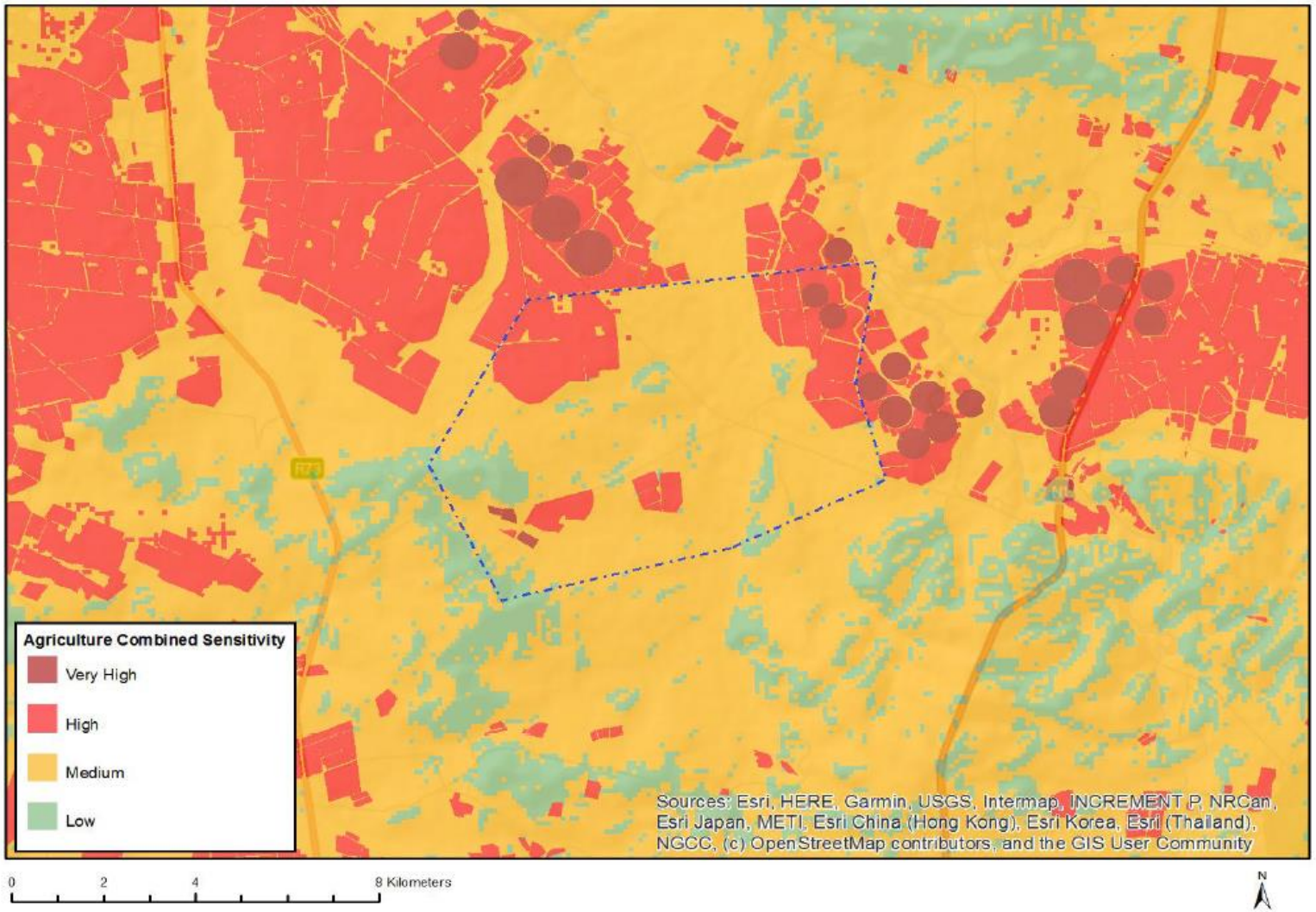


Figure 6: Agricultural Sensitivity Theme DFFE Screening Tool

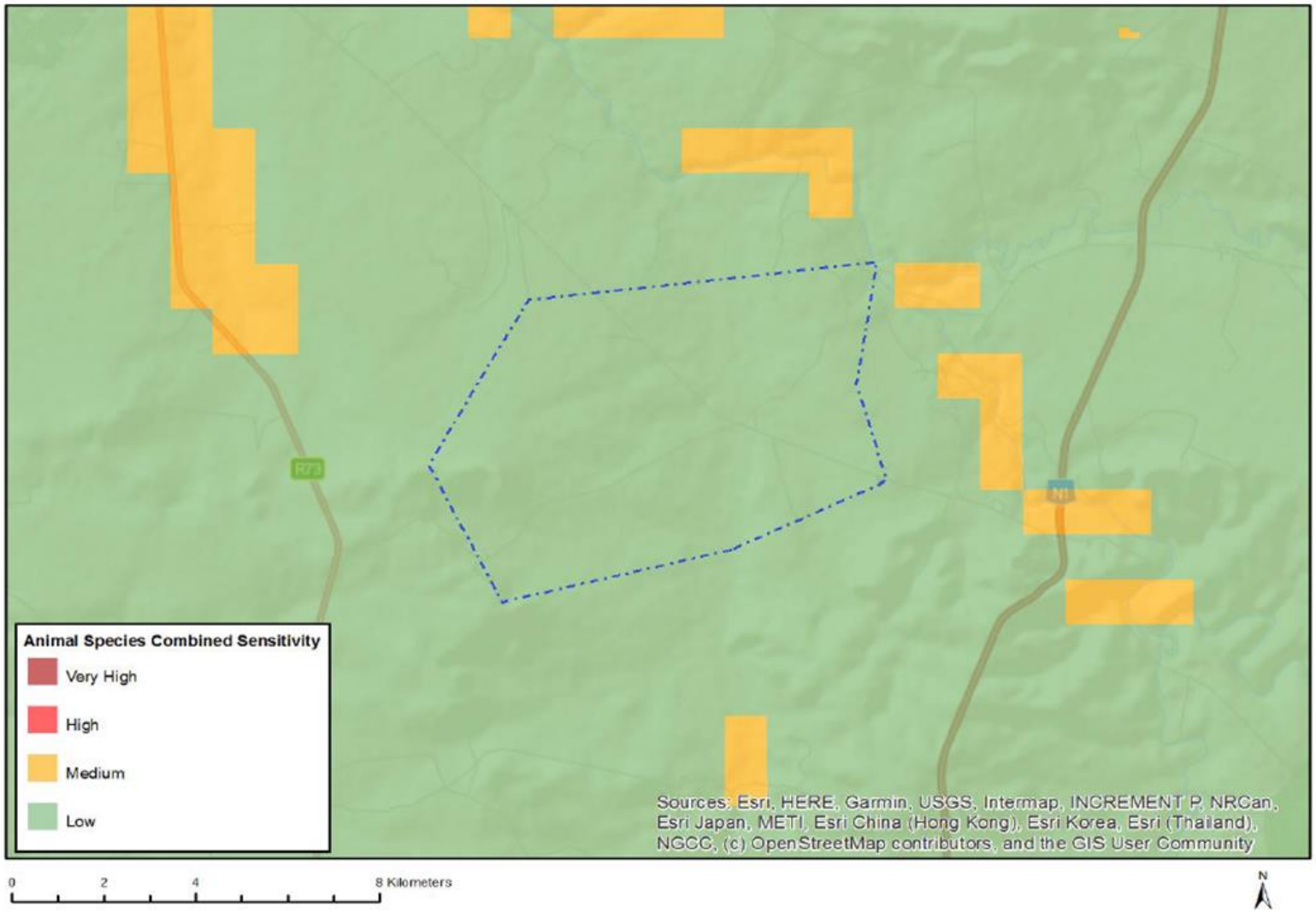


Figure 7: Animal Sensitivity Theme DFFE Screening Tool

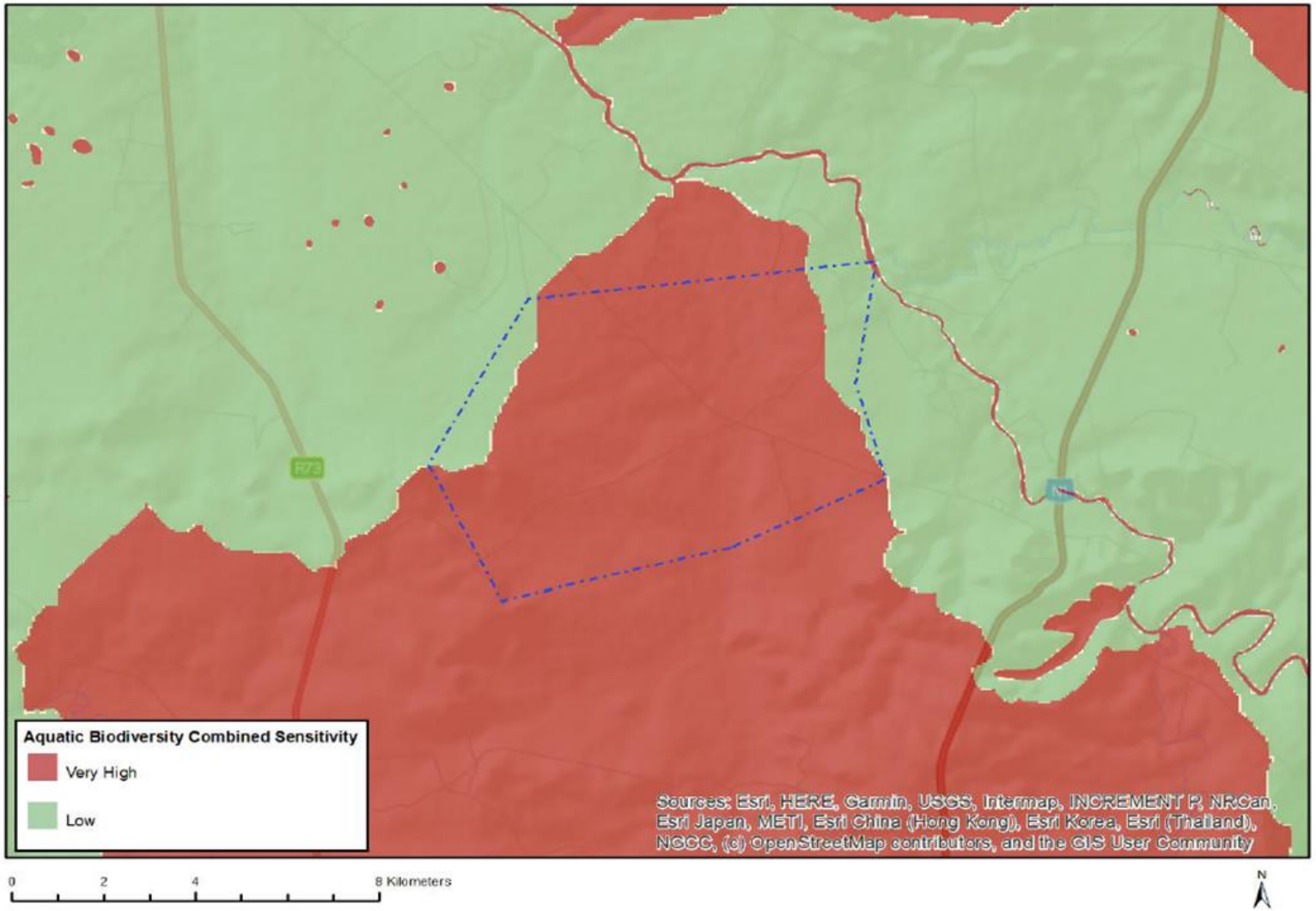


Figure 8: Aquatic sensitivity Theme DFFE Screening Tool

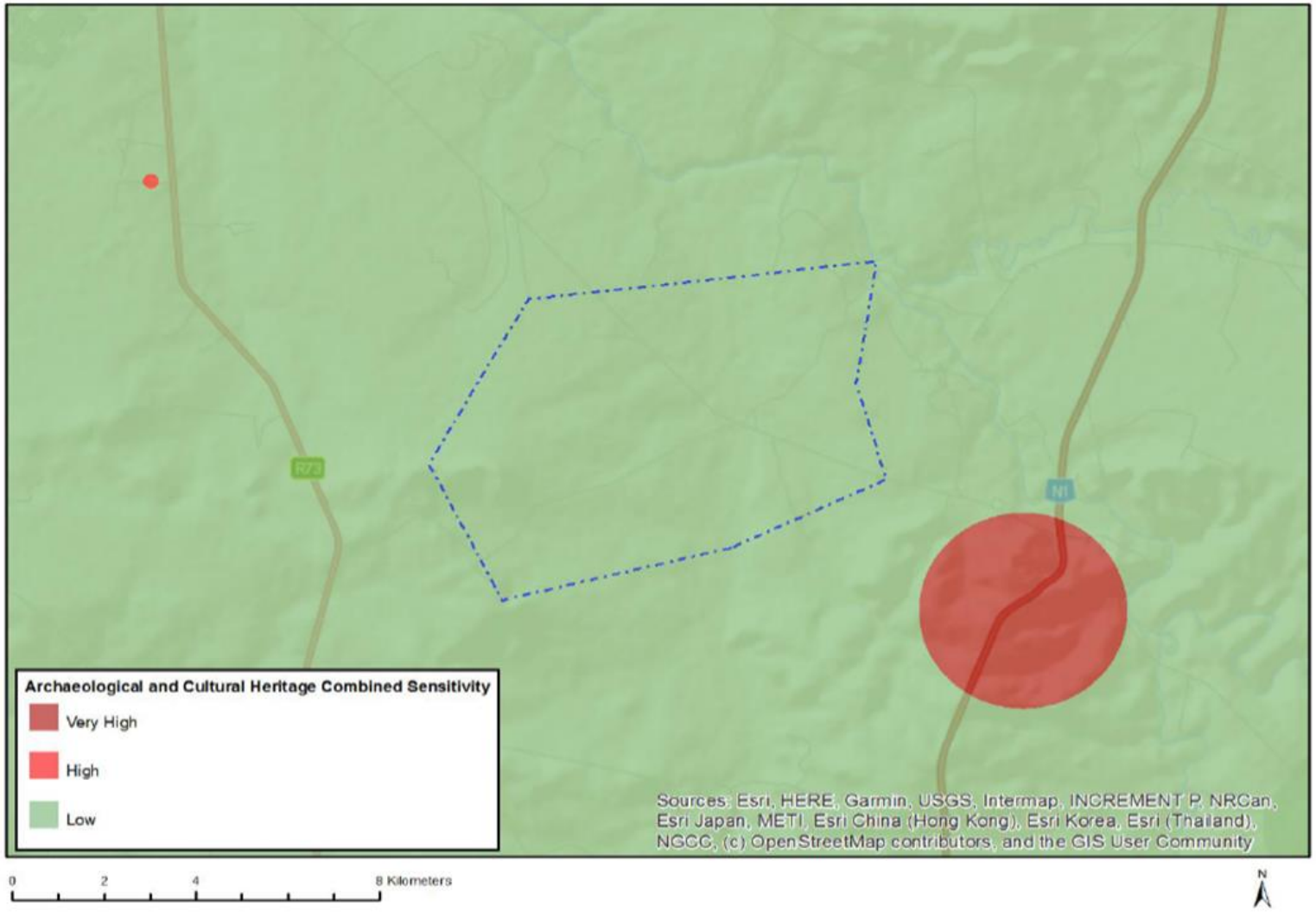


Figure 9: Archaeological Sensitivity Theme DFFE Screening Tool

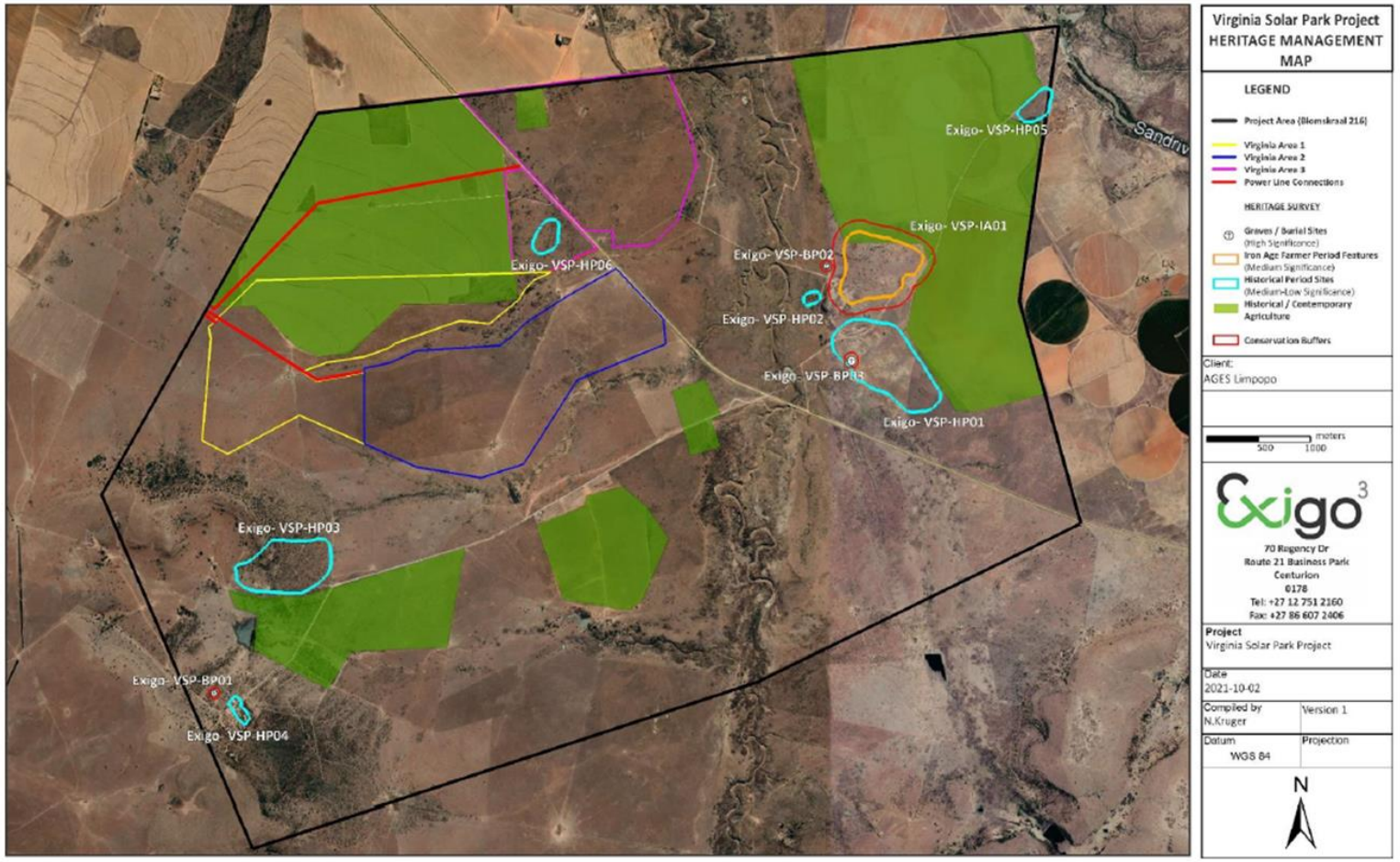


Figure 10: Site plan indicating the proposed heritage conservation buffers in relation to proposed project footprint areas for the Virginia 1, 2 & 3 Solar Parks EIA Project.

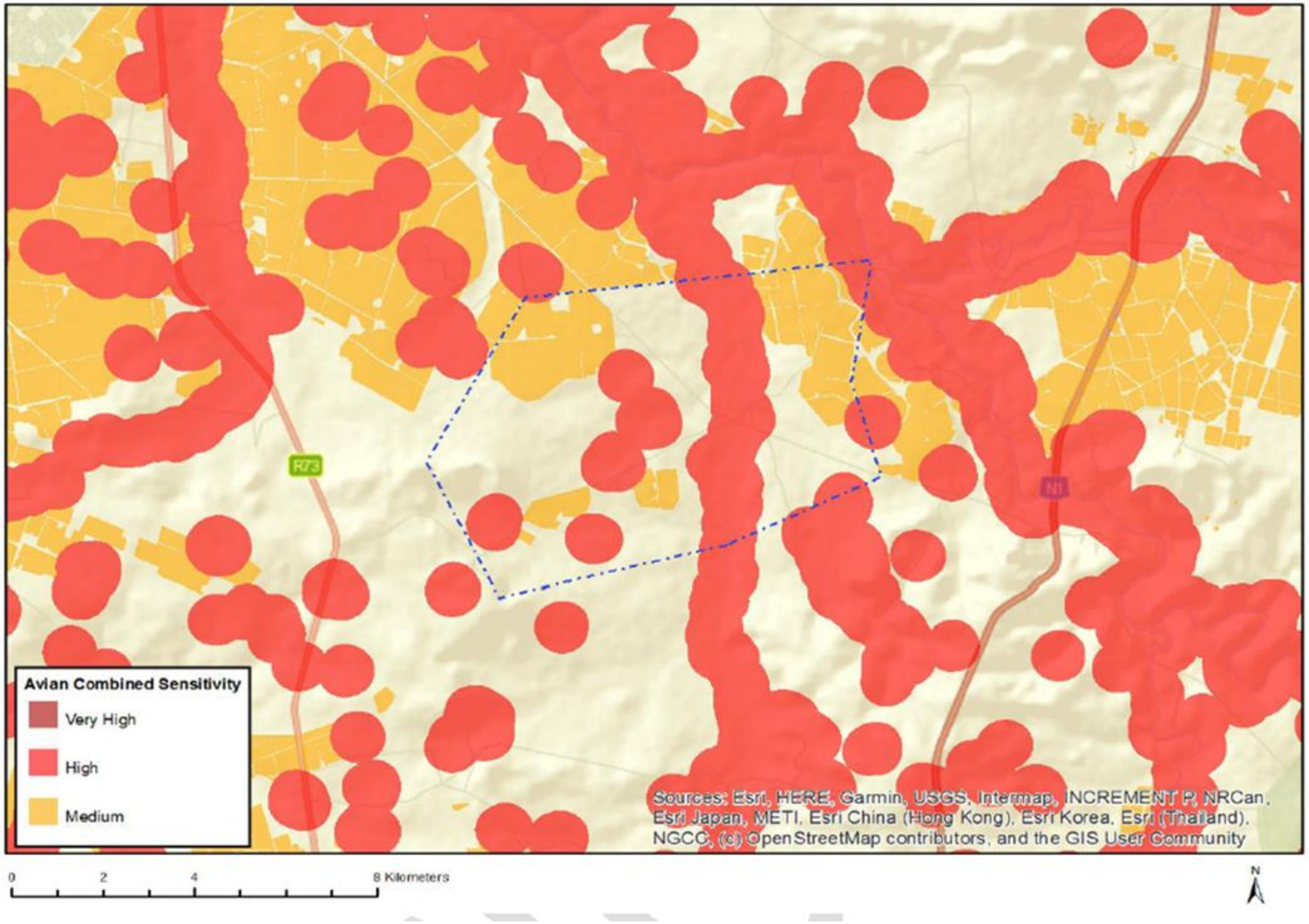


Figure 11: Avian Sensitivity Theme DFFE Screening Tool

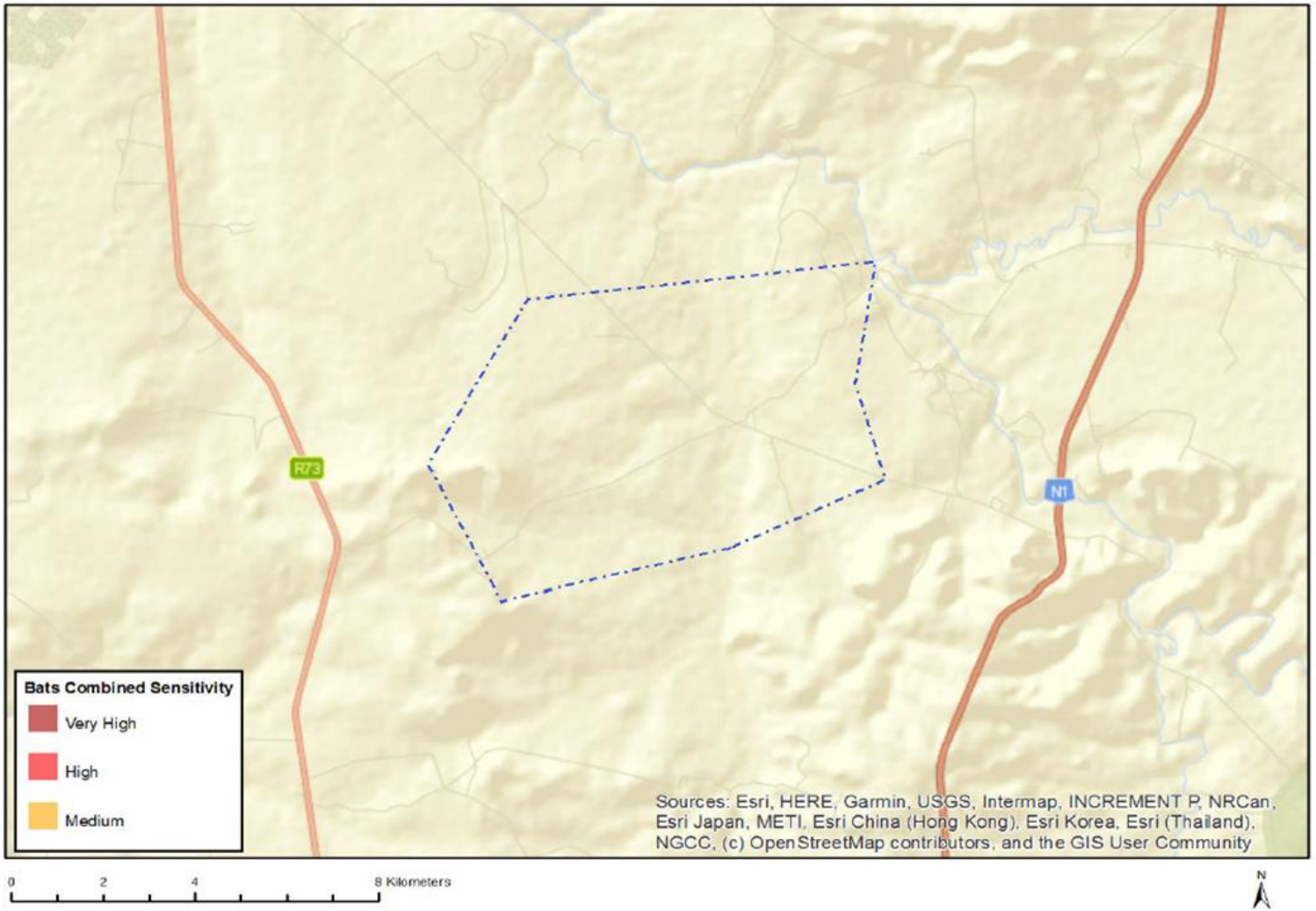


Figure 12: Bat Sensitivity Theme DFFE Screening Tool

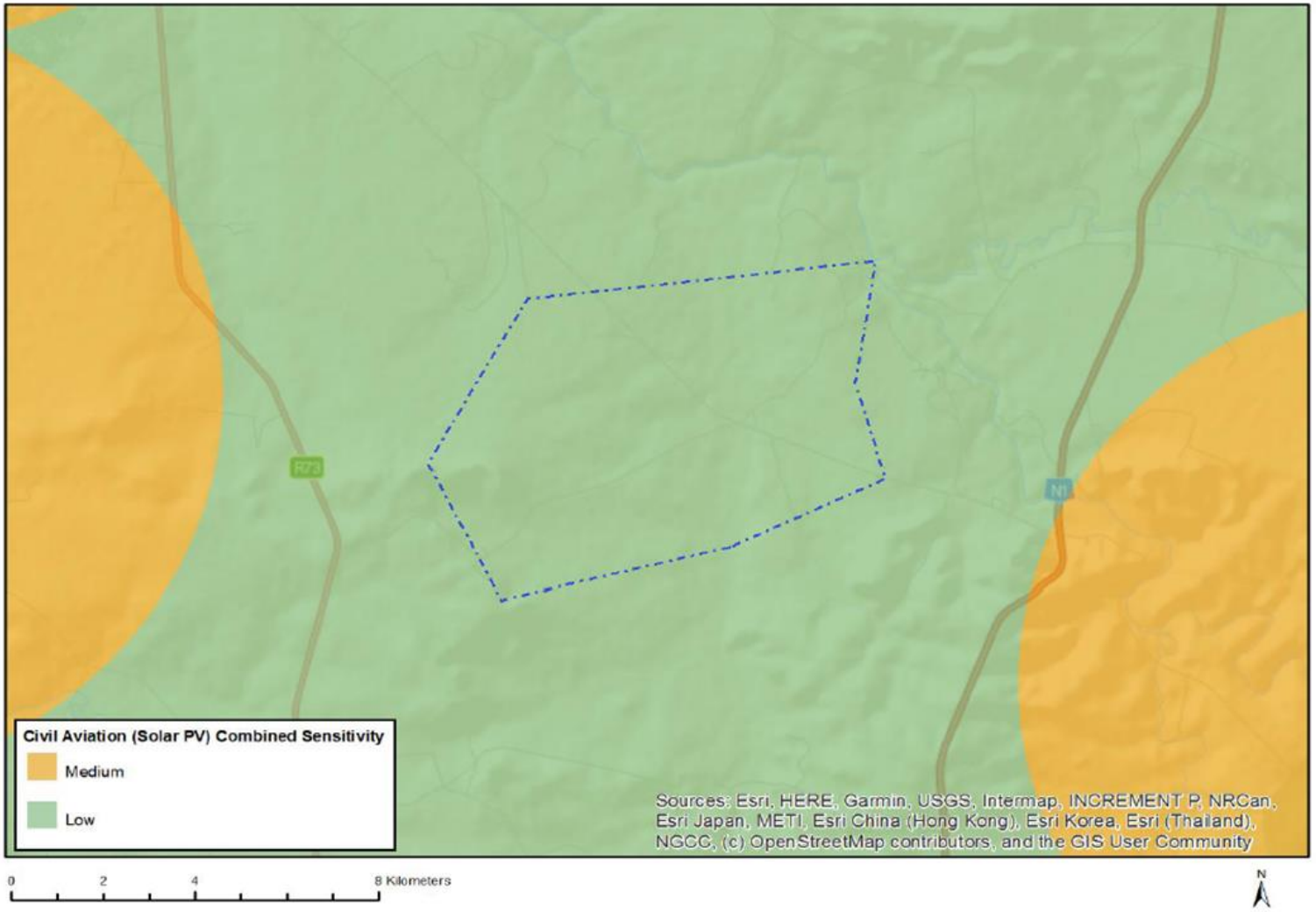


Figure 13: Civil Aviation (Solar PV) Theme DFFE Screening Tool

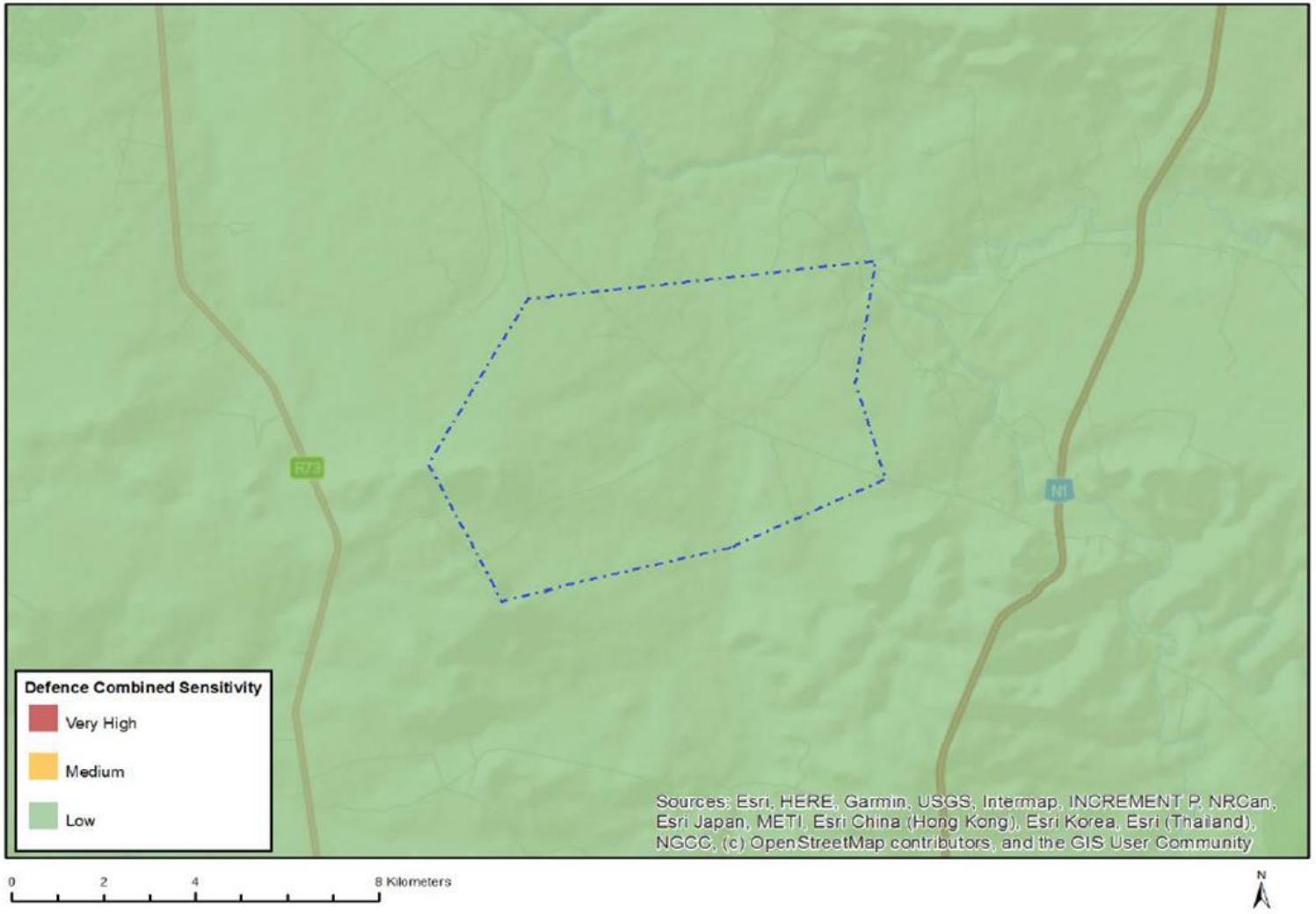


Figure 14: Defence Theme DFFE Screening Tool

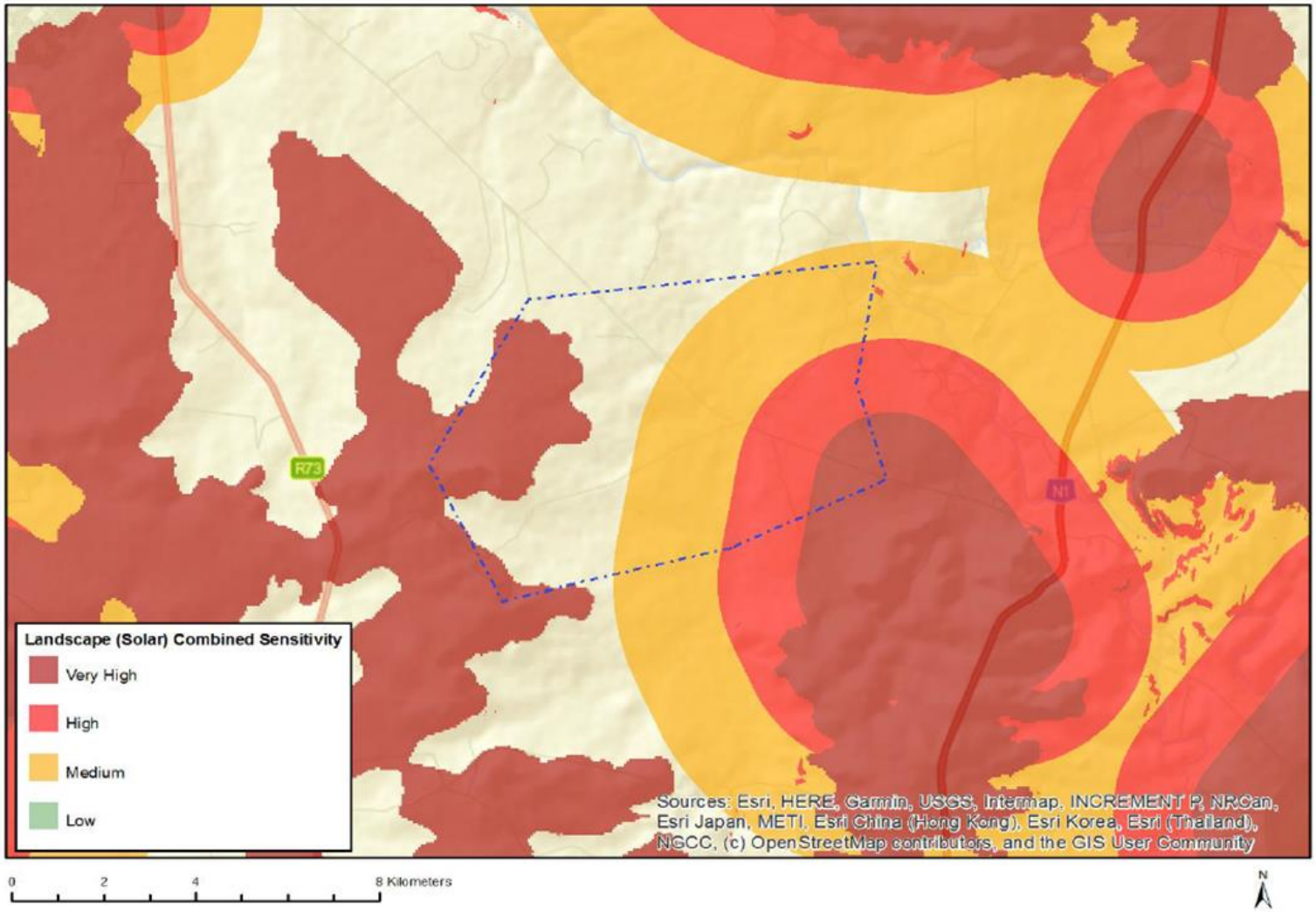


Figure 15: Landscape (Solar) Theme DFFE Screening Tool

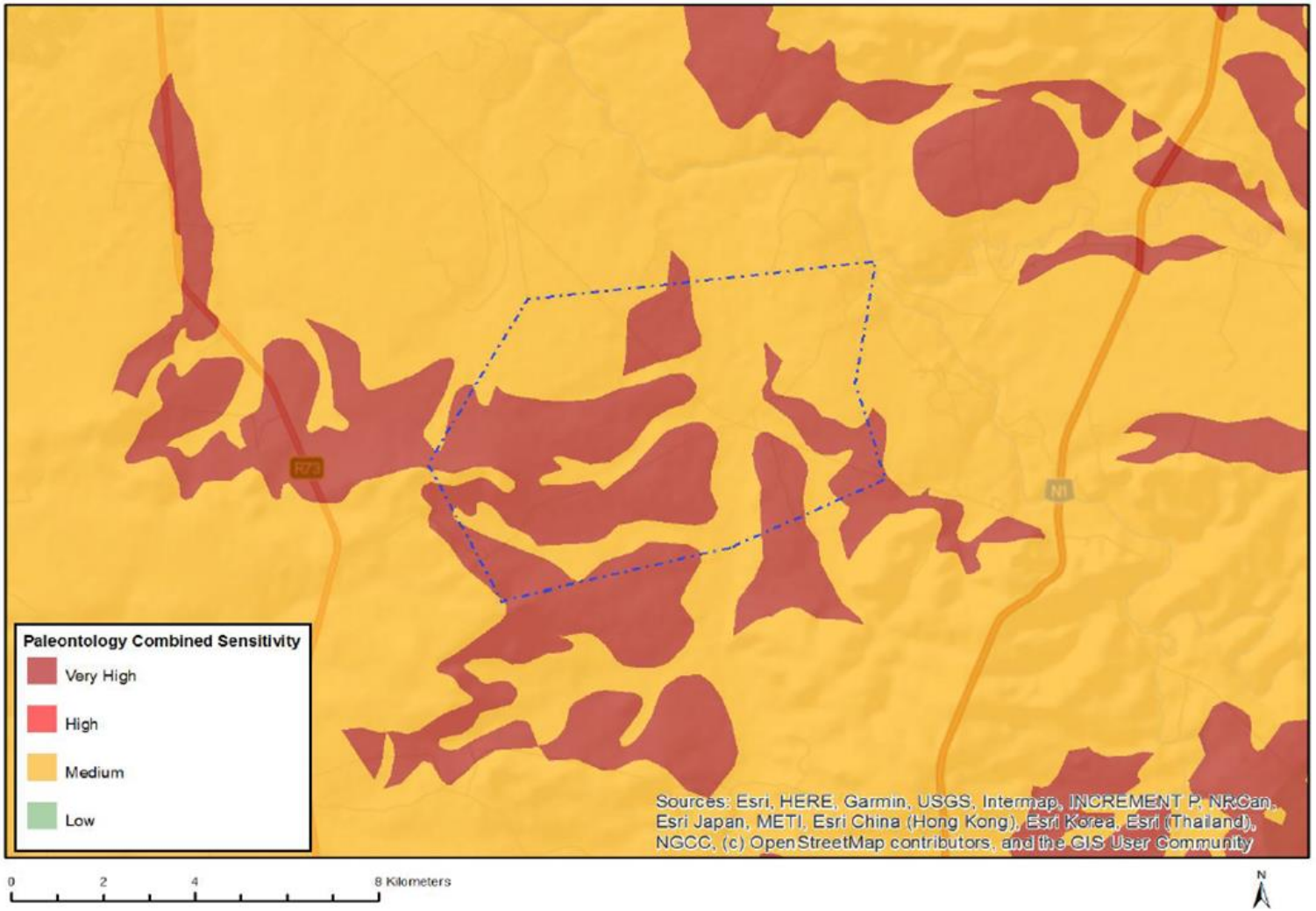


Figure 16: Palaeontological Theme DFFE Screening Tool

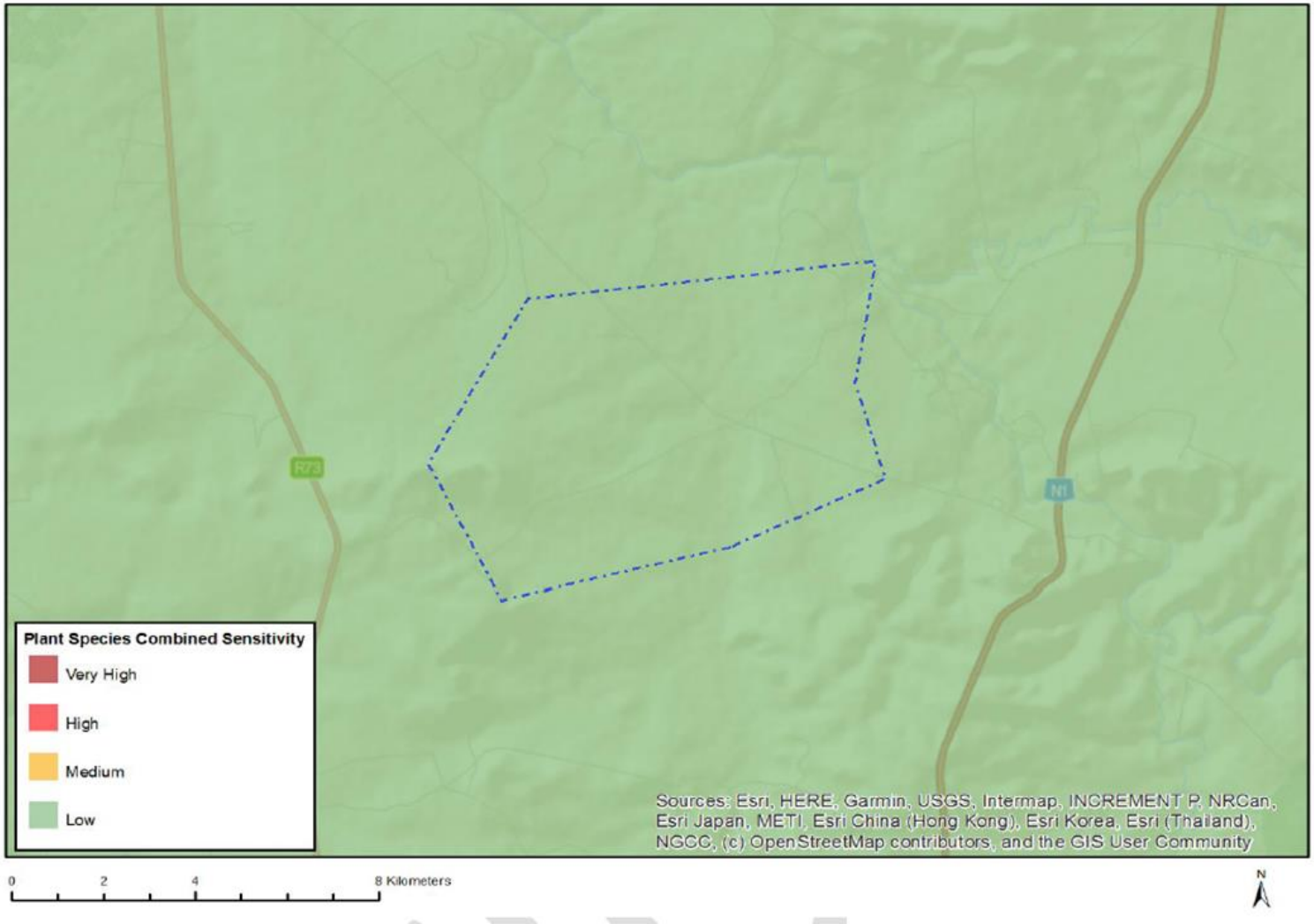


Figure 17: Plant Species Theme DFFE Screening Tool

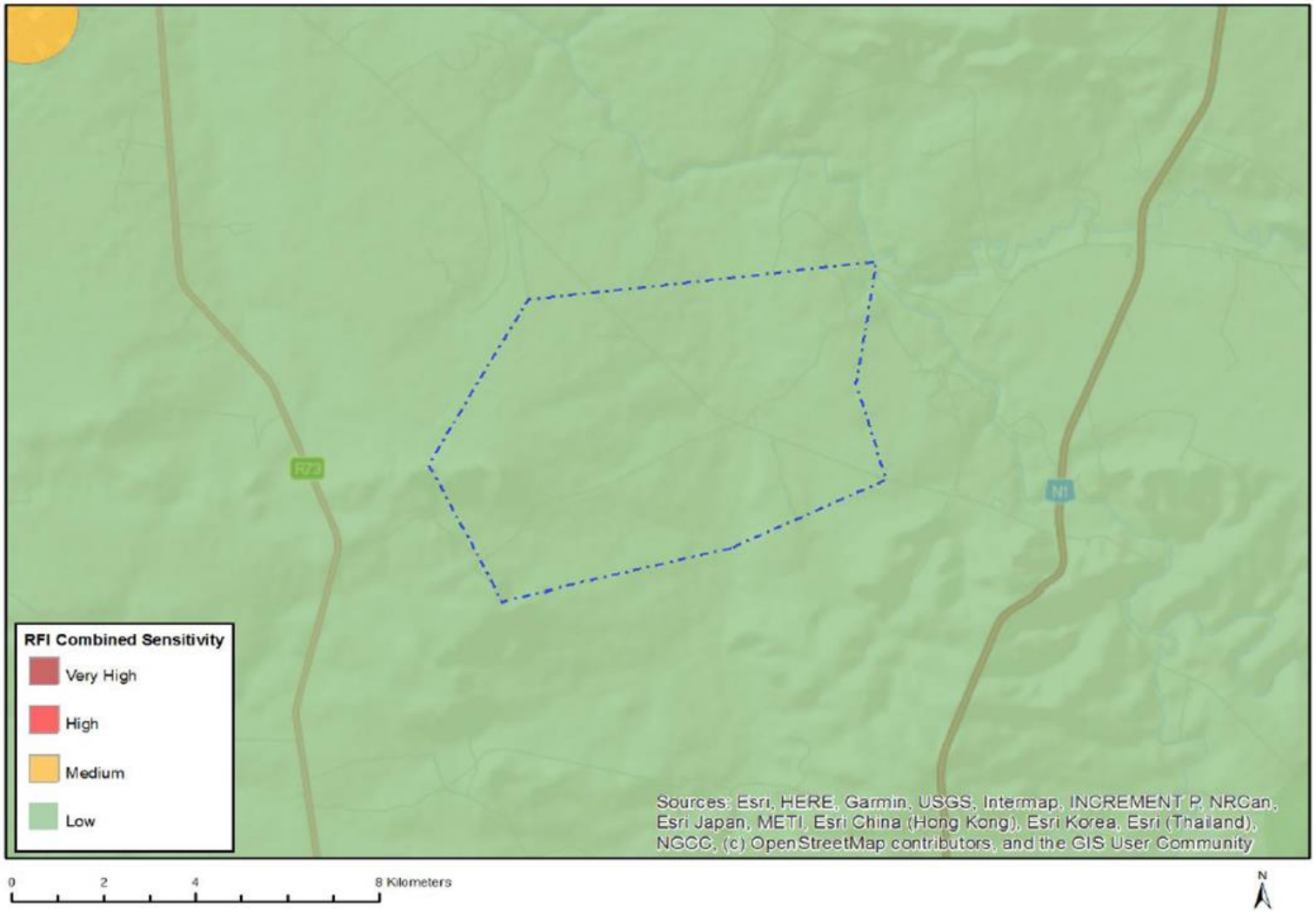


Figure 18: RFI Theme DFFE Screening Tool

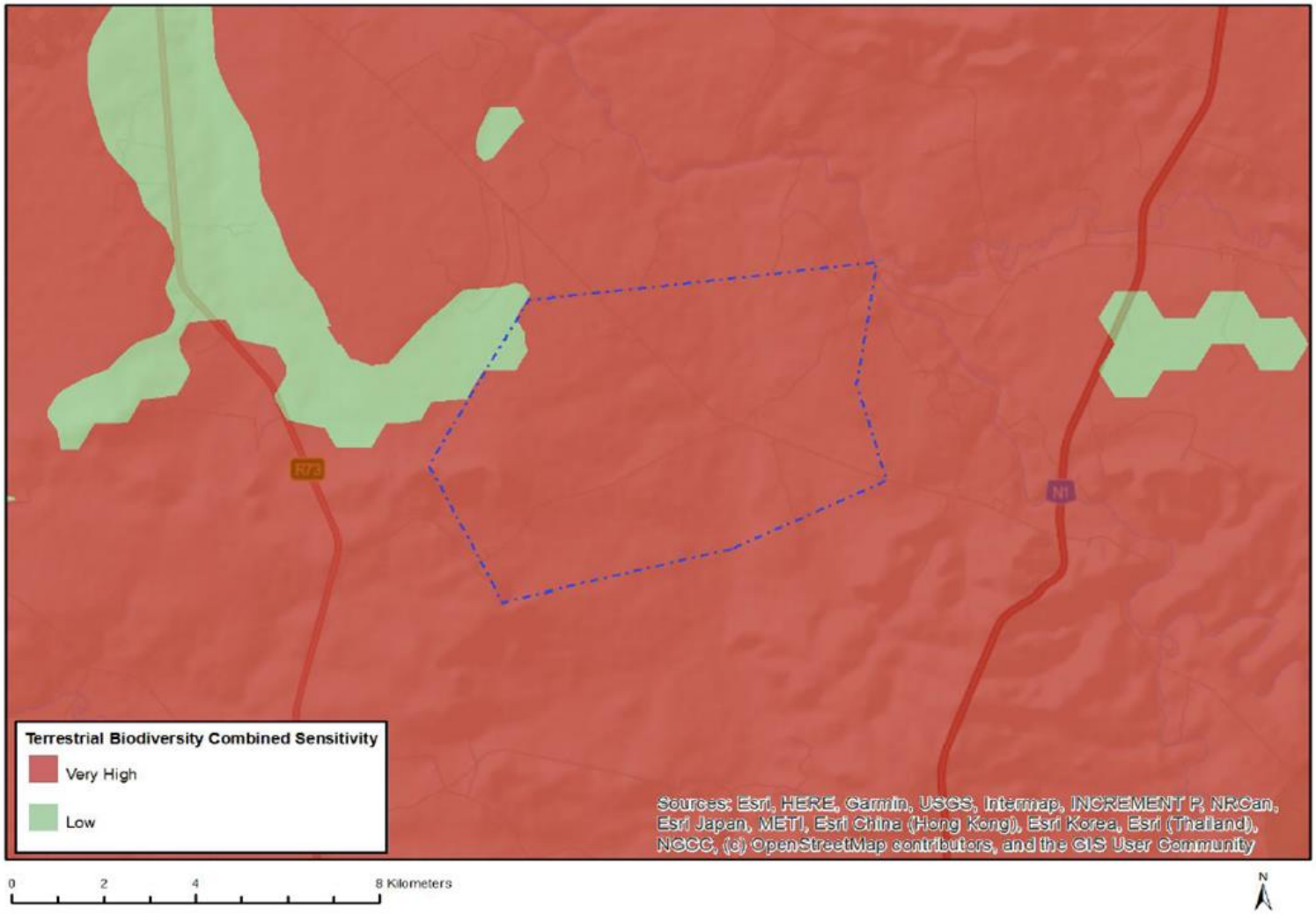
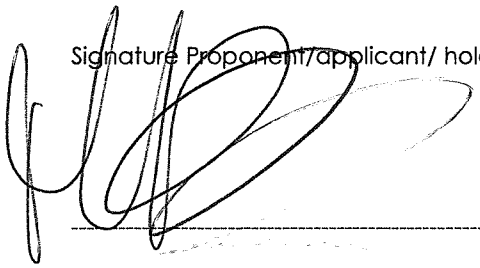


Figure 19: Terrestrial Biodiversity DFFE Screening Tool

7.3 Sub-section 3: Declaration

The proponent/applicant or holder of the EA affirms that he/she will abide and comply with the prescribed impact management outcomes and impact management actions as stipulated in part B: section 1 of the generic EMPr and have the understanding that the impact management outcomes and impact management actions are legally binding. The proponent/applicant or holder of the EA affirms that he/she will provide written notice to the CA 14 day prior to the date on which the activity will commence of commencement of construction to facilitate compliance inspections.



Signature Proponent/applicant/ holder of EA

Date:

18 August 2023

7.4 Sub-section 4: amendments to site specific information (Part B; section 2)

Should the EA be transferred to a new holder, Part B: Section 2 must be completed by the new holder and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted for an amendment to an environmental authorisation will be considered to be incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

PART C

8 SITE SPECIFIC ENVIRONMENTAL ATTRIBUTES

If any specific environmental sensitivities/attributes are present on the site which require more specific impact management outcomes and actions, not included in the pre-approved generic EMPr template, to manage impacts, those impact management outcomes and impact management actions must be included in this section. These specific management controls must be referenced spatially, and must include impact management outcomes and impact management actions. The management controls including impact management outcomes and impact management actions must be presented in the format of the pre-approved generic EMPr template. This applies only to additional impact management outcomes and impact management actions that are necessary.

If Part C is applicable to the development as authorised in the EA, it is required to be submitted to the CA together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP and the name and expertise of the EAP, including the curriculum vitae are to be included. Once approved, Part C forms part of the EMPr for the site and is legally binding.

This section will **not be required** should the site contain no specific environmental sensitivities or attributes.

Impact management outcome: Protection of Biodiversity						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Management of direct Habitat destruction						
A pre-construction walk-through of the final development footprint must be undertaken in order to locate and identify Species of Conservation Concern that can be translocated. Trim, rather than fell of woody species along the edges of the development site where possible. The clearing and damage of plant growth in the riparian and wetland areas should be restricted to the actual crossing where possible, and not into the sensitive adjacent areas. Identified species to be removed from construction footprint and relocated within the servitude. Where protected trees will need to be cleared or pruned, permits should be obtained from the relevant authority.	DPM, ECO, ESCO, Ecologist	A site walk down must be done prior to construction ECO, Ecologist/biodiversity specialist to identify protected plant species to be relocated.	Pre-construction	DPM, ESCO, ECO, Ecologist	Pre-construction	Walk down report and permits (if required).

Impact management outcome: Protection of Biodiversity						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
The ECO, ESCO should advise the construction team in all relevant matters to ensure minimum destruction and damage to the environment. The ECO, ESCO should enforce any measures that he/she deem necessary. Regular environmental training should be provided to construction workers to ensure the protection of the habitat, fauna and flora and their sensitivity to conservation.	dEO, cEO, ECO, ESCO, ESCO	Toolbox Talks / Environmental Training workshops. RECO, ESCOrds of such must be kept on file.	Construction	ECO, ESCO	Construction	Tool Box talks registers and site inspection checklists
Management of Habitat Fragmentation						
Construction activities must remain within defined construction areas. No construction / disturbance will occur outside these areas, unless authorised by the ECO, ESCO/ESCO.	ECO, ESCO, dEO, cEO, DSS	Demarcation and Site inspections	Construction	ECO, ESCO	Construction phase, and when site access to an area outside the development is required.	Design and layout, site inspection checklist and/or ECO, ESCO audit report
Management of Faunal Species						
Where holes for poles pose a risk to animal safety, they should be adequately cordoned off to prevent animals falling in and getting trapped and/or injured. This could be prevented by the constant excavating and backfilling during planting of the poles along the lines.	ECO, ESCO, DSS, dEO, cEO	Site inspections – work observations,	Construction	ECO, ESCO	Daily / When required	Site Inspections and ECO, ESCO audit report - ape or canvass (material) placed around the holes until the are filled.

Impact management outcome: Protection of Biodiversity						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Poisons for the control of problem animals (rats, mice or other vermin) should only be used after approval from an ECO, Ecologist.	ECO, ESCO, dEO, cEO, Ecologist	Pest Control management plan written by a qualified ECO, Ecologist.	Construction / Operation	ECO, ESCO	Weekly / Monthly	MSDS use checklist, pest control management plan, poison checklist.
Limit pesticide use to non-persistent, immobile pesticides and apply in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications, and in accordance with the ECO, Ecologist requirements.	ECO, ESCO, dEO, cEO, Ecologist	Pest Control management plan written by a qualified ECO, Ecologist.	Construction / Operation	ECO, ESCO	Monthly	MSDS use checklist, pest control management plan, pesticide checklist.
The taller (>3m) indigenous trees should be protected as far as possible and be incorporated into the proposed development. The removal of large dead trees is also not advised as these trees also provide smaller habitats for the mentioned bat species as well as rodents.	ECO, ESCO, dEO, cEO, Ecologist	ECO, Ecologist/biodiversity specialist to identify protected plant species to be relocated while conducting the site visit to confirm footprints for tower positions. Identified species to be removed from construction footprint and relocated within the servitude. Delineate Buffer zones and incorporate them into the layout design, follow the required permitting processes to move the trees where required (this can be confirmed by the ECO, Ecologist)	Construction / Operation	ECO, ESCO, suitably qualified Ecologist (when required)	Pre-construction (site walk down), construction	Biodiversity management plan (including search and rescue of sensitive species)

Impact management outcome: Protection of Biodiversity						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Two provincially protected species are present on site – *Boophone disticha* and *Helichrysum* (under the Free State Nature Conservation Ordinance 8 of 1969). An application must be submitted to the Provincial authorities to clear or translocate these plants as part of the plant rescue operation (refer to the Virginia 1 PVSEF EMPr Plant rescue plan). It is also imperative that where construction does not impact the plants, they should be left intact and undisturbed.	ECO, ESCO, cEO, dEO, Ecologist	Incorporate identifying these species on site during the pre-construction site walk down by the ECO, Ecologist.	Pre construction / during construction	ECO, ESCO; Ecologist (when required)	Pre construction walk down / during construction	Incorporate identifying these species on site during the pre-construction site walk down by the ECO, Ecologist. Apply for a permit if required.
A monitoring programme needs to be implemented by a specialist to monitoring: 1. If any rare faunal species (page 74 of the Terrestrial Specialist report – August 2021) are confirmed on the property. 2. The impact of construction and the development on the fauna (species carcass counting for example)	ECO, ESCO, dEO, cEO, Ecologist	Faunal monitoring plan – including search and rescue, and rare species & species carcass counting.	Construction / Operation	ECO, ESCO, suitably qualified Ecologist (when required)	Monthly	Faunal monitoring plan Report – including search and rescue incidents, and rare species siting counts; species carcass counting, poaching incidents
Backfill trenches as soon as possible to reduce the risk of animals falling onto the trenches.	DSS, ECO, ESCO, dEO, cEO	Demarcation and site inspections	Construction	ECO, ESCO, DSS	Daily / When required (during trench excavation)	Site Inspection
Do not feed any wild animals on site.	ECO, ESCO, dEO, cEO, Ecologist	Faunal monitoring plan – rare species & species carcass counting.	Construction / Operation	ECO, ESCO, Suitably qualified Ecologist (when	Daily	Site inspection checklist (check waste containers, eating areas for staff)

Impact management outcome: Protection of Biodiversity						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
				required)		
Speed control measures (preferably 30 km/hour) to reduce the chance of fauna fatalities.	ECO, ESCO, dEO, cEO, Health and Safety Officer	Speed control signs, speed humps and security checkpoints can be implemented. Speed bumps can be installed in sections where the speed limit tends to be disobeyed. (Speed limits will also lessen the probability of road accidents and their negative consequences).	Construction / Operation	ECO, ESCO; Health and Safety Officer	Daily	Speeding infringement incident reports.
Management of Alien Invasive Species						
The Alien Invasive Management Plan developed by the Biodiversity specialist (page 15 of the Virginia 1 PVSEF EMPr) must be implemented on site.	ECO, ESCO, dEO, cEO, Ecologist	Alien Invasive Management Plan - Control involves killing the plants present, killing the seedlings which emerge, and establishing and managing an alternative plant cover to limit re-growth and re-invasion. Weeds and invader plants will be controlled in the manner prescribed for that category by the Conservation of Agricultural Resources Act (CARA) or in terms of Working for Water guidelines.	Construction / Operation / DECO, Decommissioning	ECO, ESCO, Suitably qualified Ecologist (when required)	Post Construction Activities; During and/or after Decommissioning	Site inspections, ECO, ESCO Audit, rectification plan
The use of indigenous plants must be encouraged in the rehabilitated areas (stormwater canals), and stockpiles. If an annual grass species is preferred in	ECO, ESCO, dEO, cEO, Ecologist	Alien Invasive Management Plan & field surveys and site inspections & Rehabilitation and Revegetation Plan	Construction / Operation / DECO,	ECO, ESCO, Suitably qualified Ecologist (when required)	Post Construction Activities; During	ECO, ESCO audit report, field surveys and site inspections & Rehabilitation and

Impact management outcome: Protection of Biodiversity						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
the mix these grass *Dactyloctenium aegyptium* can be used. *Eragrostis teff and Paspalum notatum* must preferably **not** be used as these are not indigenous grasses. *Eragrostis teff* is also known as an annual grass and should be avoided.			Decommissioning		and/or after Decommissioning	Revegetation report
Institute strict control over materials brought onto site, which should be inspected for seeds of noxious plants and steps taken to eradicate these before transport to the site. Routinely fumigate or spray all materials with appropriate low-residual herbicides prior to transport to or in a quarantine area on site.	ECO, ESCO, DSS, dEO, cEO, Ecologist	Alien Invasive Management Plan - The contractor is responsible for the control of weeds and invader plants within the construction site for the duration of the construction phase. Alien invasive tree species listed by the CARA regulations should be eradicated.	Construction / Operation	ECO, ESCO, DSS; Suitably qualified Ecologist (when required)	Daily	Daily Inspection of incoming and outgoing vehicles (a checklist can be drawn up for monitoring purposes)
Institute an eradication/control programme for early intervention if invasive species are detected. The use of indigenous plants must be encouraged in the rehabilitated areas (stormwater canals), and stockpiles containing mostly exotic or weedy species should receive specialised handling and should be covered for extended periods to inhibit seedling germination of these species. Active management and eradication of exotic / alien plant species should also occur when seedlings are found.	ECO, ESCO, dEO, cEO, Ecologist	Rehabilitation and Revegetation Management Plan	Construction / DECO, Decommissioning	ECO, ESCO, Suitably qualified Ecologist (when required)	Weekly / Monthly (dependent on site), however, site should be checked at least once a month	ECO, ESCO audit report, Rehabilitation and Revegetation Management Plan report

Impact management outcome: Management of Soil, Water and Air on site						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Management of soil erosion and sedimentation						
Construction must include design measures that allow surface and subsurface movement of water along drainage lines so as no to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of storm water runoff.	ECO, ESCO, dEO, cEO, Engineer, Freshwater Specialist	Stormwater Control management plan (Refer to the PVSEF EMPr for Virginia 1 for the Storm water management plan)	Planning and design phase	ECO, ESCO; Engineer; Freshwater Specialist	Planning and design phase, construction (daily) – especially before the storm and rain season	Storm water management plan
Protect sloping areas and drainage channel banks that are susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and Work Areas.	DSS, ECO, ESCO, dEO, cEO	Site Inspection	Construction	DSS; ECO, ESCO	Construction (daily) – especially before the storm and rain season	Site inspection
Placement of pylons should be outside sensitive soil types and drainage channels.	DPM, Specialists, ECO, ESCO, dEO, cEO	Design and layout	Design & planning phase	DPM; ECO, ESCO	Pre-Construction. Daily checks during construction to ensure that no activity occurs with sensitive areas.	Layout design informed by Specialists reports and Opportunities and constraints mapping. Daily checks and observations during construction to ensure that no activity occurs with sensitive areas.
Management of Soil, Water, and air Pollution						
An Integrated waste management approach must be implemented that is based on waste minimization and must	ECO, ESCO, DSS, cEO, dEO	Waste management plan	Construction / Operation	ECO, ESCO	Weekly	ECO Audit; Site inspections checklist; waste

Impact management outcome: Management of Soil, Water and Air on site						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
incorporate reduction, recycling, re-use and disposal where appropriate. Any solid waste must be disposed of at a landfill licensed in terms of Section 20 (b) of the National Environmental Management Wast Act (Act. No 59 of 2008)						management report recording waste collection slips
Ensure that all hazardous storage containers and storage areas comply with the relevant SABS standards to prevent leakage.	ECO, ESCO, dEO, cEO	Waste management plan & the utilization of demarcated waste skips on site	Construction / Operation	ECO, ESCO	Daily	SABS checklist, site inspection, ECO Audit
No dumping of waste should take place within the wetland / riparian zone. If any spills occur, they should be immediately cleaned up.	ECO, ESCO, dEO, cEO; DSS	Waste management plan & the utilization of demarcated waste skips on site	Construction / Operation	DSS; maintenance manager; ECO, ESCO	Construction / Operation	Site inspection; ECO Audit, Maintenance checklist; waste management checklist (collection slips)
Implement standard dust control measures, including periodic spraying with non-potable water (frequency will depend on many factors including weather conditions, soil composition and traffic intensity and must thus be adapted on an on-going basis) and chemical dust suppressants of construction areas and access roads, and ensure that these are continuously monitored to ensure effective implementation.	ECO, ESCO, dEO, cEO; DSS	Dust Management Plan	Construction / Operation	DSS; ECO, ESCO	Daily / Weekly (when required – especially during the windy season)	Site inspection of road irrigation and stockpile management
A speed limit (preferably 30 km/hour) should be enforced on dirt roads to reduce dust falling into wetland areas and onto vegetation.	ECO, ESCO, dEO, cEO; DSS	Speed control signs, security check points	Construction / Operation	DSS; Safety Officer; ECO, ESCO	Construction / Operation	Speed infringement reports

Impact management outcome: Management of Soil, Water and Air on site						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Appropriate sanitary facilities must be provided for the duration of the proposed development and all waste removed to an appropriate waste facility.	ECO, ESCO, DSS, cEO, dEO	Waste management plan	Construction / Operation	ECO, ESCO	Daily	ECO Audit; Site inspections; waste management report (waste collection slips)

Impact management outcome: Management of Human impact						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Management of the effect of human activities and road mortalities						
Maintain proper firebreaks around entire development footprint.	ECO, ESCO, dEO, cEO, Fire department	Fire Management Plan – Local Fire Department.	Construction / Operation	ECO, ESCO; Fire department	Once a year / During winter season – when required. The local Fire Department can advise.	A report recording when Fire breaks are conducted and their frequency.

Impact management outcome: Management of Human impact						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Educate construction workers regarding risks and correct disposal of cigarettes on site.	ECO, ESCO, dEO, cEO, Fire department	Fire Management Plan & Toolbox talks	Construction / Operation	ECO, ESCO	Weekly	Toolbox talk rECO, ESCOrds and attendance registers
Travelling at night should be avoided or limited as much as possible.	ECO, ESCO, dEO, cEO, Health and Safety Officer	Security Checkpoints & Inspections	Construction / Operation	ECO, ESCO; Health and Safety Officer	Daily	Toolbox talk rECO, ESCOrds and attendance registers

Impact management outcome: Management of Freshwater Resources						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Impact on the Characteristics of the Watercourse i.e Flow Regime, Habitat, Biota, Water Quality And Geomorphology due to Construction within Floodline Zone						
No activities must be allowed to encroach into a water without a water us authorization being in place from the Department of Water and Sanitation, as per Condition 33 of the Environmental Authorisation (14/12/16/3/3/2/2099, dated 19 May 2022)	DPM, ECO, ESCO, Freshwater Specialist.	Submit an application for a Water use license (if required) guided by the Freshwater Specialist	Planning and Design, Pre-Construction	DPM; ECO, ESCO; Freshwater Specialist	Planning and Design, Pre-Construction, During construction – daily checks	Submit an application for a Water use license (if required) guided by the Freshwater Specialist

Impact management outcome: Management of Freshwater Resources						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Construction within the 32 m regulatory zone should be avoided where reasonably practicable. Where engineering designs do not allow for this, the mitigation measures indicated in this EMPr and the Virginia 1 Solar Park EMPr must be adhered to reduce all impacts to the freshwater ECO, ESCOsystems and to prevent sediment changes (sedimentation) to the channels.	ECO, ESCO, DSS, cEO, dEO, Freshwater Specialist	Planning, design and layout – informed by the freshwater assessment report which delineates the drainage channel extent and to inform how far into the 32m regulatory zone the construction can encroach	Planning and design phase / pre-construction / construction	ECO, ESCO; Freshwater Specialist	Planning and Design, Pre-Construction, During construction – daily checks	Planning, design and layout – informed by the freshwater assessment report which delineates the drainage channel extent and to inform how far into the 32m regulatory zone the construction can encroach
During the operational phase, vehicles must not be permitted to deviate from designated access roads, unless authorised by the ECO / ESCO. The indiscriminate use of machinery within the in-stream and riparian habitat will lead to compaction of soils and vegetation and must therefore be strictly controlled, unless authorised by the ECO / Freshwater specialist.	ECO, ESCO, DSS, dEO, cEO	All freshwater sensitive areas must be demarcated and closed off to restrict movement into these areas	Operation		Operation – when required	ECO, ESCO audit and site inspections to ensure that demarcated areas remain isolated from traffic movement on site
During the operational phase, inspections of structures and the servitude access road (particularly any culverts or bridge crossings) following severe storms must be conducted and required maintenance activities must be undertaken based on the inspection findings.	ECO, ESCO, Engineer, Freshwater specialist (if required) DSS, dEO, cEO	Site inspections post storms	Operation	ECO, ESCO; Engineer, Freshwater specialist (if required)	Operation	Site inspection, ECO, ESCO audit and report on findings of storm damage. A storm damage checklist can be written up
Minimize soil exposure around the Solar PV Modules. Re-vegetate exposed areas surrounding the powerline development	ECO, ESCO, dEO, cEO, Freshwater Specialist	Rehabilitation and Revegetation plan	Construction / Operation /		Daily Site Inspections,	ECO, ESCO audit report and Rehabilitation and Site

Impact management outcome: Management of Freshwater Resources						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
and allow a sufficient buffer between the cropland development to prevent sedimentation into the wetlands / rivers.			Decommissioning		inspections should especially be conducted after rainstorms/periods of high rain and wind	inspection checklist, Revegetation plan report
As per Condition 34 of the Environmental Authorisation - all development activities should be restricted to the footprint areas of the proposed powerline development. The ESCO should demarcate and control these areas.	DPM, ECO, ESCO, dEO, cEO, DSS	Pre-construction planning and layout, and Demarcation of development footprint area and sensitive feature areas	Planning and Design phase	ECO, ESCO	Pre-construction planning and layout design, demarcation during Construction	Final design and layout which establishing development footprint boundaries against sensitive features boundaries; Site inspections can be uitilised to monitor the demarcation of these areas prior to construction and placed in an ECO, ESCO audit
Rehabilitation of the riparian area affected by development after construction have been completed should be considered a high priority and all areas rehabilitated should be audited after construction has ceased by a suitably qualified environmentalist.	ECO, ESCO, dEO, cEO, Freshwater specialist	Rehabilitation and Revegetation Plan guided by the freshwater specialist	Decommissioning	ECO, ESCO; Freshwater specialist	Decommissioning	Rehabilitation and Revegetation Site walk through and report
Demarcate all riparian boundaries with pegs and danger tape.	ECO, ESCO, dEO, cEO, Freshwater specialist	Planning, design and layout; and Site Inspections during construction	Construction	ECO, ESCO; Freshwater specialist	During the entire Construction Phase	Final design and layout, Site Inspection,

Impact management outcome: Management of Freshwater Resources						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Edge effects of pre-construction and construction activities, including erosion, sedimentation and alien/weed control, need to be strictly managed in wetland areas as well as their associated buffer zones.	DPM, ECO, ESCO, DSS, dEO, cEO	Planning, design and layout – informed by a freshwater assessment report , Site inspections	Pre-construction / Construction	DPM; ECO, ESCO	During the entire Construction Phase	Site Inspection checklist
The following general rehabilitation measures should be implemented in the disturbed riparian zone, where reasonably practicable: - All disturbed surface areas will be re-shaped to resemble the surrounding natural topography. Surfaces will be ripped / scarified, and re-vegetated with indigenous grass species. - Implement concurrent rehabilitation processes to limit degradation of soil biota. - Terrestrial invasive removal programs must be maintained throughout the proposed development as well as in the aftercare and maintenance phases.	ECO, ESCO, dEO, cEO, Freshwater specialist	Rehabilitation and Revegetation Plan guided by the Freshwater specialist	Construction / Decommissioning	ECO, ESCO; Freshwater specialist	During the entire Construction / Operation / Decommissioning phases	Rehabilitation and Revegetation Plan report and final site inspection by the freshwater specialist after rehabilitation
If compaction occurs, rectification can be done by application and mixing of manure, vegetation mulch or any other organic material into the area. Use of well cured manure is preferable as it will not be associated with the nitrogen	ECO, ESCO, dEO, cEO, Freshwater specialist, Soil specialist	Rehabilitation and Revegetation Plan	Construction / Operation / Decommissioning	ECO, ESCO; Freshwater specialist; Soil specialist	When required / After soil compaction has occurred	Site Inspections, Rehabilitation and Revegetation Plan

Impact management outcome: Management of Freshwater Resources						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
negative period associated with organic material that is not composted. All compacted areas (including temporary access tracks) are to be ripped/scarified (along contour) to a depth of 150 mm prior to the replacement of topsoil.						
Reprofiling of the banks of disturbed drainage areas to a maximum gradient of 1:3 to ensure bank stability. The banks can be reinforced (where necessary) with gabions, reno mattresses and geotextiles. This is especially relevant for the stormwater outlet area.	Engineer, DPM, DSS, ECO, ESCO, dEO, cEO, Freshwater specialist	Avoid these areas wherever possible. If avoidance is not possible an engineer and Freshwater specialist must guide the reprofiling of the bank. The provision of bank stabilization methods must be implemented.	Construction / Operation / Decommissioning	ECO, ESCO; Engineer; DSS; Freshwater specialist	Construction / Decommissioning	Reprofiling design,
A stormwater plan must be developed with the aid of an engineer to ensure that water runoff is diverted off the site without pooling and stagnation or erosion. Training with regards to stormwater management of site personnel must be undertaken as part of their induction. Refreshment training must be undertaken periodically.	Engineer, DPM, DSS, ECO, ESCO, dEO, cEO, Freshwater specialist	Storm Water Management Plan in Virginia 1 PVSEF EMPr - Appropriate design and mitigation measures must be developed and implemented to minimise impacts on the natural flow regime of the watercourse i.e., through placement of structures/supports and to minimise turbulent flow in the watercourse. The access roads and services roads and stormwater systems must be designed to ensure suitable stormwater management.	Pre-construction / construction / operation	Engineer; ECO, ESCO; Freshwater specialist	Site inspections (especially before a storm / during rainy season)	Storm Water Management Plan in the Virginia 1 PVSEF EMPr. Training rECO, ESCOrds and attendance registered.

Impact management outcome: Management of Freshwater Resources

Impact Management Actions	Implementation			Monitoring		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Regular conditional inspections of all storm water infrastructure are required. Inspection data must be rECO, ESCOrded and accumulated for tracking purposes. Regular reporting should be a scheduled management task: - Specific attention must be given to inspection during and after any rain and/or flood event to kerb any damage that may occur; - Implement energy dissipation structures where concentrated flows occur; - Stabilise all earth berm structures by specifying correct light compaction and revegetation; - Monitor natural drainage lines and dams for sedimentation and notify engineers immediately of issues in order to implement erosion control measures; - Regular inspection of the solar panel areas to assess storm water impact which may result from the clearing of vegetation; - The grass should be mowed once or twice a year, and mowed areas, where approvable, should be kept to	Engineer, DSS, ECO, ESCO, dEO, cEO, Freshwater specialist, maintenance supervisor	Maintenance program for storm water infrastructure	Construction / Operation	Engineer; ECO, ESCO; Freshwater specialist, maintenance supervisor	Site inspections (especially before a storm / during rainy season)	Maintenance program for storm water infrastructure-checklist and report

Impact management outcome: Management of Freshwater Resources						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
11 cm (minimum) to attenuate the stormwater velocity; - Vegetated areas should not be subject to chemical fertilisation or herbicides or pesticides; and - Maintain and clean all drainage structures along roads within the project area.						

Impact management outcome: Agricultural Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Management of agricultural resources, specifically pertaining to soil, on site						
Vegetation and soil should be retained in position for as long as possible and should only be removed immediately ahead of construction/earthworks in any specific area.	DSS, ECO, ESCO, dEO, cEO	Site inspection of stockpile management and scarifying activities - Vegetation (grass and small shrubs) should not be cleared from the site prior to construction except if vegetation requires relocation as determined through an ECO, ESCOlogy assessment). This material is to be stripped together with topsoil as it will supplement the	Construction	ECO, ESCO	Construction phase	Site inspection

Impact management outcome: Agricultural Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
		organic and possibly seed content of the topsoil stockpile depending on the time of soil stripping (whether plants are in seed or not).				
Ensure that no unnatural depressions remain that could act as channels for preferential water flow.	DSS, ECO, ESCO, dEO, cEO; Freshwater Specialist	Design and Layout. Ensure these requirements are considered during the final design of the powerline	Construction	ECO, ESCO; Freshwater Specialist	Construction	Final design and layout that incorporates avifaunal buffers (layout must be approved by the Freshwater specialist)
Management of loss of land capability						
Corridors should be secured around the development footprint areas to ensure the current land use (grazing and agriculture) surrounding the site can continue in a functional way after construction.	ECO, ESCO, dEO, cEO	Site Inspection to ensure no encroachment occurs into the adjacent areas	Construction / DECO, Decommissioning	ECO, ESCO	Construction / Decommissioning	Site Inspection to ensure no encroachment occurs into the adjacent areas
This is a recommendation – not a requirement: Considering that re-growth of grass will take place under the panels as the mounting systems are at least 1m above ground level, the grazing value of the land will still be available to small livestock such as game, goats and sheep. At the end of the lifetime of the solar plant, structures will be removed, and natural vegetation will re-establish naturally. The grazing value of the land can therefore be increased by using planted pasture underneath the solar	DPM, ECO, ESCO, DSS, dEO, cEO, Agricultural Specialist	This option must be discussed with the DPM and ECO, ESCO and Agricultural Specialist after construction	Post construction / Operation	ECO, ESCO; DPM; Agricultural Specialist	Operation / Decommissioning	This option must be discussed with the DPM and ECO, ESCO and Agricultural Specialist after construction

Impact management outcome: Agricultural Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
panel mounts. The nature of the vegetation at the farm is therefore marginal for extensive livestock production. Using planted pasture to supplement livestock production is however possible but this could be constrained by high demand for irrigation.						
Management of Soil destruction and sterilisation						
Topsoil should be handled twice only - once to strip and stockpile, and secondly, to replace, level, shape and scarify.	ECO, ESCO, DSS, dEO, cEO	Stockpile Management	Construction	ECO, ESCO; DSS	During Construction – when Stockpiling activities are applicable	Site inspections
Stockpile topsoil separately from subsoil.	ECO, ESCO, DSS, dEO, cEO	Stockpile Management on Site	Construction	ECO, ESCO; DSS	During Construction – when Stockpiling activities are applicable	Site inspections
Topsoil stockpiles should not exceed 2.0 m in height and should be protected by a mulch cover where possible.	ECO, ESCO, DSS, dEO, cEO	Stockpile Management on Site	Construction	ECO, ESCO; DSS	During Construction – when Stockpiling activities are applicable	Site inspections
Maintain topsoil stockpiles in a weed free condition.	ECO, ESCO, DSS, dEO, cEO	Stockpile Management on Site	Construction	ECO, ESCO; DSS	During Construction – when Stockpiling	Site inspections

Impact management outcome: Agricultural Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
					activities are applicable	
Topsoil should not be compacted in any way, nor should any object be placed or stockpiled upon it	ECO, ESCO, DSS, dEO, cEO	Stockpile Management on Site	Construction	ECO, ESCO; DSS	During Construction – when Stockpiling activities are applicable	Site inspections
Stockpile topsoil for the minimum time possible i.e., strip just before the relevant activity commences and replace as soon as it is completed.	ECO, ESCO, DSS, dEO, cEO	Stockpile Management on Site	Construction	ECO, ESCO; DSS	During Construction – when Stockpiling activities are applicable	Site inspections

Impact management outcome: Avifaunal Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Reduction and management of bird habitat loss and displacement of resident birds.						
An Avifaunal walkthrough must be conducted by a suitably qualified Avifaunal Specialist within one month prior to the commencement of construction to identify breeding sites	DPM, ECO, ESCO, Avifaunal Specialist	Site walk down by the Avifaunal Specialist - identify nesting sites just before construction begins as there will have been a long time period	One month prior to construction commenceme	ECO, ESCO; Avifaunal Specialist	Pre-Construction	Site walk down Avifaunal Report to look for nesting sites

Impact management outcome: Avifaunal Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
and ground truth the final layout. The most sensitive bird species on site is the Secretary bird *Sagittarius serpentarius*.		since the last survey was done. If any nests are found a suitably qualified bird specialist must be contacted for advice on dealing with these.	nt			
As the site falls into regime 2 of the best practice guidelines (as per above) there is an additional requirement of carcass searching as well as avifaunal baseline monitoring if the best practice guidelines are to be followed. Carcass searching must be done during operation and the avifaunal baseline monitoring needs to be done for 6 months in year 1 and 6 months in year 2. The construction and operational avifaunal monitoring plan that is in line with BirdLife South Africa/Endangered Wildlife Trust's most recent guideline. Monitoring of: - Bird collisions - Bird carcass counting	ECO, ESCO, dEO, cEO, Avifaunal Specialist	The construction and operational avifaunal monitoring plan, considering Birdlife guidelines – to be determine by the Avifaunal Specialist	Construction / Operation	ECO, ESCO; Avifaunal Specialist	Construction / Operation phases	Avifaunal monitoring plan report which incorporates the BirdLife South Africa/Endangered Wildlife Trust's most recent guideline. This must be written by and signed of by a suitably qualified Avifaunal Specialist
Management of the disturbance to birds during the construction stage						
Any bird nests that are found during the construction period must be reported to the ECO, ESCO and Avifaunal Specialist. Most birds are particularly sensitive to disturbance during the breeding season	ECO, ESCO, dEO, cEO, Avifaunal Specialist	Site inspections / observations of bird nests.	Construction / Operation	ECO, ESCO; Avifaunal Specialist	Construction / Operation phases	Site inspections, Avifaunal monitoring report

Impact management outcome: Avifaunal Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
and this must be borne in mind when planning the initial earth-moving phase.						
Reducing and management of bird electrocutions on the utility infrastructure of the plant						
All high-risk perching surfaces should be fitted with bird guards and perch guards as deterrents (Hunting 2002).	ECO, ESCO, dEO, cEO, DSS, Avifaunal specialist	Design and Layout. Ensure these requirements are considered during the final design of the powerline	Construction / Operation	ECO, ESCO; Avifaunal specialist	Construction / Operation phases	Final design and layout that incorporates avifaunal buffers (layout must be approved by the Avifaunal specialist)
Installation of artificial bird space perches and nesting platforms, at a safe distance from energised components (Goudie 2006; Prinsen et al. 2012).	ECO, ESCO, dEO, cEO, DSS, Avifaunal specialist	Design and Layout. Ensure these requirements are considered during the final design of the powerline	Construction / Operation	ECO, ESCO; Avifaunal specialist	Construction / Operation phases	Final design and layout that incorporates avifaunal buffers (layout must be approved by the Avifaunal specialist)
Bird collisions with solar panels						
Unnecessary lighting around the plant should be eliminated and security lights should not illuminate the night sky and preferably be directed downwards. - Panels should be tilted towards the vertical when not in use. - If the site must be lit at night for security purposes, this should be done with downward-directed low-UV type lights.	ECO, ESCO, dEO, cEO, DSS, Avifaunal specialist, Engineer	Lighting design and layout	Operation	ECO, ESCO; Avifaunal specialist; Engineer	Operation phase – nighttime checks of lighting	Lighting design and layout site inspections and collision checklists and reporting
ECO, ESCO's should be trained in collecting information w.r.t bird collision cases and avian research institutions	ECO, ESCO, dEO, cEO, DSS, Avifaunal	Training on bird collisions	Operation	Avifaunal specialist	Operation phase – Weekly	Training rECO, ESCOrds on bird collisions

Impact management outcome: Avifaunal Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
should be commissioned to carry out ongoing monitoring.	specialist, Engineer					
General considerations to reduce bird impacts						
All jumpers at transformers, t-offs and strain structures should be insulated and made bird safe (Jenkins 2008).	ECO, ESCO, dEO, cEO, DSS, Avifaunal specialist, Engineer	Design and Layout. Ensure these requirements are considered during the final design of the powerline	Construction / Operation	ECO, ESCO; DSS; Avifaunal specialist	Construction / Operation phases	Insulation methods and materials and techniques must be approved by the Avifaunal Specialist
The possibility of using a single perimeter, bird and small mammal-friendly fence should be investigated.	ECO, ESCO, dEO, cEO, DSS, Avifaunal specialist	Implementation of a small mammal-friendly fence on site	Operation	ECO, ESCO; DSS; Avifaunal specialist	Construction / Operation phases	Site inspections and ECO, ESCO audits to check the functioning of the fence
Regular cleaning and maintenance activities should prevent defecation on the panels from bECO, ESCOming a problem. ECO, ESCO-friendly bird deterring devices could also prevent large birds from perching on the panel structures.	ECO, ESCO, dEO, cEO, DSS, Avifaunal specialist	Solar panel maintenance and cleaning maintenance plan that incorporate environmentally friendly cleaning materials and products that will not harm fauna and flora on site	Operation	ECO, ESCO; Avifaunal specialist	Construction / Operation phases	Cleaning and maintenance checklist and site inspections
If birds are nesting on the infrastructure of the facility and cannot be tolerated due to operational risks of fire, electrical shorts, soiling of panels or other concerns, this can be prevented by using mesh or other devices to excluding them.	ECO, ESCO, dEO, cEO, DSS, Avifaunal specialist	Bird deterrents mechanisms such as mesh.	Operation	ECO, ESCO	Construction / Operation phases	Site inspections and ECO, ESCO audits to check the functioning of the bird deterrent utilized

Impact management outcome: Heritage and Palaeontological Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Management of Heritage features						
A 100m buffer must be retained around the Heritage site – **Site EXIGO – VSP-IA01**. The site is located outside the proposed Virginia Solar Park project areas however, the buffer must be maintained to ensure that any activity during the construction, operation and dECO, Decommissioningof the site does not encroach (refer to Figure 10 of this EMPr).	ECO, ESCO, dEO, cEO, Heritage / Paleo Specialist	Desing and Layout; or if the sites will be destroyed the correct permitting process must be followed and the Heritage Specialist contacted to guide the process	Planning phase and prior to construction	ECO, ESCO; Heritage/ Palaeo Specialist	Construction phase	Desing and Layout; or if the sites will be destroyed the correct permitting process must be followed and the Heritage Specialist contacted to guide the process
The following sites fall outside of the development area and do not have buffers, however, monitoring by an ECO, ESCO must occur to ensure that any activity during the construction, operation and dECO, Decommissioningof the site does not encroach (refer to Figure 10 of this EMPr). **Site Exigo-VSP-HP01 to Site Exigo-VSP-HP06**	ECO, ESCO, dEO, cEO, Heritage / Paleo Specialist	Desing and Layout; or if the sites will be destroyed the correct permitting process must be followed and the Heritage Specialist contacted to guide the process	Planning phase and prior to construction	ECO, ESCO; Heritage/ Palaeo Specialist	Construction phase	Site inspections and ECO, ESCO Audits
Three burial sites occur on Blomskraal outside of the Virginia Solar Park project areas (**Site Exigo-VSP-BP01 - Site Exigo-VSP-BP03**). The sites are of high heritage	ECO, ESCO, dEO, cEO, Heritage / Paleo Specialist	Site Management Plan (SMP) which is incorporated into the ECO, ESCO Audit reports	Construction	ECO, ESCO; Heritage/ Palaeo Specialist	Construction phase	Site inspections and ECO, ESCO Audits . Site Management Plan (SMP)

Impact management outcome: Heritage and Palaeontological Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
significance and it is rECO, ESCOmmended that these resources be closely monitored by an informed ECO, ESCO in order to detect direct or indirect impact on these sites. A conservation buffer of 50m should be observed around the sites.						should be implemented, detailing these conservation measures and indicating responsible parties in this regard. In addition, it is advisable to erect fences around the burial sites and to implement access control to the sites.
Should any subsurface palaeontological (fossils), archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended and the archaeological specialist and SAHRA should be notified immediately.	ECO, ESCO, dEO, cEO, Heritage / Paleo Specialist	A Chance find Protocol (Please see the Palaeontological Specialist Report Appendix A) must be adhered to. The Heritage and Palaeontological Specialist must be contacted when material is unearthed	Construction	ECO, ESCO; Heritage / Palaeo Specialist	Construction phase	A Chance find Protocol (Please see the Palaeontological Specialist Report Appendix A) must be adhered to. The Heritage and Palaeontological Specialist must be contacted when material is unearthed
It is recommended that the proposed development be constrained to, where reasonably practicable: • The flat, non-irrigated grassland, that covers the majority of the farm, currently serving as cattle and game farming land • the irrigated cropland in the northwest and northeast sections of the farm, currently	ECO, ESCO, dEO, cEO, Heritage / Paleo Specialist	Design and Layout to incorporate the sensitive Palaeonotological and Heritage areas into the layout.	Daily / weekly monitoring of potential development encroachment into these 'No-go' areas.	ECO, ESCO; Heritage / Palaeo Specialist	Daily / weekly monitoring of potential development encroachment into these 'No-go' areas.	A final layout and design which incorporates the sensitive Palaeonotological and Heritage areas into the layout. This must be approved by the Heritage / Palaeo Specialist

Impact management outcome: Heritage and Palaeontological Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
growing maize/corn						
Due to palaeontological sensitivity, we do not recommend development on: • The north-south Maselspruit River • The three east-west erosional gullies or tributary streams, west of the Maselspruit River • The south-east running erosional gully or tributary stream, east of the Maselspruit River (Fig. 9: light yellow shading).	ECO, ESCO, dEO, cEO, Heritage / Paleo Specialist	Design and Layout to incorporate the sensitive Palaeonotological and Heritage areas into the layout.	Daily / weekly monitoring of potential development encroachment into these 'No-go' areas.	ECO, ESCO; Heritage / Palaeo Specialist	Daily / weekly monitoring of potential development encroachment into these 'No-go' areas.	A final layout and design which incorporates the sensitive Palaeonotological and Heritage areas into the layout. This must be approved by the Heritage / Palaeo Specialist

Impact management outcome: Visual Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Management of Visual Impacts						
Dust clouds from construction activities and vegetation clearance. Ensure that dust suppressing techniques are in place at all times. These could include the regular wetting of the soil or the application of dust suppressing agents.	DSS, ECO, ESCO, dEO, cEO	Dust Management Plan. Consider Laying asphalt for internal and access roads.	All phases	DSS, ECO, ESCO	Daily monitoring	Daily road watering irrigation checklist

Impact management outcome: Visual Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
During the field work and impact assessment it was noted that the existing vegetation would play a minimal role in screening the proposed project components from VSRs. However, care should still be taken to: - Retain as much of the existing vegetation as possible. - Where vegetation is cleared, a rehabilitation plan should be implemented. This should be done in conjunction with the Vegetation, Visual Impact and any other relevant specialists. - Where possible and required, careful placement of new or transplanted vegetation should be planted in areas relevant to (Visual Sensitive Receptor) VSR site lines.	DSS, ECO, ESCO, dEO, cEO	Rehabilitation and Revegetation Plan. The Visual specialist can be contacted to guide vegetation rehabilitation requirements pertaining to visual impacts specifically	Construction / Decommissioning	DSS, ECO, ESCO	Weekly observations	Rehabilitation and Revegetation Plan. The Visual specialist can be contacted to guide vegetation rehabilitation requirements pertaining to visual impacts specifically
It is assumed that construction activities would be limited to daylight hours. With regards to the construction camp: - Refrain from causing 'light spillage' beyond the construction camp by installing light fixtures with directional illumination. - Keep lighting to a minimum by installing low-level bollard type lights instead of post top lights along walkways between	ECO, ESCO, dEO, cEO, DSS, Visual Specialist	Design guidelines informed by the Visual Impact Assessment and a qualified and suitable Visual Specialist.	Construction / Operation	ECO, ESCO; Visual Specialist	Daily checks of lighting	Design guidelines; Site Inspections; Complaints register rECO, ESCOrding light pollution complaints by neighbours

Impact management outcome: Visual Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
buildings. - Where possible avoid high flood lights, and instead use lower locally lit installations. - In general, lighting should be carefully directed and only be used where absolutely necessary. Should construction activities extend during night-time, adhere to the same recommendations as for the construction camp.						
Colour: Where possible use earthy tones to greys with a toned-down hue, instead of whites and creams, as such combinations are recessive to the eye and tend to be slightly less noticed. Do not keep to a uniform colour but break up the components with slightly different colour tones.	DPM, DSS, ECO, ESCO, Visual Specialist	Design and Layout	Planning and design phase; pre-construction; Construction (painting phase)	DSS; ECO, ESCO	Planning and design phase; pre-construction; Construction (painting phase)	Design and Layout

Impact management outcome: Traffic Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Management of Traffic Impacts - Recommendations						
The below are recommendations: Intersection of Virginia Road and Proposed Virginia 1, 2 and 3 access points: - Provide 60 meters dedicated right turn lane on the eastern approach of Virginia Road. - Provide 60 meters dedicated right turn lane on the western approach of Virginia Road. - Provide 60 meters dedicated left turn lane on the eastern approach of Virginia Road. - Provide 60 meters dedicated left turn lane on the western approach of Virginia Road. - Provide 60 meters acceleration lane towards the east of Virginia Road. - Provide 60 meters acceleration lane towards the west of Virginia Road. - Provide reflective road studs as part of the proposed intersection to improve visibility of the intersection geometry when it is dark. - Provide relevant road traffic signs and road markings.	DPM, DSS, ECO, ESCO, Traffic Specialist	Design and Layout	Planning phase and prior to construction	DSS; ECO, ESCO; Traffic Specialist	Construction / Operation phases	Final design and layout

Impact management outcome: Traffic Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
As part of the construction phase, a dedicated loading and off-loading area on site should be established where workers can safely be loaded and off-loaded by public transport or arranged transport.	DSS, ECO, ESCO	Demarcation of a loading bay	Construction	DSS; ECO, ESCO	Daily checks that the loading bay is being utilized correctly and that offloading or on-loading is not occurring outside of demarked areas	Demarcation using red danger tape during construction
Obtain approval for the position and geometric layout for the proposed access intersection from and to Virginia Road. This approval should be obtained from the Free State Department of Police, Roads and Transport as part of the detailed design phase.	DSS, ECO, ESCO, cEO, dEO, Traffic Specialist	The final layout must be submitted to the Free State Department of Police, Roads and Transport for approval on road access positions	Post construction – if required	DPM; Traffic Specialist; ECO, ESCO	Post construction – if required	The final layout must be submitted to the Free State Department of Police, Roads and Transport for approval on road access positions

Impact management outcome: Social Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Creation of employment and business opportunities, and opportunity for skills development and on-site training.						

Impact management outcome: Social Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
Preparation and implementation of a Stakeholder Engagement Plan (SEP) prior to and during the construction phase. - Where reasonable and practical, the proponent should appoint local contractors and implement a 'locals first' policy, especially for semi and low-skilled job categories. - Where feasible, appoint local contactors that are compliant with Broad Based Black ECO, ESCOnomic Empowerment (BBBEE) criteria.	Project Manager, Contractor	Agreements and training	Pre-construction and during construction	Project Manager, Contractor, ECO, ESCO	Pre-construction and during construction	Signed agreements and training rECO, ESCOrds
Impacts associated with the presence of construction workers on local communities						
- Preparation and implementation of a Stakeholder Engagement Plan (SEP) prior to and during the construction phase. - Preparation and implementation of a Community Health, Safety and Security Plan (CHSSP) prior to and during the construction phase. - The SEP and CHSSP should include a Grievance Mechanism that enables stakeholders to report resolve incidents. - The proponent and contractor should develop a Code of Conduct (CoC) for construction workers. - The proponent and the contractor should implement an HIV/AIDS, COVID-19 and Tuberculosis (TB) awareness programme for all	- Project Manager, Contractor	- Stakeholder engagement, security, grievance form, and safety Agreements and training	- Pre-construction and during construction	- Project Manager, Contractor, ECO, ESCO	- Pre-construction and during construction	- Signed agreements and training rECO, ESCOrds

Impact management outcome: Social Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
construction workers at the outset of the construction phase. The programmes should form part of the CHSSP.						
Impacts related to the potential influx of job-seekers						
- The proponent should implement a policy that no employment will be available at the gate.	Project Manager, Contractor	Stakeholder engagement, security and safety Agreements and training	Pre-construction and during construction	Project Manager, Contractor, ECO, ESCO	Pre-construction and during construction	Signed agreements, stakeholder engagement registers and documents
Increased risks to livestock and farming infrastructure associated with the construction related activities and presence of construction workers on the site						
- All farm gates must be closed after passing through. - Should damage to farmland occur, a Grievance procedure must be implemented and followed - Contractors appointed by the proponent must ensure that all workers are informed at the outset of the construction phase of the conditions contained in the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms.	Project Manager, Contractor	Farmer engagement, live stock management, Agreements and training, Grievance procedure and report	Pre-construction and during construction	Project Manager, Contractor, ECO, ESCO	Pre-construction and during construction	Signed agreements and, live stock management records, Grievance procedure and report
Increased risk of grass fires associated with construction related activities						

Impact management outcome: Social Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
- Contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas. - Smoking on site should be confined to designated areas. - Contractor should ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high-risk dry, windy winter months.	Project Manager, Contractor	Farmer engagement, fire department engagement, management, Agreements and training	Pre-construction and during construction	Project Manager, Contractor, ECO, ESCO	During construction	Signed agreements and rECO, ESCOrds, fire management plan
Nuisance impacts, such as noise, dust, and safety, associated with construction related activities and vehicles						
- Establishment of a Grievance Mechanism that provides local farmers and other road users with an effective and efficient mechanism to address issues related to construction related impacts, including damage to local gravel farm roads. - The movement of heavy vehicles associated with the construction phase should be timed to avoid times days of the week, such as	Project Manager, Contractor	Site control signs, establish a grievance mechanism form, dust management plan	Pre-construction, during construction, operation	Project Manager, Contractor, ECO, ESCO	Pre-construction, during construction, operation	Site control signs, establish a grievance mechanism form, dust management plan

Impact management outcome: Social Impact Management						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	**Method of implementation**	**Timeframe for implementation**	**Responsible person**	**Frequency**	**Evidence of compliance**
weekends, when the volume of traffic travelling along the access roads may be higher.						

APPENDIX 1: METHOD STATEMENTS

To be prepared by the contractor prior to commencement of the activity. The method statements are **not required** to be submitted to the CA.

APPENDIX 1: CV OF THE EAP

APPENDIX 2: METHOD STATEMENTS

To be prepared by the contractor prior to commencement of the activity. The method statements are **not required** to be submitted to the CA.