Environmental Consultants

REPORT IN SUPPORT OF A PART 2 AMENDMENT TO AN ENVIRONMENTAL AUTHORISATION

in terms of Regulations 31 of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act (Act 107 of 1998), as amended.

File Reference Number:
14/12/16/3/3/2/998

Project Title:
Part 2 amendment application to the Environmental Authorisation for the development of a 300MW solar photo-voltaic (PV) facility and associated infrastructure, on Portion 1 of Farm Riet Fountain 39C, Portion 1 of Kwanselaars Hoek 40C and Portion 4 of Taaibosch Fontein 41C in the Hanover District, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province.

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30 June 2022

Draft 00

DOCUMENT CONTROL

Table 1: Document Control.

PHASE	AUTHOR	STATUS	REVISION	DISTRIBUTED ON	SIGNATURE
Author	Justin Bowers	Draft	00	30 June 2022	

Table 2: General Site Information.

The following general site information is provided:	
21-digit Surveyor General codes of all affected farm portions	
The 21-digit Surveyor General Codes of each cadastral land parcel are as follows: • Portion 1 of Farm Riet Fountain 39C C03000000000003900001 • Portion 1 of Kwanselaars Hoek 40C C03000000000004000001 • Portion 4 of Taaibosch Fontein 41C C03000000000004100004	
Coordinates of activities	
Proposed Staging Area: 30°51'13.89"S; 24°15'57.88"E **Proposed Access Road:** Start: 30°51'17.19"S; 24°15'52.05"E, Middle: 30°51'28.80"S; 24°17'44.65"E, End: 30°52'2.58"S; 24°18'44.18"E **Currently Authorised Sub-station:** 30°53'27.04"S; 24°18'48.80"E **Proposed MTS sub-station:** 30°53'20.58"S; 24°19'1.82"E **Proposed 132KV switching sub-station:** 30°53'10.23"S; 24°18'44.00"E	
PV plant design specifications including:	
Type of technology	Solar PV Plant of PV panels using polycrystalline solar module technology.
Panel Array height	4m
Surface area to be covered (including associated infrastructure such as roads)	448ha
Surface orientation	Northern direction
Laydown area dimensions (construction period)	Included in the EMPr – Appendix C
Generation capacity	300Mwac
Generation capacity of the facility as a whole at delivery points.	300Mwac, less intrinsic losses.
Sub-station dimensions	**Currently authorised:** 0.89ha Under amendment application: **MTS Sub-Station (core area)** = approximately 3.25ha (to facilitate phase 1, and proposed phases 2 & 3)

	MTS Sub-Station (maximum area) = approximately 9.88ha (to accommodate other potential renewable energy projects) **132KV Switching Sub-Station** = 1.18ha

Table 3: Checklist: Content of Report in terms of Regulation 32 of the EIA Regulations, 2014, as amended.

(1)(a) A report, reflecting-	
(i) an assessment of all impacts related to the proposed change;	☑
(ii) advantages and disadvantages associated with the proposed change; and	☑
(iii) measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and	☑
(iv) any changes to the EMPr;	☑
which report-	
(aa) had been subjected to a public participation process, which had been agreed to by the competent authority, and which was appropriate to bring the proposed change to the attention of potential and registered interested and affected parties, including organs of state, which have jurisdiction in respect of any aspect of the relevant activity, and the competent authority, and	☑
(bb) reflects the incorporation of comments received, including any comments of the competent authority.	☑

EXECTIVE SUMMARY

Ecoleges Environmental Consultants have been appointed by Soventix South Africa (Pty) Ltd, to undertake an application for a Part 2 amendment to the Environmental Authorisation for the development of a 300MW solar photo-voltaic (PV) plant on several portions of farms in the Hanover District, Northern Cape province.

An environmental authorisation has been issued for the project (DFFE Reference: 14/12/16/3/3/2/998) which has undergone previous Part 1 and Part 2 amendments, and which now requires an additional Part 2 amendment application to include aspects not included in the original application nor previous amendments. The additional scope relates to 1. A proposed "staging area" which will act as an access control point as well as offloading area for large equipment not able to successfully cross the existing Transnet railway line; 2. An additional access route to the development footprint along existing farm roads, which will require some upgrades to accommodate project-related vehicles, 3. Increase in the sub-station footprint and shift in location; and 4. Additional 132kV switching-yard sub-station.

The EA amendment process is to take a holistic approach regarding environmental compliance under all relevant legislation to ensure that the amended project scope does not negatively impact the environment nor result in "triggering" additional Listed Activities.

The general objectives of public participation stipulated in the EIA Regulations (2014), as amended and the approved PPP Plan issued under the EIA Directions of 5 June 2020, have been undertaken to provide interested and affected parties the opportunity to comment on the amendment report & process including all project information and associated specialist reports. A full Public Participation Process (PPP) was also undertaken to ensure any additional issues and concerns raised by I&APs are duly addressed. The comments and responses are recorded and form part of the Comments & Response Register.

In consideration of the investigated impacts, the nature and extent of the proposed development, compliance with the relevant legal, policy and planning documentation and the findings of the specialist studies, it is anticipated that the amended project scope is supported from an environmental perspective and should be considered for amendment to the Environmental Authorisation, subject to the implementation of the identified recommendations.

DISCLAIMER

Although Ecoleges Environmental Consultants has exercised due diligence whilst drafting this report, Ecoleges shall not be held responsible for any damages or losses suffered by the client, caused by or arising out of circumstances over which Ecoleges has no control, such as the use and interpretation of the Report by the client, the competent authority, its officials or their representatives or agents.

Whilst the authors have made every effort to verify that information provided in this report is reliable, accurate and relevant, this report is based on information that could reasonably have been sourced within the time allocated to the report and is dependent on the information provided by the client and/or its representatives.

It should, accordingly, not be assumed that all possible and applicable findings and/or measures are included in this report as any report represents a sample of the project parameters.

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ABBREVIATIONS AND DEFINITIONS

Table 4: List of terms for abbreviations and acronyms used in this document.

Abbreviation	Term
CA	Competent Authority
DFFE	Department of Forestry, Fisheries and the Environment
DMRE	Department of Mineral Resources & Energy
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EIAr	Environmental Impact Assessment Report
EMPr	Environmental Management Programme
GHG	Greenhouse gas
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
IPP	Independent Power Producers
IRP	Integrated Resource Planning
LA	Listed Activity (EIA Regulations, 2014)
LNG	Liquefied Natural Gas
LN1	Listing Notice 1: GN R. 983, 4 December 2014 amended in GN No. 327, 7 April 2017, GG No. 41766, GN No. 706, 13 July 2018 and GG No. 43358, GN No. 599, 29 May 2020.
LN2	Listing Notice 2: GN R. 984, 4 December 2014 amended in GN No. 325, 7 April 2017, GG No. 41766, GN No. 706, 13 July 2018 and GG No. 43358, GN No. 599, 29 May 2020.
LN3	Listing Notice 3: GN R. 985, 4 December 2014 amended in GN No. 324, 7 April 2017, GG No. 41766, GN No. 706, 13 July 2018 and GG No. 43358, GN No. 599, 29 May 2020.
LPG	Liquefied Petroleum Gas
MPRDA	Mineral and Petroleum Resources Development Act (Act 28 of 2002)
NDP	National Development Plan
NEM: WA	National Environmental Management: Waste Act (Act 59 of 2008)
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMAQA	National Environmental Management: Air Quality Act (Act 39 of 2004)
NERSA	National Energy Regulator of South Africa
NHRA	National Heritage Resources Act (Act 25 of 1999)
NWA	National Water Act (Act 36 of 1998)
REFIT	Renewable Energy Feed in-Tariff
REIPPP	Renewable Energy Independent Power Producer Programme
SAHRA	South African Heritage Resources Agency
SDGs	Sustainable Development Goals
S&EIA	Scoping and Environmental Impact Assessment
UNFCCC	United Nations Framework Convention on Climate Change

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Table 5: Definitions of some terms used in this document.

Term	Source	Definition
Development	EIA Regulations, 2014 as amended	The building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, that is necessary for the undertaking of a listed or specified activity, but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint.
Development footprint	EIA Regulations, 2014 as amended	Any evidence of physical alteration as a result of the undertaking of any activity.
Environment	ISO 14001:2015	Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their relationships.
Environment	National Environmental Management Act (Act 107 of 1998)	The surroundings within which humans exist and that are made up of— (i) the land, water, and atmosphere of the earth; (ii) micro-organisms, plant, and animal life; (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and (iv) the physical, chemical, aesthetic, and cultural properties and conditions of the foregoing that influence human health and well-being.
Environmental aspect	ISO 14001:2015	Element of an organization's activities or products or services that interacts or can interact with the environment.
Environmental impact	ISO 14001: 2015	Change to the environment, whether adverse or beneficial, wholly, or partially resulting from an organisation's environmental aspects.
Interested party	ISO 14001: 2015	Person or organisation that can affect, be affected by, or perceive itself to be affected by a decision or activity.
Impacts	ISO 14001:2015	Any change to the environment, whether adverse or beneficial, wholly, or partially resulting from an organization's environmental aspects.
Significant impact	EIA Regulations, 2014 as amended	An impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and

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		negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence.
Sustainable development	National Environmental Management Act (Act 107 of 1998)	The integration of social, economic, and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.
Watercourse	EIA Regulations, 2014 as amended	(a) a river or spring; (b) a natural channel in which water flows regularly or intermittently; (c) a wetland, pan, lake or dam into which, or from which, water flows; and any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998); and a reference to a watercourse includes, where relevant, its bed and banks.

DETAILS OF THE EAP AND APPLICANT

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INTRODUCTION

In 2016 Ecoleges undertook an application for environmental Authorisation (EA) by way of Scoping & Environmental Impact Assessment (S&EIA) for the development of a 225 MW Solar PV facility, a prerequisite by the National Energy Regulator of South Africa (NERSA) for awarding a Power Purchase Agreement (PPA) under the Renewable Energy Feed in-Tariff (REFIT) program. The Department of Forestry, Fisheries and the Environmental (DFFE) granted environmental authorisation (Reference: 14/12/16/3/3/2/998) on 16th April 2018.

A Part 1 amendment application, to increase the capacity (not the footprint) of the facility to 300 MW due to technological advancements in solar photovoltaic efficiency and electrical output, was granted on the 24th of November 2020.

A Part 2 amendment application was granted in 2021 for the inclusion of containerised lithium-ion battery storage and dual-fuel backup generators with associated fuel storage as part of the tender requirements for the Risk Mitigation Independent Power Producers Programme (RMIPPP) Bid Round.

The competent authority has been the National Department of Environmental Affairs because the applications were part of the REIPPP and RMIPPP BID rounds, which formed part of a Strategic Infrastructure Project (SIP) as described in the National Development Plan, 2011. Soventix SA (Pty) Ltd was an unsuccessful bidder in both tender processes.

Soventix SA has since obtained a Cost Estimate Letter (CEL) from Eskom for an increase in the interconnection of embedded generation grid access, from renewable energy to Eskom infrastructure, from 300MW to 1GW. The CEL relates to the currently authorised Phase 1 De Aar Solar PV project on-site sub-station and connection to existing Eskom overhead 400KVa powerlines. This increased capacity of the on-site sub-station, as well as an additional switching sub-station, will facilitate additional generation capacity into the Eskom grid for “wheeling” to private consumers, from the authorised De Aar phase 1 and proposed phase 2 & 3 projects as well as other local renewable energy projects requiring grid access.

Additionally, Soventix requires a “staging area” where large transport vehicles can offload infrastructure and equipment for transfer onto smaller vehicles for localised distribution to site. This staging area will also act as an access control point, for staff and contractor’s entering and exiting the PV sites.

Finally, an existing access road across a watercourse, is proposed as the main access to the Phase 1 facility, instead of and/or in addition to the current property owner’s main access road. Additionally, the originally considered site access route on a local district road, crossed an existing Transnet railway line at two points, which poses challenges to larger vehicles transporting heavy equipment.

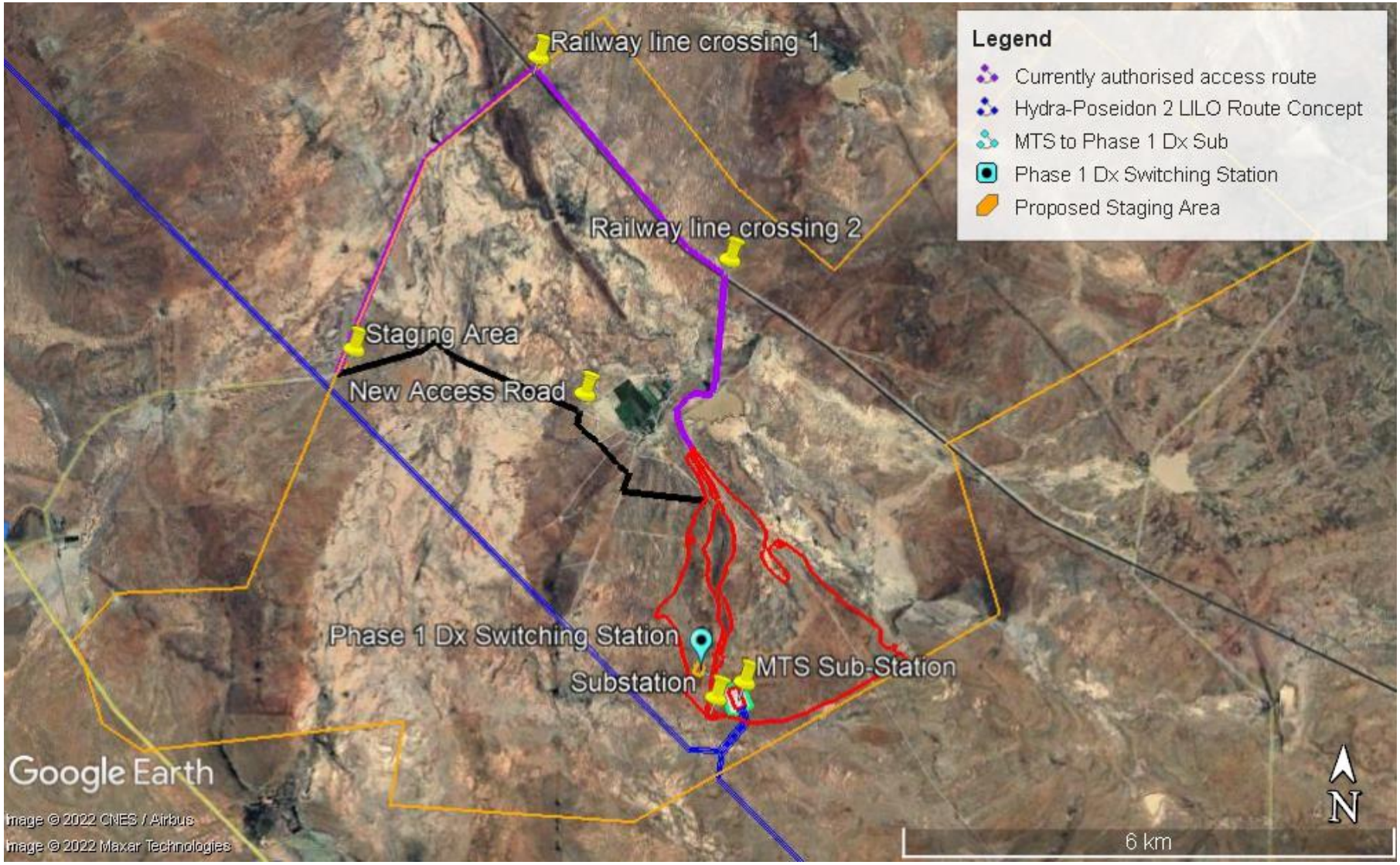

Figure 1. Layout map indicating the location of the Staging Area, Access Road and Sub-Station footprints, relative to the approved Phase 1 solar PV footprint.

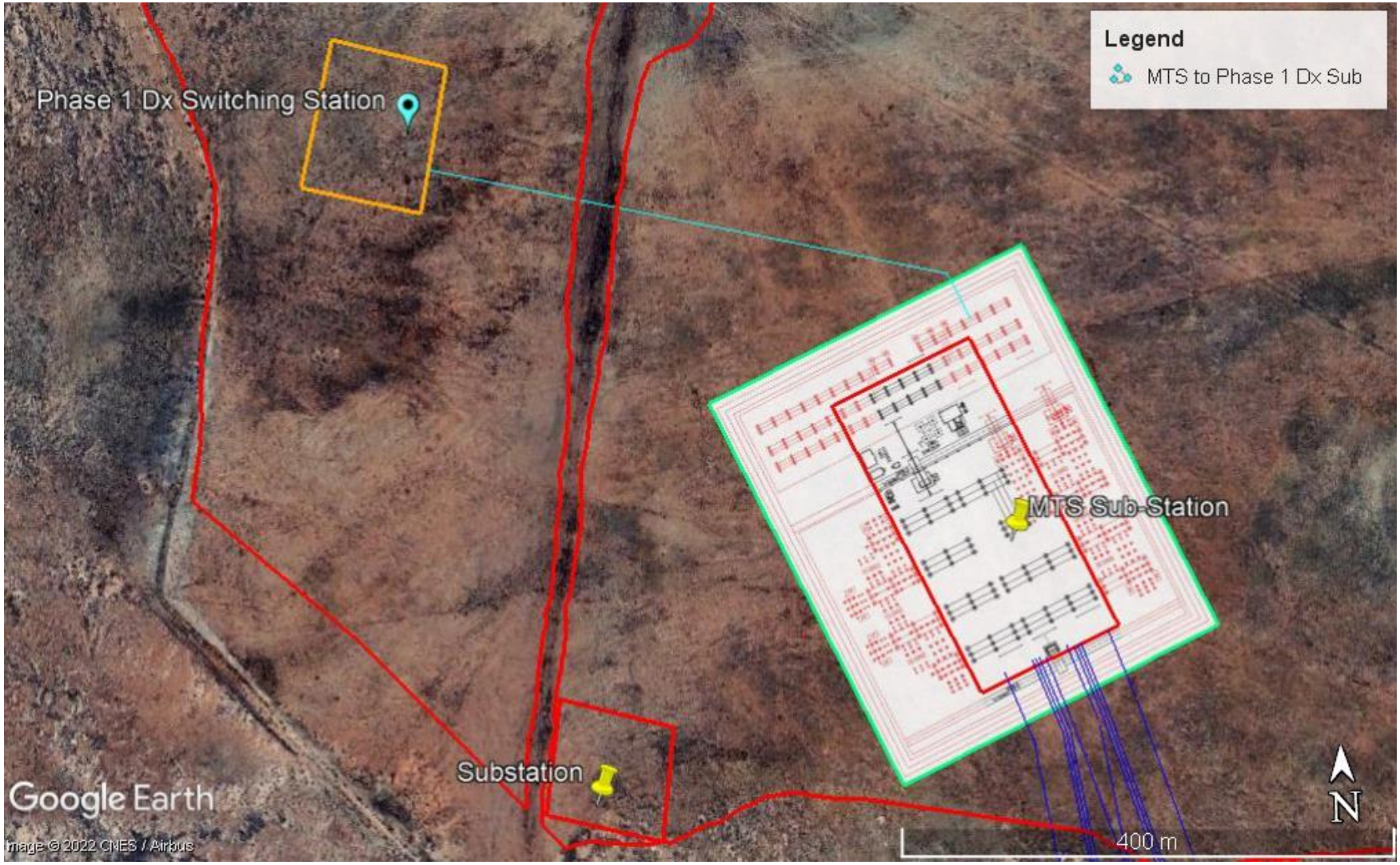

Figure 2. Location of the currently authorised sub-station (red polygon) versus the increased sub-station (green polygon) and 132KV switching sub-station (orange polygon).

SECTION I: AN ASSESSMENT OF ALL IMPACTS RELATED TO THE PROPOSED CHANGE

The general objective of integrated environmental management is, *inter alia*, to "*identify, predict and evaluate the potential and actual impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management*". – (Section 23(2)(b) of NEMA 107 of 1998)

Ecoleges sets out to identify impacts and suggest mitigations by following the logical sequence of steps illustrated in Figure 3. A clearly defined scope is critical for creating the mould within which the EMPr shall be cast and updated/amended. Environmental impacts are defined as any change to the environment, whether adverse or beneficial, wholly, or partially resulting from those elements of the proposed activities that can interact with the environment. Consequently, the activities need to be identified (step 2) before their impacts (step 3) can be predicted. Step 4 is incorporated as a safety net to capture those elements that are not identified in the previous two steps. Finally, mitigations are sought and tailored to counteract the project-specific impacts and achieve goals and objectives in line with environmental best practice.

The aspects, impacts and risks associated with the sub-stations and required mitigations have not been included in this impact assessment and mitigated accordingly, as these aspects fall under the Generic EMPr in GN No. 435 dated 22 March 2019 attached as an additional appendix to the project EMPr.

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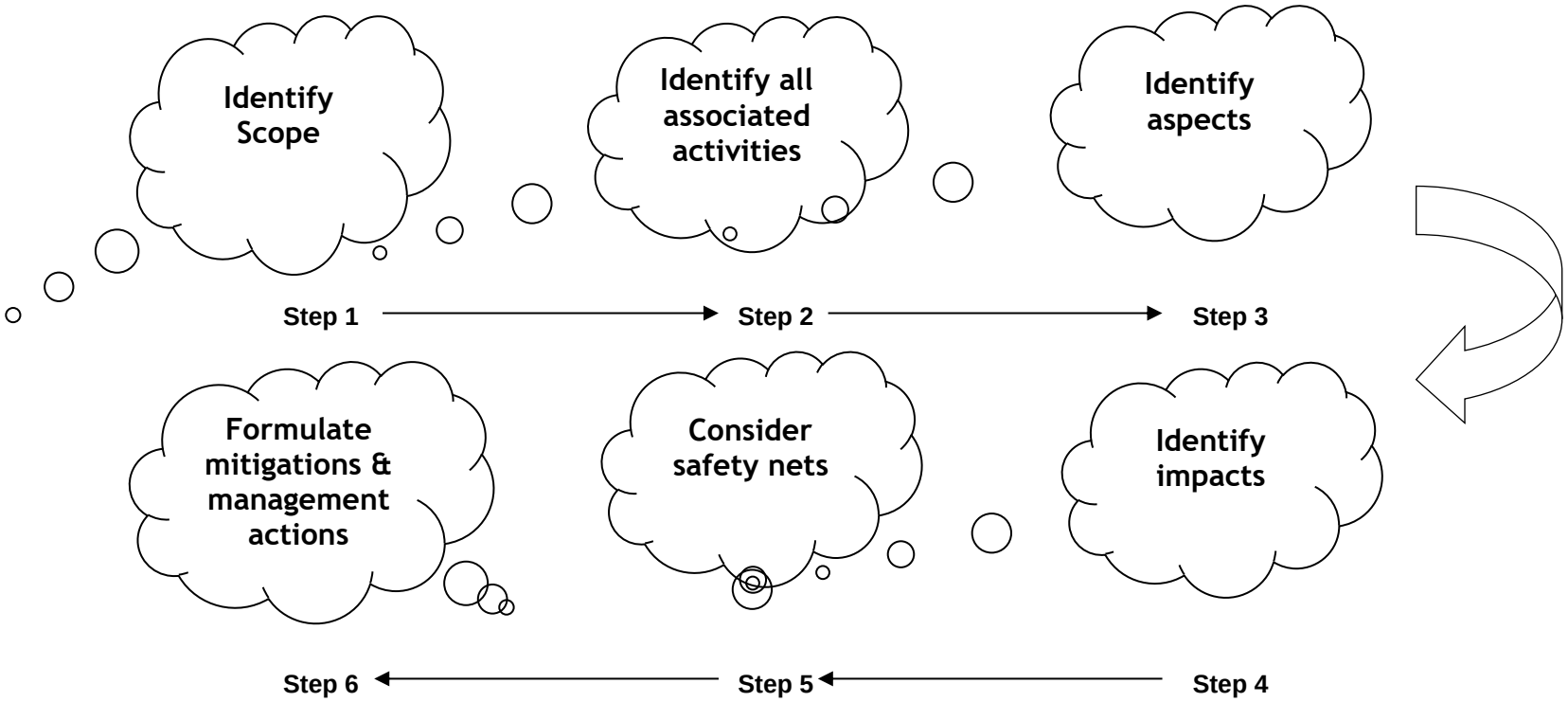

Figure 3. Procedure for identifying the project-specific mitigation of activities.

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IDENTIFICATION OF ACTIVITIES, SUB-ACTIVITIES, ASPECTS AND ENVIRONMENTAL DESCRIPTORS

Tables 6, 7, 8, 9 & 10 describe all the activities that will be undertaken as part of the amendment application which are not Listed Activities under the EIA Regulations (2014) as amended, and do not require environmental authorization, but whose impacts have to be considered, mitigated and managed through incorporation into an updated and amended EMPr.

Table 6: Activities and aspects including the affected environment for the planning and design phase of the amendment process. Aspects highlighted in "green" resulted in positive impacts.

ACTIVITY	ENVIRONMENTAL ASPECT	ENVIRONMENTAL DESCRIPTOR
Legal - Acquiring Authorisations, permits and/or licenses for activities/uses undertaken during construction and operation	Working within servitudes	Socio-economic
	Working within the DWS Regulated Area	Aquatic Ecosystem transformation
	Reuse of treated effluent	Soil and Rock quality
	Cleaning of ready-mix concrete trucks	Safety Net
Sustainable resource requirements (water, energy, etc.) for lifespan of project.	Upgrading of roads	Socio-economic
Layout (or Location) and Design (or Size), including the consideration of alternatives & cumulative impacts	Changes to scope and layout of project	Terrestrial and Avian Biodiversity – Flora replacement
		Soil and Rock quality
		Heritage
		Safety Net

Table 7: Activities and aspects including the affected environment for the pre-construction phase of the amendment process.

ACTIVITY	SUB-ACTIVITY	ENVIRONMENTAL ASPECT	ENVIRONMENTAL DESCRIPTOR
None.			

Table 8: Activities and aspects including the affected environment for the construction phase of the amendment process.

ACTIVITY	ENVIRONMENTAL ASPECT	ENVIRONMENTAL DESCRIPTOR
Staff/Employees	Provision of ablutions and shower facilities at Staging Area	Health & Safety
	Low Emission sanitation	Safety Net
Clearing/Grubbing and Grading	Additional & increased footprint of Staging Area	Terrestrial and Avian – Fauna behaviour
		Terrestrial and Avian – Flora quantity
		Soil and Rock quality
		Ground and Surface Water behaviour
Operation of Plant, incl. transporting/driving	Leaks & spills of hydrocarbons	Soil and Rock quality
New internal haul & access roads and widening of existing roads	Upgrading of roads	Soil and Rock quality
		Ground and Surface Water behaviour
		Aquatic Ecosystem transformation
Post-Construction Landscaping & Rehabilitation	De-establishment of Staging Area at end of Construction Phase	Terrestrial and Avian – Flora replacement
		Soil and Rock quantity
		Ground and Surface Water behaviour

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Table 9: Activities and aspects including the affected environment for the operational phase of the amendment process.

ACTIVITY	ENVIRONMENTAL ASPECT	ENVIRONMENTAL DESCRIPTOR
None.		

Table 10: Activities and aspects including the affected environment for the decommissioning phase of the amendment process.

ACTIVITY	ENVIRONMENTAL ASPECT	ENVIRONMENTAL DESCRIPTOR
None.		

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IDENTIFICATION OF ACTUAL AND POTENTIAL IMPACTS

The impacts are considered within the scope implicit within the amended activities. The relevant impacts resulting from the actual and associated activities, including environmental, socio-economic and cultural heritage, were determined using a Leipold Matrix, comments received from Interested & Affected Parties (Table 11), and, where applicable, the findings contained in specialist studies (Figure 4).

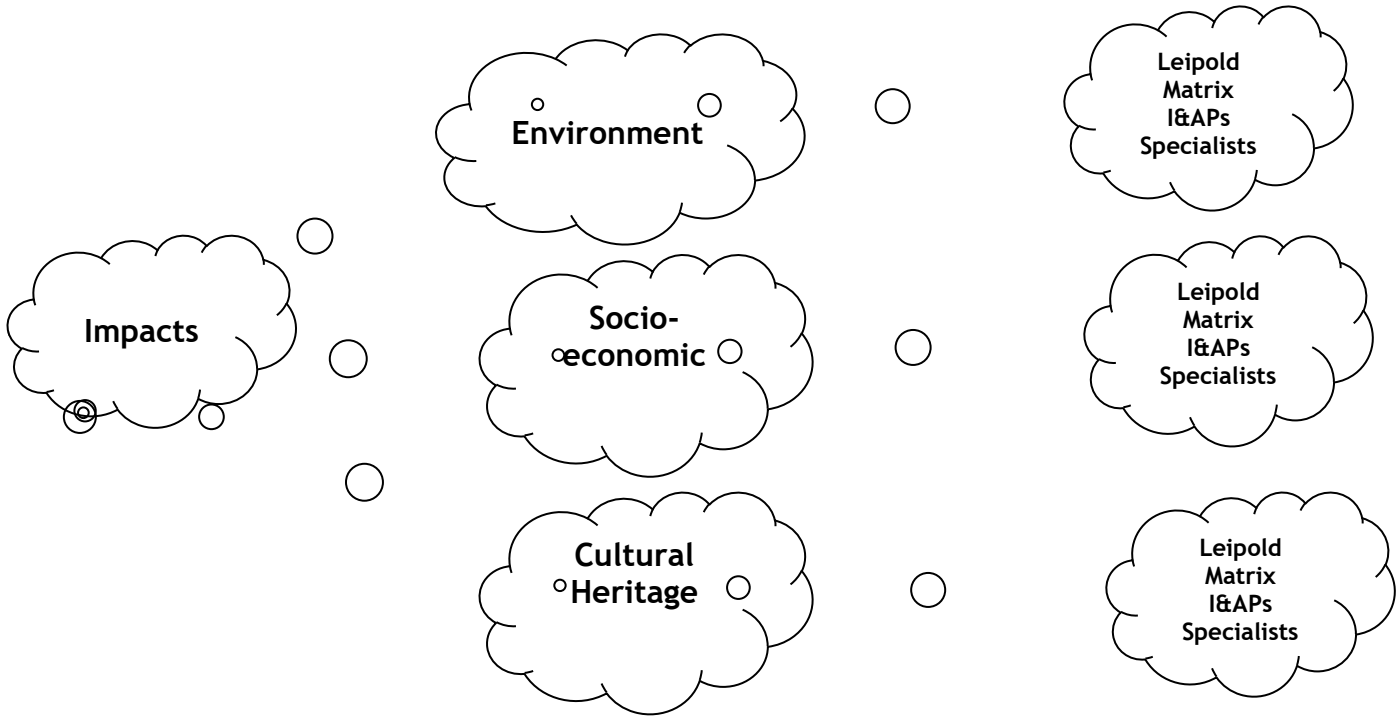

Figure 4. A breakdown of the different types of impacts including the resources used to identify them.

Table 11: Identification of potential impacts from registered Interested and Affected Parties (I&APs) as per Appendix 3 (h)(iii) "*a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them*" (comments will be captured in the Comments & Response Sheet following the commenting period).

I&APs			
ACTIVITY	SUB-ACTIVITY	ENVIRONMENTAL ASPECT & IMPACT	ENVIRONMENTAL DESCRIPTOR
None received.			

Methodology for Assessing Environmental Aspects & Impacts

Requirement of Appendix 3, Regulation 3 (1)(h)(vi): "*the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;"*

Natural environmental, socio-economic, and cultural heritage impacts were assessed using the approach outlined below.

Natural environmental, socio-economic, and cultural heritage impacts were identified systematically by considering how the site-specific activities for each phase of development will interact with all elements of the receiving environment. All impacts, including those identified by I&APs and Specialists, will be measured against the current land-use activity (the no-go option / option of not implementing the activity) and systematically assessed by rating a suite of criteria (Tables 12, 13, 14 & 15) informed and adapted from the Department of Environmental Affairs and Tourism (DEAT 2002). The criteria are:

- Extent or spatial scale,
- Intensity or severity of the impact,
- Duration of the impact,
- Probability of the impact,
- Mitigatory potential,
- Social acceptability,
- Degree of certainty,
- Status of the impact, and

- Legal requirements.

The magnitude and significance of impacts were determined by describing the impacts in terms of the above criteria. The criteria provide a consistent and systematic basis for the comparison and application of judgements.
The suite of criteria was sought for its applicability to EIA, specifically by making provision for the variety of perspectives. Significance is an anthropocentric concept that makes use of value judgements and science-based criteria. Judgement and values are used to greater extent in EIA than science-based criteria and standards (DEAT 2002). Considering value judgements can vary greatly amongst different stakeholders, professional judgement, such as that of the EAP, should ideally be used in conjunction with the different value judgements expressed by various stakeholders. In other words, significance should be communicated from a variety of perspectives other than the professional opinion of a multidisciplinary study team, and include environmental, socio-economic or cultural attributes perceived by society to be significant. Despite the potential variety of perspectives, they can be categorized into three broad forms of recognition for determination of impact significance, namely institutional (laws, plans or policy statements), public and technical (scientific or technical knowledge or judgement of critical resource characteristics) (DEAT 2002). Consequently, the magnitude and significance of impacts were as far as possible determined by reference to legal requirements, accepted scientific standards and / or social acceptability.

Table 12: Impact Evaluation Criteria, Ratings and Descriptors.

Assessment criteria for the evaluation of impacts		
CRITERIA	**CATEGORY**	**DESCRIPTION**
Extent or spatial influence of impact	**National**	Within the country
	Regional	Within the province/ recognised region
	Local	On site or within 1000 m of the impact site
		Along the alignment and within 500m of the line on each side
		Within the immediate and operational Area
Magnitude of impact (at the indicated spatial scale)	**High**	Social and / or natural functions and / or processes are severely altered
	Medium	Social and / or natural functions and / or processes are notably altered

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	Low	Social and / or natural functions and / or processes are slightly altered
	Very Low	Social and / or natural functions and / or processes are negligibly altered
	Zero	Social and / or natural functions and / or processes remain unaltered
Duration of impact	**Short term**	Construction period
	Medium Term	Up to 10 years after construction
	Long Term	More than 10 years after construction
*NOTE: Where applicable, the magnitude of the impact must be related to the relevant standard (threshold value specified, and source referenced).		

Definition of significance:

The "significance" of an impact is derived by considering the temporal and spatial scales and magnitude. Such significance is also informed by the context of the impact, i.e. the character and identity of the receptor of the impact. The means of arriving at the different significance ratings is explained in the following table, developed as a means of minimizing subjectivity in such evaluations, i.e. to allow for replicability in the determination of significance.

Table 13: Significance ratings with associated criteria.

SIGNIFICANCE RATINGS	LEVEL OF CRITERIA REQUIRED
High	High magnitude with a regional extent and long-term duration
	High magnitude with either a regional extent and medium-term duration or a local extent and long-term duration
	Medium magnitude with a regional extent and long-term duration
Medium	High magnitude with a local extent and medium-term duration
	High magnitude with a regional extent and construction period or a site-specific extent and long-term duration
	High magnitude with either a local extent and construction period duration or a site-specific extent and medium-term duration
	Medium magnitude with any combination of extent and duration except site specific and construction period or regional and long term

	Low magnitude with a regional extent and long-term duration
Low	High magnitude with a site-specific extent and construction period duration
	Medium magnitude with a site-specific extent and construction period duration
	Low magnitude with any combination of extent and duration except site specific and construction period or regional and long term
	Very low magnitude with a regional extent and long-term duration
Very low	Low magnitude with a site-specific extent and construction period duration
	Very low magnitude with any combination of extent and duration except regional and long term
Neutral	Zero magnitude with any combination of extent and duration

Table 14: Risk Rating categories and matrix.

EXTENT	MAGNITUDE	DURATION	COMBINED	RISK RATING
Local	High	Long Term	Local High Long Term	High
Local	High	Medium Term	Local High Medium Term	Medium
Local	High	Short term	Local High Short Term	Low
Local	Low	Long Term	Local Low Long Term	Low
Local	Low	Medium Term	Local Low Medium Term	Low
Local	Low	Short term	Local Low Short Term	Very Low
Local	Medium	Long Term	Local Medium Long Term	Medium
Local	Medium	Medium Term	Local Medium Medium Term	Medium
Local	Medium	Short term	Local Medium Short Term	Low
Local	Very Low	Long Term	Local Very Low Long Term	Low
Local	Very Low	Medium Term	Local Very Low Medium Term	Very Low
Local	Very Low	Short term	Local Very Low Short Term	Very Low
Local	Zero	Long Term	Local Zero Long Term	Neutral
Local	Zero	Medium Term	Local Zero Medium Term	Neutral

Local	Zero	Short term	Local Zero Short Term	Neutral
National	High	Long Term	National High Long Term	High
National	High	Medium Term	National High Medium Term	High
National	High	Short term	National High Short Term	High
National	Low	Long Term	National Low Long Term	Medium
National	Low	Medium Term	National Low Medium Term	Low
National	Low	Short term	National Low Short Term	Low
National	Medium	Long Term	National Medium Long Term	Medium
National	Medium	Medium Term	National Medium Medium Term	Medium
National	Medium	Short term	National Medium Short Term	Medium
National	Very Low	Long Term	National Very Low Long Term	Medium
National	Very Low	Medium Term	National Very Low Medium Term	Very Low
National	Very Low	Short term	National Very Low Short Term	Very Low
National	Zero	Long Term	National Zero Long Term	Neutral
National	Zero	Medium Term	National Zero Medium Term	Neutral
National	Zero	Short term	National Zero Short Term	Neutral
Regional	High	Long Term	Regional High Long Term	High
Regional	High	Medium Term	Regional High Medium Term	High
Regional	High	Short term	Regional High Short Term	Medium
Regional	Low	Long Term	Regional Low Long Term	Low
Regional	Low	Medium Term	Regional Low Medium Term	Low
Regional	Low	Short term	Regional Low Short Term	Low
Regional	Medium	Long Term	Regional Medium Long Term	High
Regional	Medium	Medium Term	Regional Medium Medium Term	Medium
Regional	Medium	Short term	Regional Medium Short Term	Medium
Regional	Very Low	Long Term	Regional Very Low Long Term	Low

Regional	Very Low	Medium Term	Regional Very Low Medium Term	Low
Regional	Very Low	Short term	Regional Very Low Short Term	Very Low
Regional	Zero	Long Term	Regional Zero Long Term	Neutral
Regional	Zero	Medium Term	Regional Zero Medium Term	Neutral
Regional	Zero	Short term	Regional Zero Short Term	Neutral

Table 15: Mitigatory potential.

Criteria	**Ratings and Descriptors**			
	High (4)	**Moderate (3)**	**Low (2)**	**No Impact (1)**
Mitigatory Potential	High potential to mitigate and achieve objectives.	There is a moderate potential to mitigate and achieve objectives.	There is a potential to mitigate, but there remains a risk of the objectives not being met.	No mechanism for mitigation and achieving the objectives.
Acceptability	Unacceptable Abandon project or design.	Manageable with expensive regulatory controls and the project proponent's commitments.	Some risk to public health / environment, but it is easily averted using simple controls / mitigations.	Acceptable. No risk to public health / environment.
	Definite (D- 4)	**Probable (P -3)**	**Improbable (I-2)**	**No Impact (N-1)**
Degree of Certainty / Probability of the impact occurring	Substantial supportive data. Impact will occur regardless of preventive measures. High probability. >95%.	There is a chance / risk of the impact occurring. Moderate probability. 5-95%.	It is unlikely that the impact will occur. Low probability. <5%.	The impact will not occur. 0%.

Cumulative Effects

A guide prepared for the Canadian Environmental Assessment Agency (CEAA) (Hegmann *et al*. 1999) defined cumulative effects as: *"…changes to the environment that are caused by an action in combination with other past, present and future human actions."*

Cumulative effects are commonly understood as the impacts which combine from different projects and which result in significant change, which is larger than the sum of all the impacts. (DEAT (2004) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7, Department of Environmental Affairs and Tourism (DEAT), Pretoria)

Cumulative effects can then occur when impacts are:
(1) additive (incremental);
(2) interactive;
(3) sequential; or
(4) synergistic.

Eccles *et al*. (1994) summarises the essence of cumulative environmental change as follows: *"Where the intensity of development remains low, the impacts can be assimilated by the environment over time, and cumulative effects do not become a significant issue. However, when development reaches a high level of intensity, impacts cannot be assimilated rapidly enough by the environment to prevent an incremental build-up of these impacts over time. Changes over time and space accumulate and compound so that in aggregate the effect exceeds the simple sum of previous changes. This temporal and spatial accumulation gradually alters the structure and functioning of environmental systems, and subsequently affects human activities."*

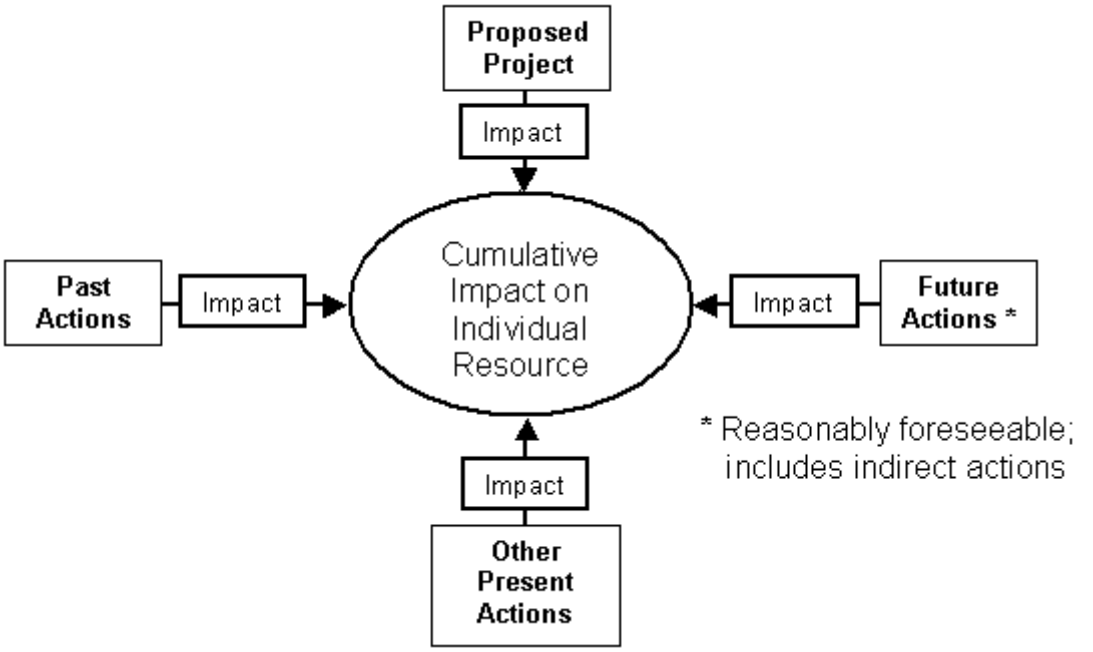

Figure 5. A flow diagram showing the compounding effects of cumulative impacts on a resource.

The assessment would need to identify and investigate the potential cumulative effects of the proposed development taking into consideration the types and characteristics of aggregate effects. These can be fragmentation, compounding effects, indirect effects, triggers and thresholds.

Planning to address cumulative effects involves delineating spatial and temporal boundaries, determining future development and determining the significance of cumulative impacts. The commonly adopted method to identify and assess cumulative effects is via Geographic Information Systems (GIS). This computer tool uses powerful mapping and spatial information for capturing, displaying and analysing digital data. Map overlays have been used to identify areas where effects are likely to be greatest.

The assessment of sensitive receptor information can be used to form a consolidated “no-go” area map from a geographical, physical, biological, social, economic, heritage and cultural aspects.
This exercise used the method of bio-geographical analysis, including landscape analysis looking at patterns, structure and ecological process within a spatial unit. There was also the carrying capacity analysis which identifies thresholds as constraints to development, in the ecological context, carrying capacity is defined as the threshold below which ecosystem functions can be sustained.

The additional method to identify potential cumulative impacts includes the checklist technique in which potential cumulative impacts can be identified by using a list of common or likely effects.

The other pathway within cumulative impacts of a proposed development could be the compounding effect from one or more processes. The method of interactive matrices involves analysis of the additive and interactive effects of various configurations of multiple similar projects in the same geographic area. Due to the large number of developments in the broader area, there is potential for cumulative impact to generate additional impacts on broad-scale ecological processes and the countries’ ability to meet conservation targets.

The cumulative impacts are considered insignificant for this project as the inclusion of the additional activities within the scope of the Part 2 amendment are spatially constrained and result in very low impacts individually, collectively and regionally, and have largely been considered in prior assessments and amendments.

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ASSESSMENT OF ASPECTS & IMPACTS

The identified actual and potential Impacts, comments received from I&APs and findings contained in specialist assessments, are segregated amongst the different phases of implementation (planning and design, pre-construction, construction, operation and decommissioning) so that they can be logically managed /mitigated for by the responsible role players at the appropriate time.

DEVELOPMENT PHASES

Table 16: Average significance across aspects associated with **negative** impacts assessed for each development phase associated with the amendments.

	PRE-MITIGATION					POST-MITIGATION				
ASPECT	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**
PLANNING PHASE	Regional	High	Long Term	High	Probable	Regional	Very Low	Long Term	Low	Improbable
CONSTRUCTION PHASE	Local	High	Short-Term	Low	Definite	Local	Low	Short-Term	Very Low	Probable

Table 17: Average significance across aspects associated with **positive** impacts assessed for each development phase associated with the amendments.

PRE-MITIGATION						POST-MITIGATION				
ASPECT	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**
PLANNING PHASE	Local	Low	Long Term	Low	Probable	Local	Very Low	Long Term	Very Low	Improbable
CONSTRUCTION PHASE	Local	High	Short-Term	Low	Probable	Local	Low	Short-Term	Very Low	Improbable

PLANNING AND DESIGN PHASE

Table 18: Median of extent, magnitude, duration, significance and probability for negative & positive (highlighted in "green") impacts associated with the planning & design phase for pre- and post-mitigation.

PRE-MITIGATION						POST-MITIGATION				
ASPECT	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**
PLANNING PHASE	Regional	High	Long Term	High	Probable	Regional	Very Low	Long Term	Low	Improbable
Working within servitudes	Regional	High	Long Term	High	Probable	Regional	Very Low	Long Term	Low	Improbable
Working within the DWS Regulated Area	Regional	High	Long Term	High	Probable	Regional	Very Low	Long Term	Low	Improbable

Reuse of treated effluent	Regional	High	Long Term	High	Definite	Regional	Very Low	Long Term	Low	Improbable
Cleaning of ready-mix concrete trucks	Regional	High	Long Term	High	Probable	Regional	Very Low	Long Term	Low	Improbable
Upgrading of roads	Regional	High	Long Term	High	Probable	Regional	Medium	Long Term	High	Improbable
Changes to scope and layout of project	Local	High	Short-Term	Low	Probable	Local	Low	Short-Term	Very Low	Improbable
Changes to scope and layout of project	Local	Low	Long Term	Low	Probable	Local	Very Low	Long Term	Low	Improbable

Uncertainties & limitations with predicting the impacts

- The risk assessment required for registration of section 21(c) & (i) water uses under the National Water Act (Act 36 of 1998) needs to compute "Low" for registration under General Authorisation to be permissible, or a Water Use License will be required which will unlikely be approved within project implementation timeframes.
- Existing borrow pits on the landowner's property may be under the jurisdiction of Transnet which needs to be confirmed for sourcing of suitable road material.

Assumptions made when assessing the impact

- The scope of the amendments does not involve any Listed Activities additional to those that are already authorised in the EA.
- The BioRock wastewater treatment works (WWTW) endorsed for the operational aspect of the project as well as the Staging Area & MTS sub-station is capable of treating the effluent to the required discharge and irrigation standards.
- It is assumed that installation of G6 material will provide adequate stability for the Staging Area to facilitate safe loading and offloading and additional concrete plinths will not be required.

- Only several specialists were required to provide inputs and an updated report to include the expanded scope.

Mitigations:

Objective(s) (including targets):

- Comply with all relevant legislation, regulations, ordinances, and by-laws.
- Ensure all planning approvals are in place prior to commencement of construction.
- Inform ultimate design criteria to reduce impact on the receiving environment.
- Ensure adequate sanitation is provided for expanded scope of project and resulting treated effluent can comply with relevant discharge and irrigation standards.
- Ensure the permissible and legal sourcing of road building material.
- Minimise impacts to the receiving environments from expanded scope of project.

Table 19: Aspect, impact, probability of impact occurring for both pre- and post-mitigation assessment, including residual risks for **planning and design phase**. The degree to which the pre-mitigation risk and/or impact 1. Can be reversed, 2. The degree of irreplaceable loss of resources and 3. Phase of implementation according to the mitigation hierarchy, also indicated. Positive impacts highlighted in "green".

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT/S	PRE-MITIGATION IMPACT ASSESSMENT	DEGREE TO WHICH IMPACT			MITIGATION/S	MITIGATORY POTENTIAL	POST-MITIGATION IMPACT ASSESSMENT	RESIDUAL RISK/S
		PROBABILITY	REV	IRR	MIT			PROBABILITY	
Working within servitudes	Upgrade of road inside the Eskom overhead powerline servitude may require additional approval (wayleave already in place for the loop-in loop-out connecting powerlines), taking note of the provisions of the Eskom general requirements for works at or near Eskom infrastructure and servitudes, as well as the Eskom Setbacks Guideline.	Probable	Yes	No loss	Avoid	Ensure pre-emptive consultation with the servitude holder and procure the requisite wayleaves.	High	Improbable	A servitude holder rejects the issuance of wayleave

Working within the DWS Regulated Area	General Authorisation in place for pylons associated with loop-in, loop-out powerlines, but additional registration for upgraded road across watercourse (within the DWS Regulated Area) in terms of section 21(c) & (i).	Probable	Yes	No loss	Avoid	Register the water use with the Responsible Authority in accordance with GN No. 509 of 26 August 2016	High	Improbable	The authorisation is not processed under General Authorisation and a Water Use License is required with the associated increased timeframes.
Reuse of treated effluent	General Authorisation registration required for irrigation/dust suppression of waste water from WWTWs in terms of Section 21(e).	Definite	Yes	No loss	Avoid	Register the water use with the Responsible Authority in accordance with GN No. 665 of 6 September 2013 as renewed on 2019/05/14	High	Improbable	The authorisation is not processed under General Authorisation and a Water Use License is required with the associated increased timeframes.
Cleaning of ready-mix concrete trucks	General Authorisation registration required for waste concrete storage area and additional ablutions & storage tanks (including current Phase 1 WWTW) at Staging Area and Eskom MTS, in terms of section 21(g) required.	Probable	Yes	No loss	Avoid	Register the water use with the Responsible Authority in accordance with GN No. 665 of 6 September 2013 as renewed on 2019/05/14	High	Improbable	The authorisation is not processed under General Authorisation and a Water Use License is required with the associated increased timeframes.
Upgrading of roads	Borrow pits potentially under Transnet administration, and approval from Transnet may be required to remove suitable road building material	Probable	Yes	No loss	Manage	Confirmation of ownership and/or permission of use required from Transnet	Moderate	Improbable	Borrow pit is under the administration of Transnet and no provision has been made for alternative on-site sources of road building material and needs to be sourced from

									a commercial source
Changes to scope and layout of project	Staging Area will impact existing vegetation cover, input required from specialist on perceived impacts and risks	Probable	Yes	Partial loss	Manage	Covering of footprint with G6 should be constrained to core loading/off-loading areas and parking areas	Low	Probable	Poor oversight during clearing/grubbing results in the full footprint being graded and infilled with imported material
	1. Staging Area will require suitable soil conditions especially during wet conditions to remain functional. Inputs on suitability required from Geotech & Soil Scientist. 2. Staging area will require a layer of compacted G6 material to create stability for off-loading of heavy equipment. 3. Suitability of new sub-station sites required from Geotech.	Probable	Yes	No loss	Manage	Delivery & off-loading of heavy equipment, especially related to the sub-station should be done during the dry months, limiting the need for imported infill, which will coincide with suitable access road conditions over the watercourse.	Moderate	Improbable	Construction programme and time pressures do no constrain relevant activities to the dry months, which extend into the wet months with associated soil impacts, especially compaction and/or rutting

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	1. Part 2 amendment must be approved prior to implementation of staging area, upgrade to additional access roads & additional and expanded sub-stations. 2. Generic EMPr required for switching & MTS sub-stations need to include site-specific conditions and form part of the PPP process.	Definite	Yes	No loss	Avoid	Ensure Part 2 amendment & Generic EMPrs are approved before implementing the expanded scope of the project	High	Improbable	Developer continues with expanded project scope in the absence of relevant authorisation
Changes to scope and layout of project	Changes in sub-station location will not affect any identified heritage sites opposed to the original site.	Probable	Yes	No	Avoid	Identified heritage sites in close proximity to the sub-stations must be cleared demarcated to avoid inadvertent damage.	High	Improbable	Construction of sub-station footprints occur prior to clear demarcation and protection of known heritage sites. Sub-surface artefacts may still be exposed during excavations for foundation concrete slab.

PRE-CONSTRUCTION PHASE

No explicit pre-construction activities, aspects and impacts were identified.

CONSTRUCTION PHASE

Table 20: Median of extent, magnitude, duration, significance and probability for negative & positive (highlighted in "Green") impacts associated with the construction phase and post-construction rehabilitation & monitoring.

	PRE-MITIGATION					POST-MITIGATION				
ASPECT	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**	**EXTENT**	**MAGNITUDE**	**DURATION**	**SIGNIFICANCE**	**PROBABILITY**
CONSTRUCTION PHASE	Local	High	Short-Term	Low	Definite	Local	Low	Short-Term	Very Low	Probable
Provision of ablutions and shower facilities at Staging Area	Local	High	Short-Term	Low	Definite	Local	Low	Short-Term	Very Low	Improbable
Additional & increased footprint of Staging Area	Local	Medium	Short-Term	Low	Improbable	Local	Low	Short-Term	Very Low	Improbable
Upgrading of roads	Local	Medium	Long Term	Medium	Definite	Local	Low	Long Term	Low	Probable
Leaks & spills of hydrocarbons	Local	High	Short-Term	Low	Probable	Local	Medium	Short-Term	Low	Probable
De-establishment of Staging Area at end of Construction Phase	Local	High	Medium Term	Medium	Definite	Local	Low	Short-Term	Very Low	Probable
Low Emission sanitation	Local	High	Short-Term	Low	Probable	Local	Low	Short-Term	Very Low	Improbable

Uncertainties & limitations with predicting this impact

- The impact assessment is only associated with the construction associated with the expanded scope in the amendment.
- The aspects and impacts identified are not exhaustive but capture the key components of the amendment activities.

Assumptions made when assessing the impact

- The impacts identified for the full project scope will capture the broader environmental impacts over and above those identified for the expanded scope activities.

Table 21: impact, probability of impact occurring for both pre- and post-mitigation assessment, including residual risks for the **construction phase and post-construction rehabilitation and monitoring**. The degree to which the pre-mitigation risk and/or impact 1. Can be reversed, 2. The degree of irreplaceable loss of resources and 3. Phase of implementation according to the mitigation hierarchy, also indicated. Positive impacts highlighted in "green".

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT/S	PRE-MITIGATION IMPACT ASSESSMENT	DEGREE TO WHICH IMPACT			MITIGATION/S	MITIGATORY POTENTIAL	POST-MITIGATION IMPACT ASSESSMENT	RESIDUAL RISK/S
		PROBABILITY	REV	IRR	MIT			PROBABILITY	
Provision of ablutions and shower facilities at Staging Area	Effluent will be generated from ablutions, kitchen & shower facilities at the Staging Area.	Definite	Yes	No loss	Manage	Biorock Monoblock to be installed at commencement of establishment of Staging Area to ensure adequate ablutions & shower facilities are provided.	High	Improbable	Over-utilisation of the WWTW will impact effluent quality potentially limiting its use for dust suppression
Additional & increased footprint of Staging Area	Additional development footprints may impact on fauna and avifauna Species of Conservation Concern (SCC)	Improbable	Yes	Partial loss	Manage	All areas to be developed must be walked through before any activity to ensure no nests or fauna species are found in the area. Should any SCC	Moderate	Improbable	No SCC fauna or avifauna species were found on site during the baseline assessment, but specimens may have been missed

						not move out of the area, or their nest be found in the area a suitably qualified specialist must be consulted to advise on the correct actions to be taken.			due to seasonal influences on particularly avifauna movements
	Additional footprints may impact on Plants SCC	Improbable	Yes	Partial loss	Manage		Moderate	Improbable	No plants SCC were identified during the baseline assessment, but specimens may have been overlooked due to seasonal growth patterns and the size of the total survey area
	Staging area will require a layer of compacted G6 material to create stability for off-loading of heavy equipment.	Definite	Yes	No loss	Manage	Limit installing G6 material to key offloading areas.	Moderate	Probable	Poor planning and assigning designated areas within the Staging Area may result in an over application of G6 and unnecessary level of impact.
	Alteration to flow patterns and velocities of stormwater runoff	Probable	Yes	No loss	Mitigate	Topsoil & subsoil must be removed (and stockpiled separately to avoid contamination with G6 material and allow for reverse order reinstatement during rehabilitation) to the required depth of G6 fill, to ensure natural ground level is retained resulting in limited	Moderate	Probable	Inaccurate determination of depth required for G6 material and/or settling of G6 may still result in impeding stormwater and pooling, respectively.

						impediment to stormwater runoff. Compaction of G6 material over time and resultant subsistence may result in pooling of stormwater, and additional G6 may be required to create level ground.			
Upgrading of roads	Suitable material will be required to upgrade and improve existing road over the watercourse	Definite	Yes	No loss	Manage	Confirmation is required from Transnet that the landowner/ developer may utilise the existing borrow pits on site, in the absence of which commercial material will be required.	Moderate	Probable	In the event the existing borrow pits are not accessible, the land owner and developer may seek material from other areas and not commercial sources, the impacts of which have not been adequately catered for.
	Elevated upgraded road surface may pose an impediment to surface water flows	Definite	Yes	No loss	Mitigate	Where additional gravel is installed on existing road surfaces, and such improvements raise the resulting road surface above surrounding ground levels, pipes and/or other suitable conduits must be installed to reduce impeding surface water flows and limiting aquatic biota movement.	Moderate	Probable	Utilisation of inadequate through-flow structures may result in blockages and changes in low water flow paths and hinderance to aquatic biota movement

	Potential impacts to instream habitat & biota due to erosion of fill material and sediment inputs	Definite	Yes	Partial loss	Mitigate	Where additional gravel is installed on existing road surfaces, the same must be suitably compacted and stabilised to reduce erosion. The permanent channel may require rocks/stones at the road/water interface to reduce erosion potential	Moderate	Probable	High flow/velocity periods may erode poorly compacted areas irrespective of through-flow structures installed.
Leaks & spills of hydrocarbons	Vehicles involved in loading/offloading may leak hydrocarbons onto the ground including during periods of parking.	Probable	Yes	Partial loss	Mitigate	Ensure vehicles are assigned daily check lists including checks for leaks. Any leaks must be attended to as a matter of urgency. All transport/heavy vehicles standing for prolonged need to have suitably sized (surface area and storage capacity) drip trays installed beneath the vehicles. Spill kits must be available at the Staging Area for accidental spillages. No servicing of vehicles permitted, and emergency breakdowns must use containment measures to avoid spills. All recovered hydrocarbons must be stored for recycling and contaminated soil	Moderate	Probable	Irrespective of the management & mitigation measures implemented, vehicle breakdowns and leaks are unpredictable

						placed in containers within a bunded storeroom.			
De-establishment of Staging Area at end of Construction Phase	1. Re-establishment of indigenous and locally occurring vegetation following de-establishment of the Staging Area, 2. Risk of Alien Invasive Vegetation establishment and dominance	Definite	Yes	Partial loss	Rehabilitate	Following the layered reinstatement of subsoil and topsoil, seeding of the disturbed footprint must make use of indigenous, locally-occurring species. Additionally, the footprint should be covered with a light mulch e.g. loosely distributed hay bales, to create a suitable microclimate for recruitment. Constant monitoring must be undertaken for the recruitment of alien invasive vegetation and suitable controls implemented.	Moderate	Probable	Delayed implementation of rehabilitation measures will increase the risk of erosion, loss of topsoil and increased likelihood of alien invasive invasion
	Remaining G6 material and structures remain an impact until cleared	Definite	Yes	No loss	Rehabilitate	All G6 material must be removed to full depth and all structures, including WWTW removed from site. All waste must be suitably disposed of.	High	Probable	Incomplete removal of G6 material and residual structures will leave result in a residual impact in perpetuity and limit rehabilitation outcomes

	Risk of increased and unmitigated stormwater runoff in the absence of an adequate vegetation covering	Definite	Yes	No loss	Rehabilitate	Ensure suitable measures are installed to mitigate uncontrolled stormwater runoff until vegetation has satisfactorily recruited, including diversion berms, haybale/silt curtains etc.	High	Probable	Erosion of topsoil will limit & retard reestablishment of indigenous vegetation, pose a risk of continuing deepening soil rills and donga formation and predisposes the area to alien invasive vegetation establishment.

OPERATIONAL PHASE

No explicit pre-construction activities, aspects and impacts were identified specific to the scope of the amendment activities, which have not already been adequately covered in previous iterations of impact assessment. The inclusion of the Generic EMPr for the sub-stations addresses operational aspects.

Cumulative impact assessment

No significant cumulative impacts are expected, and the re-positioning of the MTS sub-station will reduce impacts on known heritage resources.

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SECTION II: ADVANTAGES AND DISADVANTAGES ASSOCIATED WITH THE PROPOSED CHANGE

Advantages and disadvantages of Staging Area and associated access road

The intention of creating a temporary (for the duration of construction) "staging area" is to allow large transport vehicles to offload infrastructure and equipment. The offloading area will negate the need for large, heavy vehicles to access the project area, reducing the nuisance factor to surrounding land owners and road users (noise & dust emissions), as well as reducing the level of road upgrades required within the project area to accommodate vehicles of this size. Once equipment is offloaded at the staging area, it will be transported to the relevant part of the project area on smaller, less impactful vehicles on internal roads. This staging area will also act as an access control point, for staff and contractor's entering and exiting the PV sites, allowing for improved security during construction and associated labour teams.

An existing access road across a watercourse, is proposed as the main access to the Phase 1 facility, instead of and/or in addition to the current property owner's main access road. Additionally, the originally considered site access route on a local district road, crossed an existing Transnet railway line at two points, which poses challenges to larger vehicles transporting heavy equipment and would have necessitated an interruption to the affected Transnet services, as the overhead powerlines would need to be disconnected to accommodate large loads (Figure 1).

Advantages and disadvantages on Heritage resources

Background research indicates that there are some cultural heritage (palaeontology, archaeology & historical) sites and features in the larger geographical area within which the study area falls, with a number recorded and identified during the 2017 assessment. The February 2021 assessment furthermore identified a number of sites, features or material of cultural heritage (archaeological and/or historical) significance in the study area.

The currently approved footprint will affect four medium significance heritage sites (see Figure 6), while both the proposed 132Kv switching yard & MTS sub-station will not affect any identified heritage or palaeontology sites.

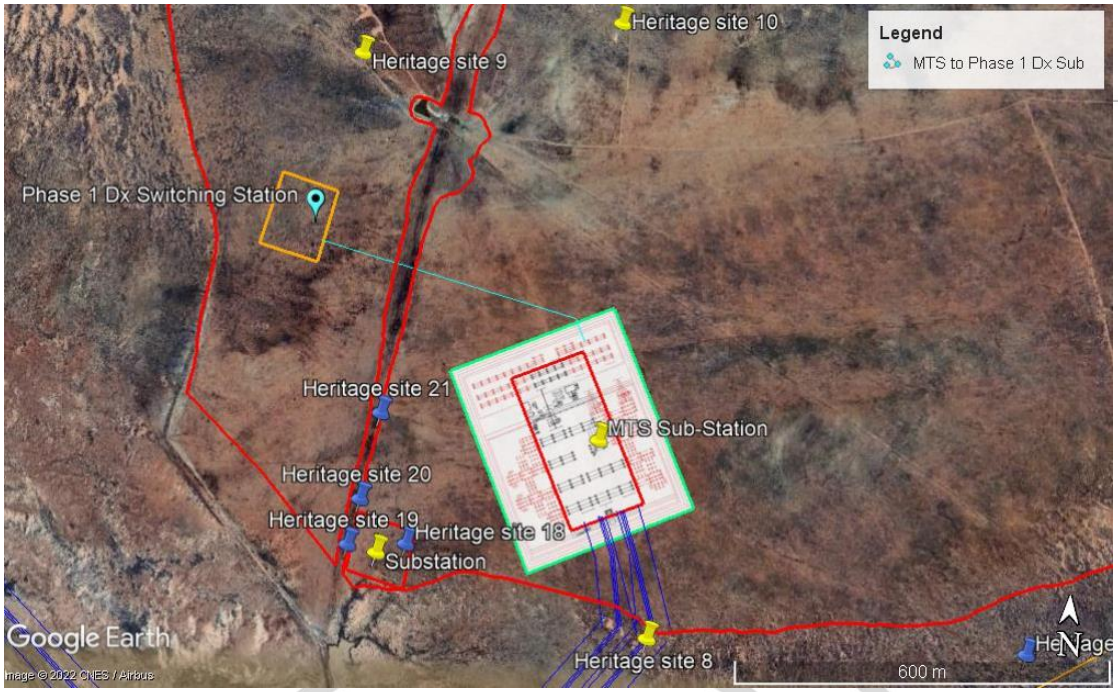

Figure 6. Positions of Phase 1 switching yard and MTS sub-stations relative to identified heritage sites.

Advantages and disadvantages on Geotechnical considerations

The currently authorised location of the Eskom substation is located along a low-lying part of the southern site border and adjoining the dolerite dike underlying the central exclusion zone. The previous geotechnical/geological investigations stated the risk of periodic inundation in that area during the rainy season. Furthermore, the dolerite rock adjoining the substation to the west may possibly underlie the western parts of the substation area. Excavation is expected to be more difficult for the parts underlain by dolerite than for the eastern parts of the substation area – which are underlain by sandstone.

Accordingly, the new location for both for the 132Kv switching yard and MTS sub-stations will not carry the same risk of flooding nor the potential geotechnical challenges associated with dolerite substrates (see Figure 7).

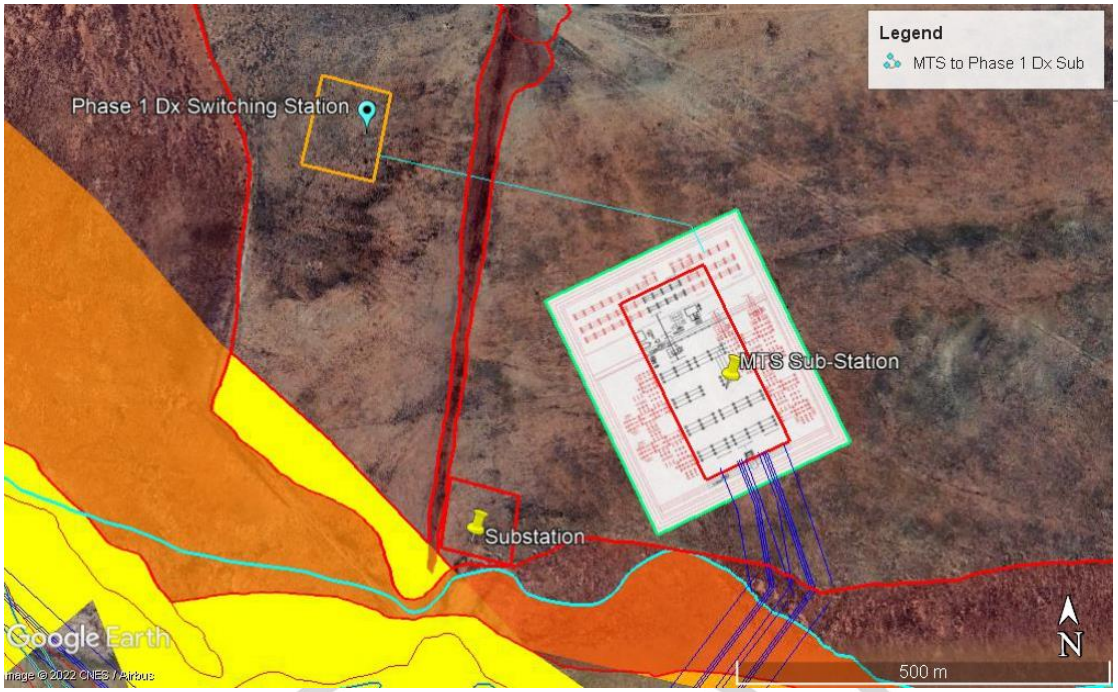

Figure 7. Location map of currently authorised sub-station (purple polygon) versus the proposed location of the 132Kv switching yard (orange polygon) and MTS sub-station (green polygon) in relation to identified ecological (red polygon), watercourse (blue lines), geotechnical (orange polygon largely obscured by ecological layer) and geological (yellow polygon) no-go areas.

Advantages and disadvantages of expanded sub-station

The site and approved Phase 1 project is close the two 400kV lines that run from the Hydra Main Transmission Sub-station (MTS) to the Poseidon MTS. Hydra MTS, located close to De Aar town, is at capacity due to renewable power plants connected in REIPPPP bid windows 1-4. The substation is congested and would be difficult to expand. Eskom has had plans for the construction of a Hydra B, with an eventual capacity of 1500MVA. It is possible that Eskom will designate the new Soventix MTS, as Hydra B and will thus require space for future expansion to 1500MVA. Even if it is not designated as Hydra B it is likely that Eskom will require the substation to have the ability to expand. Soventix alone has plans for further PV plants close to the new MTS, currently termed Phases 2 & 3. Other IPPs will certainly wish to connect to the new MTS once it is built. It is therefore essential that the design of the new substations allows for significant future expansion. At the same time the design for this stage must minimize the cost that the first project must carry, or it will not be feasible. Accordingly, the amendment scope (Figure 6) includes the current plan (in black) (required only for Soventix projects) as well as future plans (in red) (for other renewable energy projects in the area) for the MTS.

The current plans are in line with the indicative CEL scope provided by Eskom. The current plan includes two 400kV connections with a breaker-and-a-half configuration, one 400/132kV 500MVA transformer and one 132kV feeder.

The space for future allows for:
1. 3 x additional 400kV connections
2. 2 x additional 500MVA transformers for a future capacity of 1500MVA
3. 12 x additional 132kV connections. If each connection was one off 75MW PV farms this would be insufficient for the 1500MVA capacity, but typically Eskom calls for 132kV collector substations to be built close to clusters for PV farms. This is the approach being taken for connections to the Komsberg MTS, which has significant from IPPs interest due to the excellent wind resources in that area. Therefore, space for a total of 13 off 132kV connections should be more than sufficient.

It is worth noting that the plans for future expansion are in-line with the plans for Komsberg MTS which currently has 1 off 500MVA transformers but has space for a total of 1500MVA and 10 off 132kV feeders (Proconics, 2021)

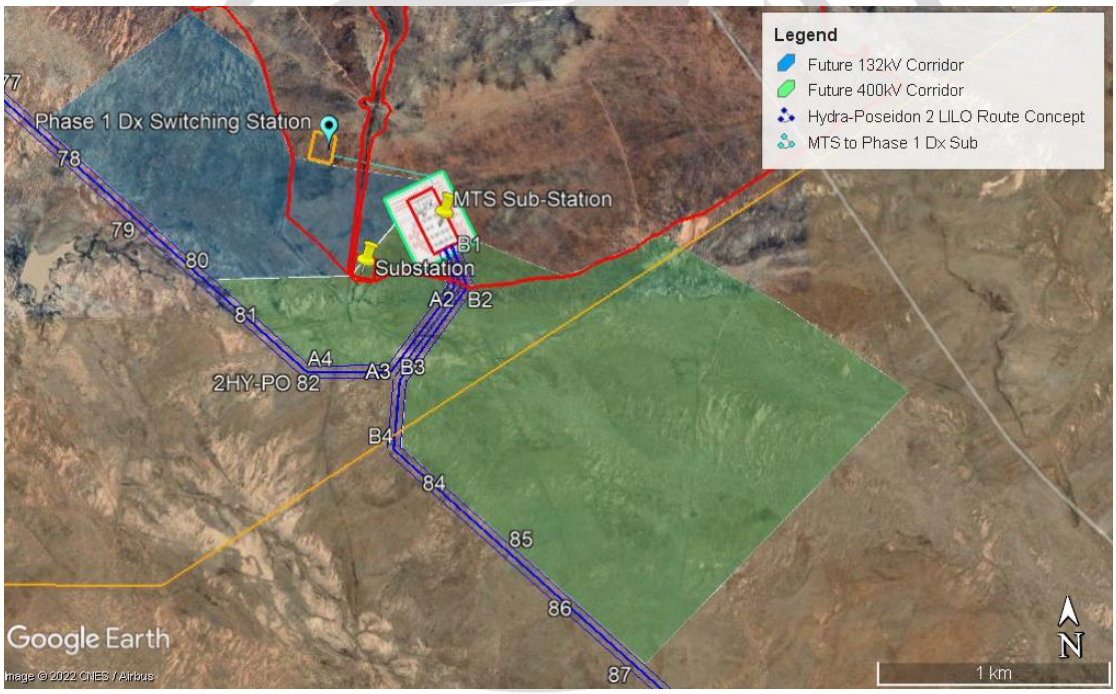

Figure 8. Preliminary future transmission corridors (132kV & 400 kV) planned by Eskom that will interphase with the MTS sub-station via Loop-in, Loop-out (LILO) connections which will facilitate the authorised Soventix Phase 1 and proposed Phases 2 & 3 (1GW) as well as other renewable energy projects in the area requiring grid access.

SECTION III: MEASURES TO ENSURE AVOIDANCE, MANAGEMENT AND MITIGATION OF IMPACTS ASSOCIATED WITH SUCH PROPOSED CHANGE

See content in Section I as well as proposed changes to the EMPr in Section III.

SECTION IV: ANY CHANGES TO THE EMPR

This section captures the recommended changes to the EMPr to adequately capture the outcomes of the Part 2 amendment process. This information has also been updated to the amended EMPr which is submitted as an appendix to this report.

Table 22. Proposed changes to EMPr in **BOLD** text.

Page No.	Current details:	Amended to:
1 or cover page	Submission Date: 12 April 2021 Report Status: Amendment (Final 00)	Submission Date: **27 May** 202**2** Report Status: Amendment **2 (Draft** 00**)**
2	**Document Control**	
	Status Revision Date Amendment Final 00 12 April 2021	Status Revision Date Amendment **2** **Draft** 00 **27 May** 202**2**
3	**Executive Summary**	
	• An on-site substation with the necessary infrastructure to feed the electricity generated from all three facilities via a loop in loop out into the immediately adjacent 400 kV Eskom network.	• On-site substation**s** **(132Kv switching yard and MTS)** with the necessary infrastructure to feed the electricity generated from **solar PV facilities**, via a loop in loop out into the immediately adjacent 400 kV Eskom network. **The MTS will be increased from 300MW to 1GW.**
3	• No previous bullet item.	• **Development of a "staging area" where large transport vehicles can offload infrastructure and equipment for transfer onto smaller vehicles for localised distribution to site. The staging area will also act as an access control point, for staff and**

		contractor's entering and exiting the PV sites.
3	No previous bullet item.	• **Inclusion of an existing access road across a watercourse, as the main access to the Phase 1 facility, in addition to the current property owner's main access road.**
4	Construction Phase • Establish service tracks (access roads pre-existing);	Construction Phase • **Upgrade existing roads and** establish service tracks;
4	Construction Phase • No previous bullet item.	Construction Phase • Establish "Staging Area" for large vehicle and equipment offloading and access control;
17	**SECTION 2: INTRODUCTION & BACKGROUND**	
	An on-site substation will be required with the necessary infrastructure to feed the electricity generated, via a loop-in, loop-out, into the immediately adjacent **132kv or** 400kv Eskom network.	On-site substation**s** will be required with the necessary infrastructure to feed the electricity generated, via a loop-in, loop-out, into the immediately adjacent 400kv Eskom network.
17	This EMPr forms part of the feasibility study and prerequisite by National Energy Regulator of South Africa (NERSA) for awarding a Power Purchase Agreement (PPA) under the Renewable Energy Feed in-Tariff (REFIT) program. The REFIT program is also a key project component due to the fact that the next scheduled phase includes Solar PV as an option and the project proponent will take the opportunity to submit the project proposals. The requirement for the successful establishment of a Solar PV plant does include, inter alia, proximity to existing Eskom infrastructure in order to feed electricity into the grid.	This EMPr **originally** form**ed** part of the feasibility study and prerequisite by **the** National Energy Regulator of South Africa (NERSA) for awarding a Power Purchase Agreement (PPA) under the Renewable Energy Feed in-Tariff (REFIT) program. **However, Soventix SA has now obtained a Cost Estimate Letter (CEL) from Eskom for an increase in the interconnection of embedded generation grid access, from renewable energy to Eskom infrastructure. This increased capacity of the on-site sub-station will facilitate additional generation capacity into the Eskom grid for "wheeling" to private consumers, from the authorised Phase 1 project as well as potential from the Phase 2**

		& 3 projects as well as other local renewable energy projects requiring grid access.
18	**SECTION 3: DESCRIPTION OF THE ACTIVITY**	
	A 300MW solar photo-voltaic (PV) farm, comprising 3 interconnected 100MW plants, connected to a sub-station that ties into existing ESKOM 400kV overhead power lines and associated infrastructure including backup containerised lithium battery storage and dual-fuel generators with associated above-ground fuel storage.:	**Expansion and repositioning of a substation, addition of a switching yard sub-station, additional access road from a proposed staging area (offloading and access control area) to the development of** a 300MW solar photo-voltaic (PV) facility, comprising 3 interconnected 100MW plants, that ties into existing overhead ESKOM 400kV **transmission lines**, and associated infrastructure including containerised lithium-ion battery storage and dual-fuel **backup** generators with associated above-ground fuel storage.
19	**Table 5: Planning & Design Phase**	
	Sub-activity: Water Use (21c&i)	Sub-activity: **Water Use (Section 21(c&i) of the National Water Act (Act 36 of 1998))**
19	Sub-activity: Water Use (21g)	Sub-activity: **Water Use (Section 21(g) of the National Water Act (Act 36 of 1998))**
19	Sub-activity: Water Use (21a)	Sub-activity: **Water Use (Section 21(a) of the National Water Act (Act 36 of 1998))**
19	Sub-activity: Access Roads (not exceed threshold & layout to have minimal impacts) Aspect: Poor alignment & extent of linear activities like roads, fences, pipelines or other cleared servitudes can increase runoff, cause erosion and sedimentation of aquatic habitats and result in regulatory non-compliance.	Sub-activity: **Access Roads** Aspect: **Poor alignment & extent of linear activities like roads, fences, pipelines or other cleared servitudes can increase runoff, cause erosion and sedimentation of aquatic habitats and result in regulatory non-compliance. Access roads crossing Eskom servitude.**

19	No previous item.	**Sub-activity: Water use (Section 21(e) of the National Water Act (Act 36 of 1998))** **Aspect: Reuse of treated effluent**
23	No previous item.	**Activity: Layout and design** **Sub-activity: Staging Area** **Aspect: Provision of Staging Area for offloading and access control**
23	**Table 5: Construction Phase**	
23	Activity: Site establishment (construction camp, sanitation, temporary accommodation) Sub-Activity: Clear & grub (fence line, operations area, access roads, rack foundations, transformers and inverters, cables, substation and pylons)	Activity: Site establishment (construction camp, sanitation, temporary accommodation) Sub-Activity: Clear & grub (fence line, operations area, access roads, rack foundations, transformers and inverters, cables, substation**s** and pylons
23	Activity: Site establishment (construction camp, sanitation, temporary accommodation) Sub-Activity: Sanitation Aspects: Dust generation. Loss of vegetation, habitat and soil fertility. Ground water contamination. Adequate provision of ablutions and shower facilities	Activity: Site establishment (construction camp, sanitation, temporary accommodation) Sub-activity: Sanitation Aspects: Dust generation. Loss of vegetation, habitat and soil fertility. Ground water contamination. Adequate provision of ablutions and shower facilities **Low emission sanitation technology**
25	Activity: Construction of permanent & temporary access roads	Activity: Construction**/upgrading** of permanent & temporary access roads **Sub-activity: Upgrade of access road across watercourses** **Aspect: Potential influence on hydrology, water quality & aquatic biota**
26	Activity: Earthworks & excavations (associated with the operations area, road crossings, cabling, transformers and inverters, substation and pylons)	Activity: Earthworks & excavations (associated with the operations area, road crossings, cabling, transformers and inverters, substation**s** and pylons)

46	**SECTION 4: LAYOUT MAP OF PROPOSED ACTIVITY**	
	No previous figure.	Include Figure 7 including scope of Part 2 amendment activities.
52	**Condition 6.1.2 in TABLE 6. WATER USE AUTHORISATION TO WORK WITHIN A WATERCOURSE**	
	6.1.2.1 The applicant shall register a water use entitlement, i.e. a GA or WUL for section 21(c) and (i) water uses, prior to constructing access roads and erecting pylons inside a watercourse.	6.1.2.1 The applicant shall register a water use entitlement, i.e. a GA or WUL for section 21(c) and (i) water uses, prior to constructing**/upgrading** access roads and erecting pylons inside a watercourse.
52	**Condition 6.1.3 in TABLE 6. WATER USE AUTHORISATION FOR TREATING & STORING WASTEWATER**	
	6.1.3.1 The applicant shall register a water use entitlement, i.e. a General Authorization or WUL for section 21(g) water uses for the treatment of effluent via a package waste water treatment works (WWTW) (BiorockTM).	6.1.3.1 The applicant shall register a water use entitlement, i.e. a General Authorization or WUL for section 21(g) water uses for the treatment of effluent via a package waste water treatment works (WWTW) (BiorockTM), **NewGen Containerized WWTW and Conservancy Tank/s for the storage of contaminated water from washing brushes and other tools as well as the dirty water from washing the ready mix concrete trucks.**
54	**Condition 6.1.4 in TABLE 6. WATER USE AUTHORISATION FOR ABSTRACTION & STORAGE OF RAW & TREATED WATER**	
	No previous item.	**6.1.4.3 Sampling of water destined for human consumption must be submitted to a laboratory accredited for the water quality elements specified in SANS 241:2015 and/or a WUL, at the specified time intervals.**
55	**Condition 6.1.5 in TABLE 6. WATER USE AUTHORISATION FOR IRRIGATION/DUST SUPPRESSION WITH TREATED WASTEWATER**	
	No previous item.	**6.1.5.1 The applicant shall register a water use entitlement, i.e. a General Authorization or WUL for section 21(e) water uses for the reuse of treated**

		effluent for dust suppression and/or irrigation emanating from the waste water treatment works (WWTW) (BiorockTM) and NewGen. **Sampling of treated effluent from the WWTWs must be submitted to a laboratory accredited for the water quality elements specified in Tables 1.1, 1.2 or 1.3 (dictated by volumes irrigated) in accordance with the frequencies specified in GN No. 538 of 2 September 2016 or a WUL.**
56	**Condition 6.1.5 IN TABLE 6. WATER USE AUTHORISATION FOR DISCHARGING TREATED WASTEWATER**	
	No previous item.	**6.1.5.1 The applicant shall register a water use entitlement, i.e. a General Authorization or WUL for section 21(f) water uses for the discharge of treated effluent into a water resource.** **Sampling of treated effluent from the WWTWs will be submitted to a laboratory accredited for the water quality elements specified in Table 2.1 in accordance with the frequencies specified in GN No. 538 of 2 September 2016 or a WUL.** **A treated effluent & water sampling protocol for all water uses must be developed which guides and governs the sampling procedures in accordance with guidelines provided by DWAF (2000), Water Research Commission No: TT 117/99.**
65	**Section 7.2.1 in TABLE 7. CONSTRUCTION CAMP, LAYDOWN AREAS, STOCKPILES, STORES & EQUIPMENT**	

70	Use chemical toilets that contain the sewerage in a closed and removable 'tank', i.e. do not use open drums. Environmentally friendly toilets should also be considered e.g. E-loo's.	Use chemical toilets that contain the sewerage in a closed and removable 'tank', i.e. do not use open drums. Environmentally friendly toilets should also be considered e.g. E-loo's. **Biorock Monoblock WWTW must be installed at commencement of establishment of Staging Area to ensure adequate ablutions & shower facilities are provided.**
86	**Section 8.4.2 of TABLE 8. WASTE MANAGEMENT.**	
	The illegal dumping or disposal of waste generated from the decommissioning of the Solar PV Plant within the development footprint, no-go areas or on adjacent properties is strictly prohibited.	The illegal dumping or disposal of waste generated from the decommissioning of the Solar PV Plant within the development footprint, no-go areas or on adjacent properties is strictly prohibited. **All G6 material must be removed to full depth and all structures, including WWTW removed from the Staging Area. All waste must be suitably disposed of.**
103	**Section 9.4.2 of TABLE 9. FAUNA & FLORA MANAGEMENT.**	
	The rehabilitated servitudes shall be monitored following the completion of decommissioning of the Solar PV plant for the recruitment and subsequent control of weed, invader and alien plant species, in accordance with Appendix 1 of this EMPr.	The rehabilitated servitudes shall be monitored following the completion of decommissioning of the Solar PV plant for the recruitment and subsequent control of weed, invader and alien plant species, in accordance with Appendix 1 of this EMPr.

		Following the layered reinstatement of subsoil and topsoil, seeding of the disturbed footprint must make use of indigenous, locally-occurring species. Additionally, the footprint should be covered with a light mulch e.g. loosely distributed hay bales, to create a suitable microclimate for recruitment. Constant monitoring must be undertaken for the recruitment of alien invasive vegetation and suitable controls implemented.
111	**Section 10.2.1 in TABLE 10. WATER USE & MANAGEMENT (INCLUDING WATERCOURSES)**	
	Ensure that rainfall does not wash soil from stockpiles and windrows into a watercourse and cause sedimentation.	Ensure that rainfall does not wash soil from stockpiles and windrows into a watercourse and cause sedimentation. **Where additional gravel is installed on existing road surfaces, and such improvements raise the resulting road surface above surrounding ground levels, pipes and/or other suitable conduits must be installed to reduce impeding surface water flows and limiting aquatic biota movement.** **Where additional gravel is installed on existing road surfaces, the same must be suitably compacted and stabilised to reduce erosion. The permanent channel may require rocks/stones at the road/water interface to reduce erosion potential.**

114	**Section 10.2.4 in TABLE 10. WATER USE & MANAGEMENT (INCLUDING WATERCOURSES)**	
	The foundational footings provided for the BESS & GENSETS containers must allow for unimpeded stormwater runoff e.g. containers to be positioned on concrete plinths.	The foundational footings provided for the BESS & GENSETS containers must allow for unimpeded stormwater runoff e.g. containers to be positioned on concrete plinths. **Ensure suitable measures are installed when rehabilitating the Staging Area to mitigate uncontrolled stormwater runoff until vegetation has satisfactorily recruited, including diversion berms, haybale/silt curtains etc.**
119	**Section 11.2.4 in Table 12. SOIL MANAGEMENT**	
	Chemical toilets shall be kept hygienic and cleaned daily to avoid unpleasant odours.	Chemical toilets shall be kept hygienic and cleaned daily to avoid unpleasant odours. **Containerised NewGen WWTW should be utilised during construction to reduce potential air & effluent emissions as well as soil contamination risks associated with sewage spills.**
122	**Section 12.2.4 in Table 12. SOIL MANAGEMENT**	
	Soil horizons must be stockpiled or windrowed separately during excavation to ensure they can be reinstated in reverse order and ensure restored soil structure.	Soil horizons must be stockpiled or windrowed separately during excavation to ensure they can be reinstated in reverse order and ensure restored soil structure.

		Ensure vehicles are assigned daily check lists including checks for leaks. Any leaks must be attended to as a matter of urgency. All transport/heavy vehicles standing for prolonged periods need to have suitably sized (surface area and storage capacity) drip trays installed beneath the vehicles. Spill kits must be available at the Staging Area for accidental spillages. No servicing of vehicles permitted, and emergency breakdowns must use containment measures to avoid spills. All recovered hydrocarbons must be stored for recycling and contaminated soil placed in containers within a bunded storeroom. Staging area will require a layer of compacted G6 material to create stability for off-loading of heavy equipment which must be limited to key offloading areas. Topsoil & subsoil must be removed (and stockpiled separately) at the Staging Area, to avoid contamination with G6 material and allow for reverse order reinstatement during rehabilitation) to the required depth of G6 fill, to ensure natural ground level is retained resulting in limited impediment to stormwater runoff. Compaction of G6 material over time

		and resultant subsistence may result in pooling of stormwater, and additional G6 may be required to create level ground.
154	**SECTION 6: ENVIRONMENTAL AWARENESS PLAN**	
		Improvements to overall wording of this section.
161	**SECTION 9: ADMINISTRATION OF INCIDENTS**	
	Previously entitled "ENVIRONMENTAL EMERGENCY PLAN FOR THE CONTROL OF ENVIRONMENTAL INCIDENTS"	Overhaul of content and naming of section to more accurately align with legislative changes and release of governing guidelines.

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AFFIRMATION OF THE APPOINTED INDEPENDENT EAP

(r) An undertaking under oath or affirmation by the EAP in relation to-

Report Information Accuracy.

(i) the correctness of the information provided in the report;

EAP AFFIRMATION.

Appendix 2 Section 3 (s) of the Environmental Impact Assessment (EIA) Regulations, 2014 (promulgated in terms of the National Environmental Management Act 107 of 1998, as amended - NEMA), require an undertaking under oath or affirmation by the Environmental Assessment Practitioner (EAP) in relation to;
(i) the correctness of the information provided in the reports;
(ii) the inclusion of comments and inputs from stakeholders and I&APs;
(iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and
(iv) any information provided by the EAP to interested and affected parties and any

I, **Justin A. Bowers**, on behalf of Ecoleges, hereby affirm that all comments and inputs received from stakeholders, specialists, interested and affected parties have been accurately recorded herein and, insofar as comments and recommendations are relevant and practicable, accommodated in the final Environmental Impact Assessment Report submitted to the Competent Authority, thereby attaining a desirable level of agreement for undertaking the environmental impact assessment.

_____
Signature of the EAP

DATE: 30 June 2022

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APPENDICES

APPENDIX A: PUBLIC PARTICIPATION PROCESS FOLLOWED

Annexure A: Level of Public Participation
Annexure B: Displayed Site Notices
Annexure C: Close-up & wording of Site Notices
Annexure D: Background Information Document (BID) in English and Afrikaans
Annexure E: BID Distribution via Registered Mail and Email
Annexure F: Advertisement Wording
Annexure G: Proof of Placed Advertisement
Annexure H: List of Interested and Affected Parties
Annexure I: Comments and Response Sheet
Annexure J1: Proof of distributed draft report
Annexure J2: Proof of attempts to obtain comments on draft report

APPENDIX B: AMENDED ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT (EMPR)

APPENDIX A: DETAILS OF THE PUBLIC PARTICIPATION PROCESS

(ii) details of the public participation process undertaken in terms of regulation 14 of the Regulations, including copies of the supporting documents and inputs;

(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them.

1. Introduction

The Public Participation Process (PPP) will be undertaken in accordance with Chapter 6 of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, and take into consideration the Public Participation 2017 Guideline Document (DEA, 2017).

2. Objectives of the public participation

The level of public participation will be determined by taking into account the scale of the anticipated impacts of the proposed project/amendments, the sensitivity of the affected environment and the degree of controversy of the project/amendments, and the characteristics of the potentially affected parties. Based on the findings of the above considerations, including cognisance of the Covid-19 pandemic, the PPP will not elaborate on the minimum requirements of the public participation process outlined in the EIA Regulations, 2014. The previous public participations undertaken for the initial EA and its Amendments have proven that there is no need for alternative methods, as there are no people who are unable to participate in the process due to illiteracy, disability or any other disadvantage.

3. Identification of interested and affected parties

- the property and deeds search that was undertaken of all adjacent properties for the Phases 1, 2 & 3 of the proposed Solar PV Facilities and included as directly affected I&APs.
- the existing list of I&APs from the original EA Application (authorized under 14/12/16/3/3/2/998) and its preceding amendments after, were used for this Part 2 Amendment Application.
- network or chain referral systems according to which key stakeholders were asked to assist in identifying other stakeholders, including requesting ward councillors to notify and engage with community members within their ward.

4. Notification of interested and affected parties

All potential and registered I&APs have a right to be informed early and in an informative and proactive way regarding proposals that may affect their lives or livelihoods. Early communication aims to build trust among participants, allow more time for public participation, and improve community analysis. It also increases opportunities to modify the proposed

development/amendments to effectively address relevant issues and comments received during the PPP.

4.1 Method of notification

The notification of the amendment proposal to I&APs given by –

giving written notice to –

We already had a database of Interested and Affected Parties from the previous EA Application and its amendments. Therefore, a Background Information Document (BID) or Notification (in both English and Afrikaans) was prepared and distributed via email to the parties on the I&AP register. Email submissions requested a "delivery receipt" and "read receipt. The notification included the contact details that the I&AP can use to contact and communicate with the EAP.

Written notice (Background Information Document (BID)/Notification – Annexure B) was given to the landowner and occupiers and owners and occupiers of land adjacent to the various farms in the Hanover District (Remainder of Farm Goedehoop 26 C, Portion 6 of Leuwe Fountain 27 C, Remainder of Farm Riet Fountain 39 C, Portion 1 of Farm Riet Fountain 39C, Remainder of Kwanselaars Hoek 40 C, Portion 1 of Kwanselaars Hoek 40 C, Portion 4 of Taaibosch Fontein 41C, Portion 1 of Farm Kafferspoort 56C) and organs of state having jurisdiction in respect of the proposed activity, whose details are captured in the Table below.

The BID/Notification was prepared and distributed via email to all parties on the I&AP register as per section 47D of NEMA. Email submissions requested a "delivery receipt" and "read receipt"; to track receipt of the document. The BID/Notifications were sent on the 27th of May 2022 of which proof of distribution is included as Annexure C.

List and details of landowners, land occupiers and organs of state.

The owner or person in control of that land if the applicant is not the owner or person in control of the land: • Willem Retief: wretief@webmail.co.za; 082 944 7167
Owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken: **Remainder of FARM No. 149 (Farm Goodhope):** Ricky Vimpany, richard.vimpany@bravospace.co.za **Remainder of LEUWE FOUNTAIN No. 27 (Farm: Leeuwfontein):** Corneulis Oosthuizen, cmo.karoo@gmail.com, 074 114 3950 **Portion 1,2 & 4 LEUWE FOUNTAIN No. 27 (Farm Weltevrede):** Pieter du Toit, psdutoit4@gmail.com, 083 278 2590

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Remainder of TAAIBOSCH FONTEIN No. 41 and Portion 1 (Farm: Constancia): Andries Pienaar, andriespienaar@hotmail.com, 082 762 2206 **Portion 2 & 5 TAAIBOSCH FONTEIN No. 41 (Farm: Skilpadskuil):** Manual Orfao, morfao@worldonline.co.za, 082 784 1972 **Portion 3 of TAAIBOSCH FONTEIN No. 41:** Dawie du Plessis, l.duplessis@live.com, 083 544 4139 **Remainder & Portion 7 &9 of KAFFERSPOORT No. 56 (Farm: Dieprivier):** Andries Pienaar, andriespienaar@hotmail.com, 082 762 2206 **Remainder of BARENDS KUILEN No. 38, Remainder & Portion 1 of BLAAUWBOSCH KUILEN OUTSPAN No. 37 (Farm: Blaawboschkuil):** Christiaan Venter, wortelfontein@vodamail.co.za, 082 378 3601
The municipal councillor of the ward in which the site or alternative site is situated and any organisation of rate payers that represent the community in the area: • Lena Elizabeth Andrews (Ward 6), leandrews@emthanjeni.co.za, 0718089336 • Mr Patrick Mhlawuli (Ward 8), ppmhlauli@emthanjeni.co.za; 083 8829 450 • Ms Nontobeko Mkontwana (Ward 3); npmkontwana@emthanjeni.co.za; 076 505 9292. • Jaco Blom (Rate Payers Association), blomdeaar@gmail.com, 072 780 1288 • Hentie vd Merwe (Rate Payers Association), vdm@deaarsa.co.za
The municipality which has jurisdiction in the area: **Emthanjeni Local Municipality** • Mr Isak Visser (Municipal Manager); visser@emthanjeni.co.za; Tel: 053 632 9101 • Ms Marushel Meyers (PA); mmeyers@emthanjeni.co.za; Tel: 053 632 9101 • Ms Lucy Billie (Town Planner)); lbillie@emthanjeni.co.za, Tel: 053 632 9111 • Mr M Joka (Director Technical Services), mjoka@emthanjeni.co.za • Ms Lelethu Thiso, thiso@emthanjeni.co.za **Pixley ka Seme District Municipality** • Mr Rodney Pieterse (Municipal Manager); mm@pksdm.gov.za; Tel: 053 631 0891; • Mr Nomapaseka Present (PA); mm@pksdm.gov.za; Tel: 053 631 0891 • Mr Sonwabile Nkondefhe (Env Director); pixley@telkomsa.net; Tel: 053 631 0891 • Mr Simon Baas (Town Planner); sbaas@pksdm.gov.za; Tel: 053 631 0891
Any organ of state having jurisdiction in respect of any aspect of the activity: **Department of Fisheries, Forestry and the Environment (DFFE)** • Ms Masina Letsoana; MLetsoane@environment.gov.za; • Mr Lunga Dlova; LDlova@environment.gov.za; • Ms. Mmatlala Rabothata; MRabothata@environment.gov.za • Ms. Tsholofelo Sekonko; tsekonko@environment.gov.za • Ms. Aulicia Maifo; amaifo@environment.gov.za • Mr Stanley Tshitwamulomoni , stshitwamulomoni@environment.gov.za

Department of Water & Sanitation (DWS)

- Mr A. Abrahams; AbrahamsA@dwa.gov.za; Tel:053 830 8802
- Mr Shaun Cloete; CloeteS@dws.gov.za; Tel: 054 338 5800
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- Rasikhanya Tendamudzimu, RasikhanyaT@dws.gov.za
- Franks Lindiwe, FranksL@dws.gov.za

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- Thulani Mthombeni; tmthombeni@ncpg.gov.za; Cell: 072 409 2277
- Isaac Gwija, mr.gwija@gmail.com
- Doreen Werth; dwerth@ncpg.gov.za; 060 991 4675
- Dineo Moleko; dmoleko@ncpg.gov.za; 053 807 7467

Department of Roads & Public Works (DPW)

- Ms N. Corns (Secretary to HOD); ncorns@ncpg.gov.za; Tel: 053 839 2109
- Mr J Roelofse (Director); roelofse.j@vodamail.co.za; Tel: 053 839 2249

Department of Transport, Safety & Liaison

- Ms T. Modiakgotla; tmodiakgotla@ncpg.gov.za; Tel: 053 839 1702

Department of Agriculture Fisheries and Forestry (DAFF)

- Samkelisiwe Lubanga; SamkelisiweL@daff.gov.za; Cell 083765 4691
- Jacoline Mans; JacolineMa@daff.gov.za; Cell: 0828082737
- Ms Thoko Buthelezi (AgriLAnd Liason office); ThokoB@daff.gov.za; Tel: 012 319 7634
- Ms Hettie Buys (Act 70/70 Registry); HettieB@daff.gov.za

Department of Agriculture, Land Reform & Rural Development

- Mr Hannes Roux; hroux@ncpg.gov.za; Tel: (053) 631 0074
- Ms Mangalane Du Toit (Chief Director: Land Restitution Support); Mangalane.DuToit@drdlr.gov.za; Tel: (053) 807 5700
- Ms Samantha Rabie (PA); samantha.rabie@drdlr.gov.za

Department of Energy (DoE)

- Johannes Mokobane; johannes.mokobane@energy.gov.za; 0124067804

Department of Mineral Resources (DMR)

- Mr Pieter Swart (Regional Manager); pieter.swart@dmr.gov.za;
- Ms Lungi Mondela (Secretary); lungi.mondela@dmr.gov.za; Tel: (053) 807 1700
- Mr Vincent Muila (Env Officer); vincent.muila@dmr.gov.za; Tel: 053 807 1716

Any other party as required by the competent authority/EAP:

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SAHRA
- Loaded onto SAHRIS

EWT
- Head Office, ewt@ewt.org.za; Tel: 011 372 3600
- Cobus Theron; cobust@ewt.org.za; Tel: 021 788 5661
- Bonnie Schumann; bonnies@ewt.org.za; Tel: 021 788 5661

WESSA
- Sandy Crake; admin@wessa.co.za; Tel: (021) 701 1397

South African Civil Aviation Authority (SACAA)
- Themba Thabete; thabethet@caa.co.za

SENTECH
- Leticia Vollner; info@sentech.co.za; Tel: 021 525 3609;

Square Kilometre Array (SKA)
- Dr. Adrian Tiplady; atiplady@ska.ac.za; Cell; 0723720134

Bird Life SA
- Ernest Retief; Email: ernst.retief@birdlife.org.za; Cell: 082 325 6608

South African Large Telescope (SALT)
- Dr Ramotholo Sefako; rrs@saao.ac.za; Cell: 084 770 5100

Northern Cape Provincial Heritage Agency - Ngwao-Boswa Jwa Kapa Bokone
- Andrew Ratha Timothy, rtimothy@nbkb.org.za

Northern Cape Chamber of Commerce and Industry
- Sharon Steyn, sharon@nocci.co.za

South African Photovoltaic Industry Association (SAPVIA)
- Lineo Masopha, lineo@sapvia.co.za

South African National Energy Development Institute (SANEDI)
- Funanani Netshitomboni, funananin@sanedi.org.za

Independent Power Producer Office
- Desiree Otto; desiree.otto@ipp-projects.co.za

Centre for Environmental Rights
- Phumla Yeki, pyeki@cer.org.za

Servitude Holders:

ESKOM
- Bossie Uys; uysj@eskom.co.za; Tel: 053 632 6714
- Henk Wydeman; WydemaH@eskom.co.za
- Daan Liebenberg; LiebenDa@eskom.co.za
- Keketso Mbete; MbeteKC@eskom.co.za

SANRAL
- Nicole Abrahams; abrahamsn@nra.co.za; Email: 021 957 4602

TRANSNET
• Joey Bowers; joey.bowers@transnet.net; Tel: 053 632 8303/8

The I&APs were provided a tailored Background Information Document (BID)/Notification in Afrikaans, which is the most widely spoken local language, for distribution to their land occupiers. However, no Advertisement was placed, no Site Notice was erected or displayed and no other alternative methods were used to notify the I&APs, because we already had a database of Interested and Affected Parties from the previous EA Application and its amendments.

4.2 Proof of notification

Proof of Notification via email is on Annexure C

5. Notification of interested and affected parties of reports and other studies

The "motivation" report, appendices and specialist studies will be disseminated on 10 June 2022 to all Interested and Affected Parties (full list of I&APs in Annexure D), for a 30-day commenting period.

6. Interested and affected parties

- I&APs were listed and given access and opportunity to comment on all written submissions via email, which requested a "delivery receipt" and "read receipt"; to help ensure they receive the document. The notification included the contact details that the I&AP can use to contact and communicate with the EAP.
- Responses will be provided to all comments received,
- Feedback to interested and affected parties will be recorded in the Comments and Response sheet, which will be used as a disclosure of interested and affected parties' interests, and
- Once a decision has been made, all registered interested and affected parties will be notified via email. The decision can also be provided to local councillors in a notice format to erect on community notice boards.

6.1 Access and opportunity to comment on all written submissions

All communication, including but not limited to reports, will be disseminated to registered interested and affected parties for a 30-day commenting period.

6.2 Response to comments received: feedback to interested and affected parties

The Comments and Response sheet (Annexure E) will be made available to all I&APs.

6.3 Disclosure of interested and affected parties' interests

The Comments and Response sheet (Annexure E) will be made available to all I&APs.

6.4 Notifying interested and affected parties of the decision

Once a decision has been made, all registered interested and affected parties will be notified.

7. Record of issues raised

The Comments and Response sheet (Annexure E) will be made available to all I&APs.

8. Addressing the comments and concerns raised by the interested and affected parties

The Comments and Response sheet (Annexure E) will be made available to all I&APs.

Annexure A – Level of Public Participation

LEVEL OF PUBLIC PARTICIPATION QUESTIONAIRE FORM

Project: Addition of access road, staging area and switching yard to a Solar PV System.

Questions and Answers	**Expand Geographical Area**	**Expand Interest Groups**	**Expand Process (i.e. no. of meetings, languages, means, etc.)**
Scale of anticipated impacts			
1) Are the impacts of the project likely to extend beyond the boundaries of the local municipality?			
There are limited negative impacts anticipated, however the positive impacts of the renewable energy project producing non-polluting electricity to the national grid are recognised.	X		
2) Are the impacts of the project likely to extend beyond the boundaries of the province?			
There are limited negative impacts anticipated, however the positive impacts of the renewable energy project producing non-polluting electricity to the national grid are recognised.	X		
3) Is the project a greenfields development (a new development in a previously undisturbed area)?		X	X

Yes. The land use currently is livestock grazing and the design of the Solar PV plant and its battery storage and generators will ensure that grazing can continue in harmony with the proposed renewable energy project.			
4) Does the area already suffer from socio-economic problems (e.g. job losses) or environmental problems (e.g. pollution), and is the project likely to exacerbate these?		X	X
Yes, the area already suffers from socio-economic problems; most of the youth are seeking employment. If the project gets the go-ahead, there is going to be temporary and permanent employment.			
5) Is the project expected to have a wide variety of impacts (e.g. socio-economic and environmental)?		X	X
It is anticipated that the project will have positive impacts on job creation and skills development locally. The area of De Aar and proximity to the N10 have been identified within the IDP to create a renewable energy hub which the project will help achieve.			
Public and environmental sensitivity of the project			
6) Are there widespread public concerns about the potential negative impacts of the project?	X	X	X
To date there have been no comments or responses from I&AP's that reflect widespread public concerns.			
7) Is there a high degree of conflict among I&AP's?			X
To date there have been no comments or responses from I&AP's that reflect a high degree of conflict.			

8) Will the project impact on private land other than that of the applicant?	X		
No.			
9) Does the project have the potential to create unrealistic expectations (e.g. that a new factory would create a large number of jobs)?		X	X
No.			
Potentially affected parties			
10) Has very little previous public participation taken place in the area?		X	X
Yes, the poor attendance (there was no interest) to the one Public Meeting held in September 2017 and the overcrowding (most attenders were attending in case it is an opportunity for employment) in the other proves that not much public participation takes place. There was no interest whatsoever in the Amendments that followed in 2020.			
11) Did previous public participation processes in the area result in conflict?			X
No.			
12) Are there existing organizational structures (e.g. local forums) that can represent I&AP's?		X	X
Depending on the relationship between the public and Municipal Ward Councilors, the councilors can best represent the I&AP's.			
13) What is the literacy level of the community in terms of their ability to participate meaningfully within the public participation process?			X
About two fifths of the people in Wards 3, 6 & 8, aged 20 years or older have no schooling or only some primary education. This is higher than on local, district or provincial level. These high levels of illiteracy were taken into consideration			

when consulting with the I&AP's on the project.			
14) Is the area characterized by high social diversity (i.t.o socio-economic status, language or culture)?		X	X
No.			
15) Were people in the area victims of unfair expropriations or relocation in the past?		X	X
No.			
16) Is there a high level of unemployment in the area?		X	X
The unemployment levels reflect the national average.			
17) Do the I&AP's have special needs (e.g. a lack of skills to read or write, disability, etcetera)?			X
There is a higher than average illiteracy levels in wards 3, 6 & 8, therefore two public meetings were held.			

Conclusion:
Based on the information provided in the table above, there is no reason to elaborate on the minimum requirements of the public participation process as described in the EIA Regulations, 2014.

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Annexure B – Background Information Document (BID) in English and Afrikaans

BACKGROUND INFORMATION DOCUMENT (BID) & NOTIFICATION

THE PROPOSED EXPANSION AND REPOSITIONING OF A SUBSTATION, ADDITION OF A 132KV SWITCHING YARD SUB-STATION, ADDITIONAL ACCESS ROAD FROM A PROPOSED STAGING AREA (OFFLOADING AND ACCESS CONTROL AREA) TO THE DEVELOPMENT OF A 300MW SOLAR PHOTO-VOLTAIC (PV) FACILITY, COMPRISING 3 INTERCONNECTED 100MW PLANTS, THAT TIES INTO EXISTING OVERHEAD ESKOM 400KV TRANSMISSION LINES, AND ASSOCIATED INFRASTRUCTURE INCLUDING CONTAINERISED LITHIUM-ION BATTERY STORAGE AND GAS TURBINES, ON SEVERAL PORTIONS OF FARMS IN THE HANOVER DISTRICT, EMTHANJENI LOCAL MUNICIPALITY, PIXLEY KA SEME DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.

PURPOSE OF THIS DOCUMENT

The purpose of this document is to provide background information and notification to the proposed amendments to the project and to obtain comments and contributions from stakeholders with regards to potential environmental impacts – which includes, but not limited to: ecological, social, economic, physical, aesthetic, etc.

Ecoleges, as the independent Environmental Assessment Practitioner (EAP), has been appointed by the proponent, Soventix South Africa (Pty) Ltd, to apply for a Part 2 amendment to the Environmental Authorisation (DEFF Ref #: 14/12/16/3/3/2/998), in accordance with Regulations 31 of the EIA Regulations (2014) as amended, to be submitted to the relevant competent authority (National Department of Forestry, Fisheries and the Environment).

The aim of the amendment report is to undertake an assessment of all impacts related to the proposed changes, evaluate the advantages and disadvantages associated with the proposed changes, and determine measures to ensure avoidance, management and mitigation of impacts associated with the proposed changes. The process will also ensure stakeholder engagement and provide decision makers with sufficient information to make an informed decision on the proposed amendments to the current project scope.

YOUR COMMENTS WILL FORM PART OF THE ENVIRONMENTAL REPORT

APPLICABLE LEGISLATION

Notice is given in terms of Regulation 41(2)(b) of GN No. R. 982, 04 December 2014, made under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998), as amended.
In terms of Regulation 31 of the EIA Regulations (2014) the application for the proposed expansion and repositioning of a substation, addition of a 132kv switching yard sub-station, additional access road from a proposed staging area (offloading and access control area) to the development of a 300MW solar photo-voltaic (PV) facility, is subject to a Part 2 amendment to the current Environmental Authorisation (EA).

The reasons for the amendment application are as follows:

In 2016 Ecoleges undertook an application for environmental Authorisation (EA) by way of Scoping & Environmental Impact Assessment (S&EIA) for the development of a 225 MW Solar PV facility, a prerequisite by the National Energy Regulator of South Africa (NERSA) for awarding a Power Purchase Agreement (PPA) under the Renewable Energy Feed in-Tariff (REFIT) program. The Department of Forestry, Fisheries and the Environment (DFFE) granted environmental authorisation (Reference: 14/12/16/3/3/2/998) on 16th April 2018.

A Part 1 amendment application, to increase the capacity (not the footprint) of the facility to 300 MW due to technological advancements in solar photovoltaic efficiency and electrical output, was granted on the 24th of November 2020.

A Part 2 amendment application was granted in 2021 for the inclusion of containerised lithium-ion battery storage and dual-fuel backup generators with associated fuel storage as part of the tender requirements for the Risk Mitigation Independent Power Producers Programme (RMIPPP) Bid Round.

The competent authority has been the National Department of Environmental Affairs because the applications were part of the REIPPP and RMIPPP BID rounds, which formed part of a Strategic Infrastructure Project (SIP) as described in the National Development Plan, 2011. Soventix SA (Pty) Ltd was an unsuccessful bidder in both tender processes.

Soventix SA has since obtained a Cost Estimate Letter (CEL) from Eskom for an increase in the interconnection of embedded generation grid access, from renewable energy to Eskom infrastructure, from 300MW to 1GW. The CEL relates to the currently authorised Phase 1 De Aar Solar PV project on-site sub-station and connection to existing Eskom overhead 400KVa powerlines. This increased capacity of the on-site sub-station, as well as an additional switching sub-station, will facilitate additional generation capacity into the Eskom grid for "wheeling" to private consumers, from the proposed De Aar Phases 1, 2 & 3 projects as well as

other local renewable energy projects requiring grid access (Phases 2 & 3 applications still in process).

Additionally, Soventix requires a “staging area” where large transport vehicles can offload infrastructure and equipment for transfer onto smaller vehicles for localised distribution to site. This staging area will also act as an access control point, for staff and contractor’s entering and exiting the PV sites.

Finally, an existing access road across a watercourse, is proposed as the main access to the Phase 1 facility, instead of and/or in addition to the current property owner’s main access road. Additionally, the originally considered site access route on a local district road, crossed an existing Transnet railway line at two points, which poses challenges to larger vehicles transporting heavy equipment.

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LOCATION

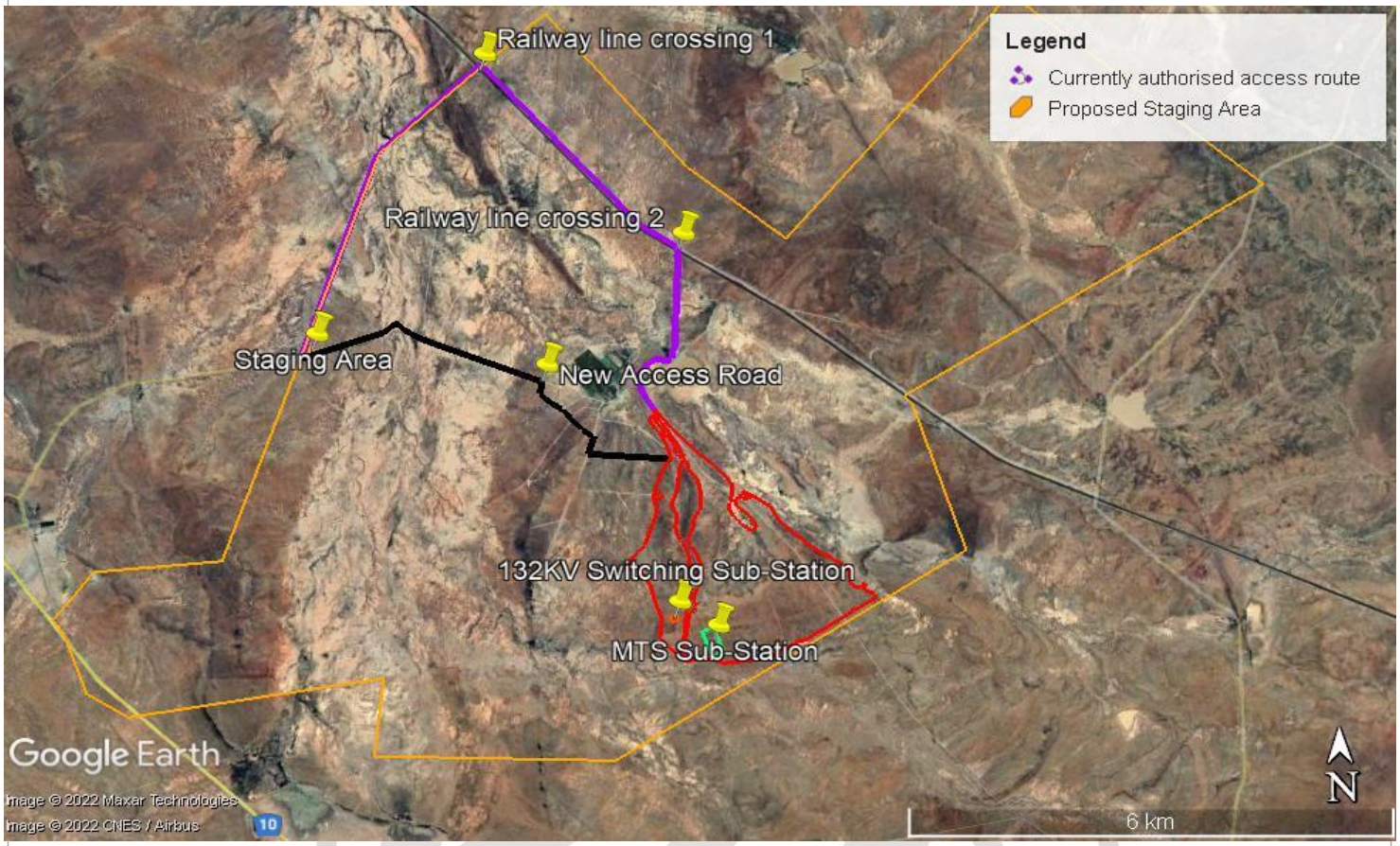

Figure 1. Location map of proposed development amendments.

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OBJECTIVE OF THE AMENDMENT PROCESS

The overall objective is to undertake and complete a robust and defendable review that will serve to inform the Department of Forestry, Fisheries and the Environment (DFFE) and allow for a decision on the environmental acceptability of the proposed amendments.

PROJECT DESCRIPTION

The proposed expansion and repositioning of a substation, addition of a 132kV switching yard sub-station, additional access road from a proposed staging area (offloading and access control area) to the development of a 300MW solar photo-voltaic (PV) facility, comprising 3 interconnected 100MW plants, that ties into existing overhead ESKOM 400kV transmission lines, and associated infrastructure including containerised lithium-ion battery storage and gas turbines.

The proposed location is on Portion 3 & Remainder of Farm Goedehoop 26 C, Portion 6 of Leuwe Fountain 27 C, the Remainder of Farm Riet Fountain 39 C, Portion 1, 6 & Remainder of Kwanselaars Hoek 40 C and Portion 4 of Taaibosch Fontein 41 C, registration district Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province.

DESCRIPTION OF TASKS

- Not Applicable

ANTICIPATED ISSUES

Issues that may be addressed in the environmental assessment could include, but will not be limited to the following:

- Loss of soil.
- Decrease in terrestrial fauna and flora.
- Susceptibility to erosion.
- Change in the quality of the soil.

However, none of these will not mitigated through the implementation of the approved Environmental Management Programme (EMPr).

COMMENTS PLEASE!

Your comments on the proposed amendment application and issues needing investigation, will assist the authorities in their consideration of the relevant environmental and social aspects.

You are invited to register as an Interested and Affected Party (I&AP) and to assist us in:

- identifying possible impacts of the proposed amendments on the environment,
- making suggestions for mitigation and/or alternatives, and
- considering the "need" and "desirability".

Mitigations

Mitigation measures will be developed for the anticipated issues/impacts. Stakeholders are, however, welcome to comment on these issues and provide additional observations.

Alternatives

Consideration of Alternatives is one of the most critical elements of this process. Its role is to provide a framework for sound decision-making based on the principle of sustainable development. Alternatives should be identified as early as possible in the project cycle. Ecoleges welcomes stakeholders' inputs/suggestions, to submit possible reasonable and feasible alternatives for consideration.

It is important to note that an alternative is defined as a different means of meeting the same general purpose and requirements of the activity, which may include alternatives to-

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

When submitting alternatives, the recommended alternative must be:

- Practicable,
- **Feasible**,
- Relevant,
- **Reasonable,** and
- Viable.

Need and Desirability

'Need and desirability' is determined by considering the broader societal/community needs and interests. The general meaning of need and desirability refers to time and place, respectively, i.e. is this the right time and is it the right place for locating/undertaking the proposed activity.

In order to ensure that you are registered as an interested and / or affected party, please complete the enclosed REGISTRATION AND COMMENT SHEET and forward it to the address, fax or email provided below:

ecoleges
Environmental Consultants

Postal Address:
P.O Box 516
Machadodorp
1170

Fax: 086 697 9316

E-mail: info@ecoleges.co.za

Cell: 083 644-7179

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Environmental Consultants

REGISTRATION AND COMMENT SHEET

PART 2 AMENDMENT TO THE ENVIRONMENTAL AUTHORISATION FOR THE DEVELOPMENT OF A SOLAR PV FACILITY ON VARIOUS FARMS WITHIN THE REGISTRATION DISTRICT OF HANOVER, EMTHANJENI LOCAL MUNICIPALITY, PIXLEY KA SEME DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.
ECOLEGES REFERENCE: 2022_001P

Title: _____Name: _____

Surname: _____

Company Name / Interest Group: _____

_____

**Postal or Residential Address: _____*

_____

_____

_____

Town/City: _____

Postal Code: _____

Tel: (_____) _____

Cell: _____

Fax: (_____) _____

E-mail address: _____

A registered interested and affected party is entitled to comment, in writing, on all written submissions including draft reports made to the competent authority provided that the interested and affected party discloses any direct business, financial,

personal or other interest which that party may have in the approval or refusal of the application. Please supply such information in the space provided below:

_____

_____

_____

_____

*Please indicate with an **X** whether you would like to be kept informed of the Part 2 EA Amendment Application process.*

YES, I would like to be kept informed	
NO, I am not interested	

*If "YES", how would you like to be informed? (please mark the appropriate block with an "**X**")*

E-mail	
Fax	

***COMMENTS:** (If you require more space than that which is provided, please attach additional pages)*

_____

_____

_____

_____

_____

_____

Thank you for your participation

Please be assured that your comments will form part of the final document to be submitted to the decision-making authority.

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AGTERGRONDINLIGTING DOKUMENT (BID) & KENNISGEWING

DIE VOORGESTELDE UITBREIDING EN HERPOSISIONERING VAN 'N SUBSTASIE, TOEVOEGING VAN 'N 132KV-SKAKELWERF-SUBSTASIE, BYKOMENDE TOEGANGSPAD VANAF 'N VOORGESTELDE STASIE AREA (AFLAAI- EN TOEGANGSBEHEERGEBIED) TOT DIE ONTWIKKELING VAN 'N 300MW SONFOTO-VOLTAÏESE (PV) FASILITEIT, BESTAANDE UIT 3 ONDERLING GEKOPPELDE 100MW-AANLEGTE, WAT BANDE HOU MET BESTAANDE OORHOOFSE ESKOM 400KV TRANSMISSIELYNE, EN GEPAARDGAANDE INFRASTRUKTUUR, INSLUITEND HOUER LITIUM-IOON BATTERY STOOR EN GASTURBINES, OP VERSKEIE GEDEELTES VAN PLASE IN DIE HANOVER-DISTRIK, EMTHANJENI PLAASLIKE MUNISIPALITEIT, PIXLEY KA SEME DISTRIKSMUNISIPALITEIT, NOORD-KAAP PROVINSIE.

DOEL VAN HIERDIE DOKUMENT

Die doel van hierdie dokument is om agtergrondinligting en kennisgewing te verskaf van die voorgestelde wysigings aan die projek en om kommentaar en bydraes van belanghebbendes te verkry met betrekking tot potensiële omgewingsimpakte - wat insluit, maar nie beperk is tot: ekologiese, sosiale, ekonomiese, fisiese, estetiese, ens.

Ecoleges, as die onafhanklike Omgewingsassesseringspraktisyn (EAP), is deur die voorstander, Soventix South Africa (Edms) Bpk, aangestel om aansoek te doen vir 'n Deel 2-wysiging aan die Omgewingsmagtiging (DFFE Ref #: 14/12/16/3/3/2/998), in ooreenstemming met Regulasies 31 van die OIE-regulasies (2014) soos gewysig, wat aan die betrokke bevoegde owerheid voorgelê moet word (Nasionale Departement van Bosbou, Visserye en die Omgewing).

Die doel van die wysigingsverslag is om 'n assessering te onderneem van alle impakte wat verband hou met die voorgestelde veranderinge, die voordele en nadele verbonde aan die voorgestelde veranderinge te evalueer en maatreëls te bepaal om vermyding, bestuur en versagting van impakte wat verband hou met die voorgestelde veranderinge te verseker. Die proses sal ook belanghebbendes se betrokkenheid verseker en besluitnemers van voldoende inligting voorsien om 'n ingeligte besluit te neem oor die voorgestelde wysigings aan die huidige projek omvang.

JOU KOMMENTAAR SAL DEEL VORM VAN DIE OMGEWINGSVERSLAG

TOEPASLIKE WETGEWING

Kennis geskied ingevolge Regulasie 41(2)(b) van GN Nr. R. 982, 04 Desember 2014, gemaak kragtens artikels 24(5) en 44 van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998), soos gewysig.
Ingevolge Regulasie 31 van die OIE-regulasies (2014) is die aansoek om die voorgestelde uitbreiding en herposisionering van 'n substasie, toevoeging van 'n 132kv-skakelwerf-substasie, bykomende toegangspad vanaf 'n voorgestelde stasiegebied (aflaai- en toegangsbeheergebied) tot die ontwikkeling van 'n 300MW sonfoto-voltaïese (PV) fasiliteit, onderhewig aan 'n Deel 2-wysiging aan die huidige Omgewingsmagtiging (EA).

Die redes vir die wysigingsaansoek is soos volg:

Ecoleges het in 2016 'n aansoek om omgewingsmagtiging (EA) by wyse van Scoping & Environmental Impact Assessment (S&EIA) onderneem vir die ontwikkeling van 'n 225 MW Solar PV-fasiliteit, 'n voorvereiste deur die Nasionale Energiereguleerder van Suid-Afrika (NERSA) vir die toekenning van 'n Kragaankoopooreenkoms (PPA) onder die Hernubare Energievoer-in-tarief (REFIT)-program. Die Departement van Bosbou, Visserye en die Omgewing (DFFE) het omgewingsmagtiging toegestaan (Verwysing: 14/12/16/3/3/2/998) op 16 April 2018.

'n Deel 1-wysigingsaansoek, om die kapasiteit (nie die voetspoor nie) van die fasiliteit tot 300 MW te verhoog weens tegnologiese vooruitgang in sonfotovoltaïese doeltreffendheid en elektriese uitset, is op 24 November 2020 toegestaan.

'n Deel 2-wysigingsaansoek is in 2021 toegestaan vir die insluiting van houer litiumioonbatteryberging en dubbelbrandstof-rugsteunopwekkers met gepaardgaande brandstofberging as deel van die tendervereistes vir die Risk Mitigation Independent Power Producers Programme (RMIPPP) bod-rondte.

Die bevoegde owerheid is die Nasionale Departement van Omgewingsake omdat die aansoeke deel was van die REIPPP- en RMIPPP bod-rondtes, wat deel gevorm het van 'n Strategiese Infrastruktuurprojek (SIP) soos beskryf in die Nasionale Ontwikkelingsplan, 2011. Soventix SA (Edms) Bpk was 'n onsuksesvolle bieër in albei tenderprosesse.

Soventix SA het sedertdien 'n kosteberamingsbrief (CEL) van Eskom bekom vir 'n toename in die onderlinge aansluiting van ingebedde opwekkingsnetwerktoegang, van hernubare energie tot Eskom-infrastruktuur, van 300 MW tot 1GW. Die CEL hou verband met die huidige gemagtigde Fase 1 De Aar Solar PV-projek op die perseel substasie en verbinding met bestaande Eskom-oorhoofse 400KVa-kraglyne. Hierdie verhoogde kapasiteit van die substasie op die perseel, sowel as 'n bykomende oorskakelingsubstasie, sal bykomende opwekkingskapasiteit in die Eskom-netwerk vergemaklik vir "wheeling" aan private verbruikers,

van die voorgestelde De Aar Fases 1, 2 & 3 projekte, asook ander plaaslike hernubare energieprojekte wat roostertoegang vereis (Fases 2 en 3 aansoeke wat nog in die proses is).

Daarbenewens benodig Soventix 'n "stasie area" waar groot vervoervoertuie infrastruktuur en toerusting kan aflaai vir oordrag op kleiner voertuie vir gelokaliseerde verspreiding na die terrein. Hierdie stasie area sal ook dien as 'n toegangsbeheerpunt, vir personeel en kontrakteur se betree en verlaat van die PV-webwerwe.

Ten slotte word 'n bestaande toegangspad oor 'n waterlope voorgestel as die hooftoegang tot die Fase 1-fasiliteit, in plaas van en/of bykomend tot die huidige eiendomseienaar se hooftoegangspad. Daarbenewens het die oorspronklik oorweegde terreintoegangsroete op 'n plaaslike distrikspad 'n bestaande Transnet-spoorlyn op twee punte oorgesteek, wat uitdagings inhou vir groter voertuie wat swaar toerusting vervoer.

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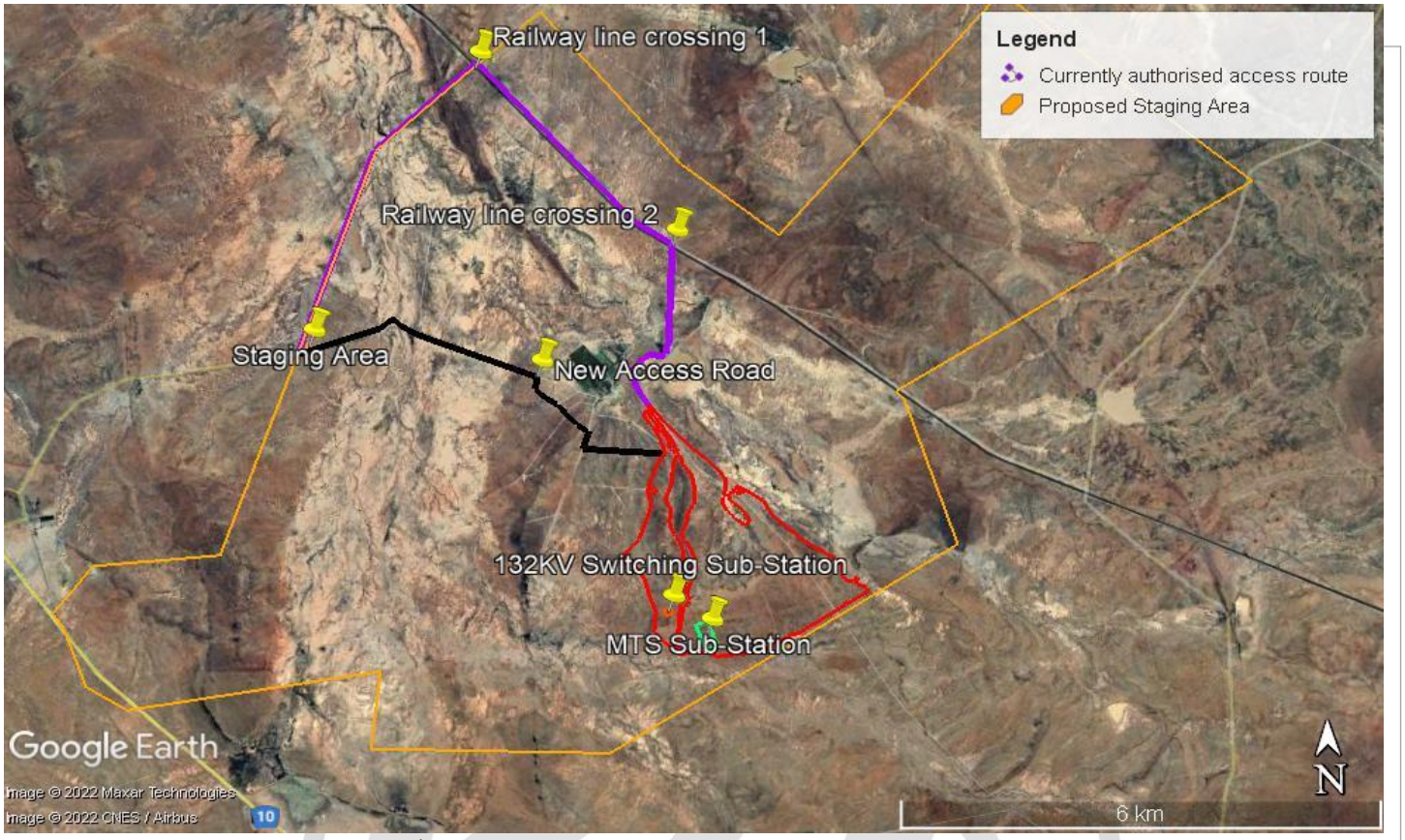
LIGGING



Figuur 1. Liggingkaart van voorgestelde ontwikkelingswysigings.

DOEL VAN DIE WYSIGINGSPROSES

Die algehele doel is om 'n robuuste en verdedigbare hersiening te onderneem en te voltooi wat sal dien om die Departement van Bosbou, Visserye en die Omgewing (DFFE) in te lig en voorsiening te maak vir 'n besluit oor die omgewingstoeganklikheid van die voorgestelde wysigings.

PROJEK BESKRYWING

Die voorgestelde uitbreiding en herposisionering van 'n substasie, toevoeging van 'n 132kV-skakelwerf-substasie, bykomende toegangspad vanaf 'n voorgestelde stasiegebied (aflaai- en toegangsbeheergebied) tot die ontwikkeling van 'n 300MW sonfoto-voltaïese (PV)-fasiliteit, bestaande uit 3 onderling gekoppelde 100 MW-aanlegte, wat bande hou met bestaande oorhoofse ESKOM 400kV-transmissielyne, en gepaardgaande infrastruktuur, insluitend houer litiumioonbatteryberging en gasturbines.

Die voorgestelde ligging is op Gedeelte 3 & Restant van Plaas Goedehoop 26 C, Gedeelte 6 van Leuwe Fontein 27 C, die Restant van Plaas Rietfontein 39 C, Gedeelte 1, 6 & Restant van Kwanselaars Hoek 40 C en Gedeelte 4 van Taaibosch Fontein 41 C, registrasie distrik Hanover, Emthanjeni Plaaslike Munisipaliteit, Pixley Ka Seme Distriksmunisipaliteit, Noord-Kaap Provinsie.

BESKRYWING VAN TAKE

Nie van Toepassing

VERWAGTE KWESSIES

Kwessies wat in die omgewingsassessering aangespreek kan word, kan insluit, maar sal nie beperk word tot die volgende nie:

- Verlies van grond.
- Afname in aardse fauna en flora.
- Vatbaarheid vir erosie.
- Verandering in die kwaliteit van die grond.

Nie een hiervan sal egter nie versag word deur die implementering van die goedgekeurde Omgewingsbestuursprogram (EMPr) nie.

KOMMENTAAR ASSEBLIEF!

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
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U kommentaar op die voorgestelde wysigingsaansoek en kwessies wat ondersoek moet word, sal die owerhede bystaan in hul oorweging van die relevante omgewings- en sosiale aspekte.

U word uitgenooi om as 'n Belangstellende en Geaffekteerde Party (I&AP) te registreer en om ons te help met:
• die identifisering van moontlike impakte van die voorgestelde wysigings op die omgewing,
• voorstelle te maak vir versagting en/of alternatiewe, en
• met inagneming van die "behoefte" en "wenslikheid".

Versagtings

Versagtingsmaatreëls sal ontwikkel word vir die verwagte kwessies / impakte. Belanghebbendes is egter welkom om kommentaar te lewer op hierdie kwessies en bykomende waarnemings te verskaf.

Alternatiewe

Oorweging van alternatiewe is een van die mees kritieke elemente van hierdie proses. Die rol daarvan is om 'n raamwerk vir gesonde besluitneming te verskaf op grond van die beginsel van volhoubare ontwikkeling. Alternatiewe moet so vroeg as moontlik in die projeksiklus geïdentifiseer word. Ecolege verwelkom belanghebbendes se insette/voorstelle om moontlike redelike en haalbare alternatiewe vir oorweging in te dien.
Dit is belangrik om daarop te let dat 'n alternatief gedefinieer word as 'n ander manier om aan dieselfde algemene doel en vereistes van die aktiwiteit te voldoen, wat alternatiewe kan insluit vir-
(a) die eiendom waarop of plek waar dit voorgestel word om die aktiwiteit te onderneem;
(b) die tipe aktiwiteit wat onderneem moet word;
(c) die ontwerp of uitleg van die aktiwiteit;
(d) die tegnologie wat in die aktiwiteit gebruik moet word;
(e) die operasionele aspekte van die aktiwiteit; en
(f) die opsie om nie die aktiwiteit te implementeer nie.

By die indiening van alternatiewe moet die aanbevole alternatief wees:

• Uitvoerbaar,

• Haalbaar,

• Relevant,

• Redelik, en

• Lewensvatbaar.

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Behoefte en wenslikheid

'Behoefte en wenslikheid' word bepaal deur die breër samelewing/gemeenskapsbehoeftes en -belange in ag te neem. Die algemene betekenis van behoefte en wenslikheid verwys na tyd en plek, onderskeidelik, d.w.s. is dit die regte tyd en is dit die regte plek om die voorgestelde aktiwiteit op te spoor / te onderneem.

Om te verseker dat u as 'n belangstellende en / of geaffekteerde party geregistreer is, voltooi asseblief die ingeslote REGISTRASIE- EN KOMMENTAARBLAD en stuur dit aan na die adres, faks of e-pos wat hieronder verskaf word:

Pos Adres:
Posbus 516
Machadodorp
1170

Faks: 086 697 9316

E-pos adres: info@ecoleges.co.za

Selfoon: 083 644-7179

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ecoleges
Environmental Consultants

REGISTRASIE- EN KOMMENTAARBLAD

DEEL 2 WYSIGING VAN DIE OMGEWINGSMAGTIGING VIR DIE ONTWIKKELING VAN 'N SONKRAG-PV-FASILITEIT OP VERSKEIE PLASE BINNE DIE REGISTRASIEDISTRIK VAN HANOVER, EMTHANJENI PLAASLIKE MUNISIPALITEIT, PIXLEY KA SEME DISTRIKSMUNISIPALITEIT, NOORD-KAAP PROVINSIE. ECOLEGES VERWYSING: 2022_001P

Titel: _____Naam: _____

Van: _____

Maatskappy naam / Belangegroep: _____

_____

**Pos- of Woonadres: _____*

_____

_____

_____

Dorp/Stad: _____

Poskode: _____

Tel: (_____) _____

Sel: _____

Faks: (_____) _____

Epos adres: _____

'n Geregistreerde belanghebbende en geaffekteerde party is geregtig om skriftelik kommentaar te lewer op alle skriftelike voorleggings, insluitend konsepverslae wat aan die bevoegde owerheid gemaak is, mits die belanghebbende en geaffekteerde party enige direkte sake-, finansiële, persoonlike of ander belang wat daardie party

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mag hê in die goedkeuring of weiering van die aansoek openbaar maak. Verskaf asseblief sulke inligting in die spasie wat hieronder verskaf word:

_____

_____

_____

_____

*Dui asseblief met 'n **X** aan of u op hoogte gehou wil word van die Deel 2 EA Wysigingsaansoekproses.*

JA, ek wil graag op hoogte gehou word	
NEE, ek stel nie belang nie	

*As "JA", hoe wil u ingelig word? (Merk asseblief die toepaslike blok met 'n "**X**")*

Epos	
Faks	

***KOMMENTAAR:** (As u meer spasie benodig as wat verskaf word, heg asseblief bykomende bladsye aan)*

_____

_____

_____

_____

_____

_____

Dankie vir u deelname

Wees asseblief verseker dat u kommentaar deel sal vorm van die finale dokument wat aan die besluitnemingsowerheid voorgelê moet word.

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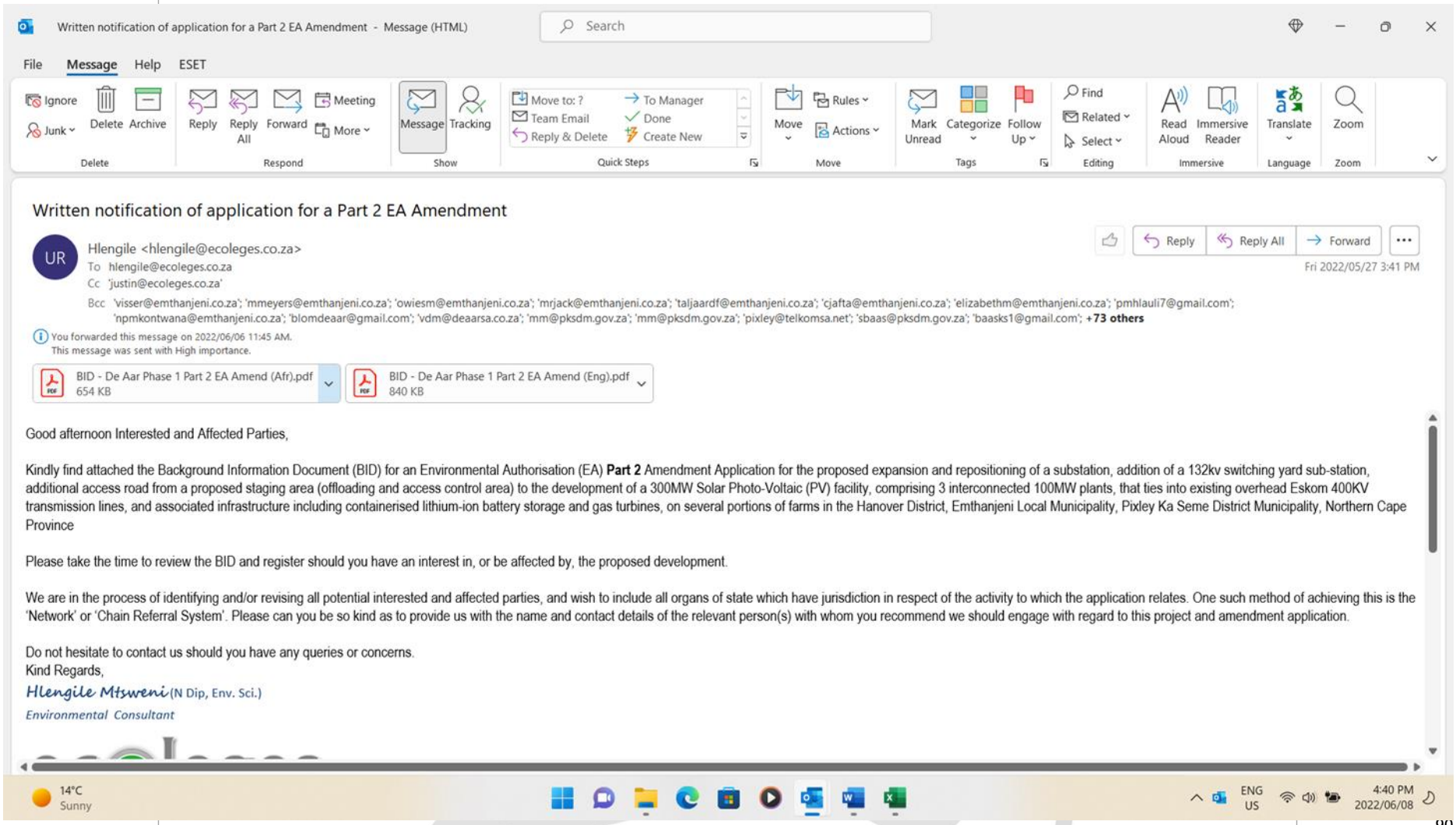
Annexure C – BID Distribution

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23



Written notification of application for a Part 2 EA Amendment - Message (HTML)

Search

File Message Help ESET

Ignore Delete Archive Junk — Delete
Reply Reply All Forward Meeting More — Respond
Message Tracking — Show
Move to: ? To Manager Team Email Done Reply & Delete Create New — Quick Steps
Move Rules Actions — Move
Mark Unread Categorize Follow Up — Tags
Find Related Select — Editing
Read Aloud Immersive Reader — Immersive
Translate — Language
Zoom — Zoom

Written notification of application for a Part 2 EA Amendment

UR

Hlengile <hlengile@ecoleges.co.za>
To hlengile@ecoleges.co.za
Cc 'justin@ecoleges.co.za'
Bcc 'visser@emthanjeni.co.za'; 'mmeyers@emthanjeni.co.za'; 'owiesm@emthanjeni.co.za'; 'mrjack@emthanjeni.co.za'; 'taljaardf@emthanjeni.co.za'; 'cjafta@emthanjeni.co.za'; 'elizabethm@emthanjeni.co.za'; 'pmhlauli7@gmail.com'; 'npmkontwana@emthanjeni.co.za'; 'blomdeaar@gmail.com'; 'vdm@deaarsa.co.za'; 'mm@pksdm.gov.za'; 'mm@pksdm.gov.za'; 'pixley@telkomsa.net'; 'sbaas@pksdm.gov.za'; 'baasks1@gmail.com'; **+73 others**

Reply Reply All Forward
Fri 2022/05/27 3:41 PM

You forwarded this message on 2022/06/06 11:45 AM.
This message was sent with High importance.

BID - De Aar Phase 1 Part 2 EA Amend (Afr).pdf 654 KB
BID - De Aar Phase 1 Part 2 EA Amend (Eng).pdf 840 KB

Good afternoon Interested and Affected Parties,

Kindly find attached the Background Information Document (BID) for an Environmental Authorisation (EA) **Part 2** Amendment Application for the proposed expansion and repositioning of a substation, addition of a 132kv switching yard sub-station, additional access road from a proposed staging area (offloading and access control area) to the development of a 300MW Solar Photo-Voltaic (PV) facility, comprising 3 interconnected 100MW plants, that ties into existing overhead Eskom 400KV transmission lines, and associated infrastructure including containerised lithium-ion battery storage and gas turbines, on several portions of farms in the Hanover District, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province

Please take the time to review the BID and register should you have an interest in, or be affected by, the proposed development.

We are in the process of identifying and/or revising all potential interested and affected parties, and wish to include all organs of state which have jurisdiction in respect of the activity to which the application relates. One such method of achieving this is the 'Network' or 'Chain Referral System'. Please can you be so kind as to provide us with the name and contact details of the relevant person(s) with whom you recommend we should engage with regard to this project and amendment application.

Do not hesitate to contact us should you have any queries or concerns.
Kind Regards,
Hlengile Mtsweni (N Dip, Env. Sci.)
Environmental Consultant

14°C Sunny
ENG US
4:40 PM 2022/06/08

Annexure D – List of Interested and Affected Parties

I&AP Register including contact details.

[redacted]

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23

[redacted]

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat., MGSSA) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23

Annexure E – Comments & Response Sheet

Contact	Comment	Response
Endangered Wildlife Trust (EWT) Official via email on 29/05/2022	HI Hlengiwe, Please can you send me the shape files of the properties concerned. Regards, [redacted] EWT	Shapefiles were emailed on 06/06/2022
DFFE Biodiversity Official via email on 01/10/2021	Good morning Hlengile, I hope this email finds you well. DFFE Directorate: Biodiversity Conservation hereby acknowledge the receipt of the invitation to review and comment on the mentioned project. Kindly notify us as soon as the report becomes available. Please note that all Public Participation Process documents related to Biodiversity EIA review and any other Biodiversity EIA queries must be submitted to the Directorate: Biodiversity Conservation at Email: BCAdmin@environment.gov.za for attention of Mr Seoka Lekota.	Good morning [redacted] Thank you for the email below, you will indeed be notified when the report is available. Regards, Hlengile Mtsweni.

	Kind Regards, [redacted]	

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Reg: 2006/023163/23

APPENDIX B: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

MEMBERS: J.A. Bowers (M Tech, Pr.Sci.Nat.) & S.D. MacGregor (MSc., Pr.Sci.Nat.)
Reg: 2006/023163/23